

Report #: 112694-PE

# Perú

## Systematic Country Diagnostic

**Bolivia, Chile, Ecuador, Perú, and Venezuela Country Management Unit.**

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## Abbreviations and Acronyms

ADEX	<i>Asociación de Exportadores (Exporters' Association)</i>
AFP	<i>Administradoras Privadas de Fondos de Pensiones</i>
ANA	<i>Autoridad Nacional del Agua (National Water Authority)</i>
ASBANC	<i>Asociación de Bancos del Perú (Peruvian Association of Banks)</i>
CEBB	<i>Comisión de Eliminación de Barreras Burocráticas (Committee for the Elimination of Bureaucratic Barriers)</i>
CEDLAS	<i>Centro de Estudios Distributivos Laborales y Sociales (Center for Distributive and Social Studies)</i>
CIAS	<i>Comisión Interministerial de Asuntos Sociales</i>
CIFOR	<i>Centro de Investigación Forestal (Center for International Forestry Research)</i>
COP	<i>Paris 21st Community of Parties</i>
COPD	<i>Chronic Obstructive Pulmonary Disease</i>
CPF	<i>Country Partnership Framework</i>
DHS	<i>Demographic and Health Survey</i>
ECA	<i>Estándar de Calidad Ambiental (Environmental Quality Standard)</i>
ECE	<i>Evaluación Censal de Estudiantes (National Student Assessment)</i>
ENAHO	<i>Encuesta Nacional de Hogares (National Household Survey)</i>
ENDER	<i>Estrategia Nacional de Desarrollo Rural (National Rural Development Strategy)</i>
EPS	<i>Empresa Pública de Servicios (Water Provision Enterprise)</i>
FDI	<i>Foreign Direct Investment</i>
FED	<i>Fondo de Estímulo al Desempeño (Development Incentive Fund)</i>
FOCAM	<i>Fondo de Desarrollo Socioeconómico de Camisea (Socioeconomic Development Fund of the Camisea Project)</i>
FONCODES	<i>Fondo de Cooperación para el Desarrollo Social (Social Development Cooperation Fund)</i>
FONCOMUN	<i>Fondo de Compensación Municipal (Municipal Compensation Fund)</i>
FONCOR	<i>Fondo de Compensación Regional (Regional Compensation Fund)</i>
FONIE	<i>Fondo para la Inclusión Económica en Zonas Rurales (Rural Economic Inclusion Fund)</i>
FONIPREL	<i>Fondo de Promoción a la Inversión Pública Regional y Local (Fund for the Promotion of Regional and Local Public Investment)</i>
GDP	<i>Gross Domestic Product</i>
GINI	<i>Gross National Income</i>
HOI	<i>Human Opportunities Index</i>
HSAI	<i>Health Services Availability Index</i>
IDB	<i>Inter-American Development Bank</i>
IEP	<i>Instituto de Estudios Peruanos (Peruvian Studies Institute)</i>
IFC	<i>International Finance Corporation</i>

ILO	<i>International Labor Organization</i>
IMF	<i>International Monetary Fund</i>
INDECOPI	<i>Instituto Nacional de Defensa de la Competencia y de la Protección de la Propiedad Intelectual (National Institute for the Defense of Competition and Intellectual Property Rights)</i>
INEI	<i>Instituto Nacional de Estadística e Informática (National Institute of Statistics and Informatics)</i>
IT	<i>Information Technology</i>
IVQ	<i>Individual Vessel Quotas</i>
LAC	<i>Latin America and the Caribbean</i>
LAPOP	<i>Latin American Public Opinion Project</i>
LOPE	<i>Ley Orgánica del Poder Ejecutivo (Executive Power Organic Law)</i>
LPI	<i>Logistics Performance Index</i>
LRI	<i>Lower Respiratory Infections</i>
MDG	<i>Millennium Development Goal</i>
MEF	<i>Ministerio de Economía y Finanzas (Ministry of Economy and Finance)</i> <i>Ministerio de Desarrollo e Inclusión Social (Ministry of Development and Social Inclusion)</i>
MIDIS	
MINAM	<i>Ministerio del Ambiente (Ministry of Environment)</i>
MINEDU	<i>Ministerio de Educación (Ministry of Education)</i>
MINEM	<i>Ministerio de Energía y Minas (Ministry of Energy and Mining)</i>
MRTA	<i>Tupac Amaru Revolutionary Movement</i>
NRW	<i>Non-Revenue Water</i>
NTMs	<i>Non-Tariff Measures</i>
OECD	<i>Organization for Economic Co-operation and Development</i>
OEFA	<i>Organismo de Evaluación y Fiscalización Ambiental (Agency for environmental Assessment and Control)</i>
OPI	<i>Oficinas de Programación de Inversiones (Investment Programming Offices)</i>
ONP	<i>Oficina de Normalización Previsional</i>
PAN	<i>Programa Articulado Nutricional (Articulated Nutritional Program)</i>
PCL	<i>Public Consultations Law</i>
PCPSL	<i>Communist Party of Peru—Shining Path</i>
PEN	<i>Peruvian Nuevo Sol</i>
PISA	<i>Program for International Student Assessment</i>
PM	<i>Particulate Matter</i>
PPP	<i>Purchasing Power Parity</i>
PREDES	<i>Centro de Estudios y Prevención de Desastres (Center for the Study and Prevention of Disasters)</i>
PRODUCE	<i>Ministerio de la Producción (Ministry of Production)</i>
PRONAA	<i>Programa Nacional de Asistencia Alimentaria (National Food Assistance Program)</i>

	<i>Programa Nacional de Manejo de Cuencas Hidrográficas y Conservación de Suelos (National Water Source Management and Soil Conservation Program)</i>
PRONAMACHCS	
PROVIAS	<i>Programa Nacional de Vías (National Roads Program)</i>
RENAMU	<i>Registro Nacional de Municipalidades (National Municipal Registry)</i>
SCD	<i>Systematic Country Diagnostic</i>
SEDALIB	<i>Servicio de Agua Potable y Alcantarillado de La Libertad, Sociedad Anónima (La Libertad Water and Sanitation Service, INC.)</i>
SEDLAC	<i>Socio-Economic Data Base data base for Latin America and the Caribbean</i>
SERVIR	<i>Autoridad Nacional del Servicio Civil (National Authority of Civil Servants)</i>
SIS	<i>Sistema Integrado de Salud (Health Integrated System)</i>
SISFOH	<i>Sistema de Focalización de Hogares (Household Targeting System)</i>
SMEs	<i>Small and medium-sized enterprises</i>
SNIP	<i>Sistema Nacional De Inversión Pública (National Public Investment System)</i>
SOEs	<i>State-Owned Enterprises</i>
SUNAT	<i>Superintendencia Nacional de Aduanas y de Administración Tributaria (National Customs and Tax Administration Superintendence)</i>
SUSALUD	<i>Superintendencia Nacional de Salud (National Health Superintendence)</i>
TFP	<i>Total Factor Productivity</i>
TRC	<i>Truth and Reconciliation Commission</i>
U.S.	<i>United States of America</i>
UNFCCC	<i>Framework Convention of the United Nations on Climate Change</i>
UNODC	<i>United Nations Office on Drugs and Crime</i>
WDI	<i>World Development Indicators</i>
WEF	<i>World Economic Forum</i>
WHO	<i>World Health Organization</i>

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# Contents

Abbreviations and Acronyms .....	i
Acknowledgements.....	iv
1. Overview .....	9
From a failed economy to a success story.....	11
New exogenous conditions highlight Peru's specific structural challenges ahead .....	14
Areas for priority action .....	18
Process and structure of the SCD.....	25
2. Poverty and Inclusion.....	27
A remarkable decade of poverty reduction and increased shared prosperity.....	27
Poverty in Peru is predominantly rural.....	31
Basic services and human development have accompanied poverty reduction, but gaps remain .....	35
3. Economic Growth.....	50
A decade of fast economic growth and convergence .....	50
Past growth was driven by private capital accumulation.....	51
Going forward, growth will have to rely on higher productivity.....	63
4. Sustainability .....	73
Peru faces important environmental sustainability risks .....	73
Maintaining fiscal sustainability could become difficult .....	83
Institutional weaknesses lead to a low level of government coordination in services delivery .....	91
5. Defining Priority Areas for Action .....	105
Applying prioritization criteria .....	107
Improving connecting infrastructure and public services .....	109
Raising human capital.....	121
Reducing factor and product market rigidities .....	130
Supporting and sustainability conditions.....	142
Conclusion.....	144
References .....	146
Appendix A: Country Comparators .....	155
Appendix B: Poverty Profiles .....	157
Annex C: IFC industry notes .....	160
Infrastructure .....	160
Agribusiness.....	164
Public-Private Partnerships.....	167
Financial Sector .....	170
Health and Education.....	178
Mining .....	180

## List of Figures

Figure 1: Per capita income started to converge to U.S. levels in the early 2000s.....	12
Figure 2: The combination of macro-structural reforms and favorable exogenous conditions created a virtuous cycle of growth and shared prosperity .....	13
Figure 3: Micro-structural reforms are needed to continue on the path of shared prosperity .....	18
Figure 4: Evolution of poverty, Peru and LAC, 2000–14 .....	27
Figure 5: Labor income contributed the most to poverty reduction, followed by transfers in rural areas.....	29
Figure 6: Income inequality measured by the Gini coefficient, by rural/urban, Peru 2004–15.....	30
Figure 7: Income growth (%), Bottom 40 and the Entire Population – LAC, 2003–13.....	30
Figure 8: Middle class and vulnerable population, Peru and LAC, 2004–14 .....	31

Figure 9: Poverty headcount (%) in urban and rural areas, 2004 and 2015 .....	32
Figure 10: District-level poverty, 2009 and 2013 .....	32
Figure 11: Progress in extreme poverty rates by region, 2004–15 .....	33
Figure 12: Distribution of districts, by changes in poverty rates between 2007 and 2012–13.....	34
Figure 13: Improved access to water and sanitation, 2015 .....	37
Figure 14: Households with drinking water, 2015 .....	38
Figure 15: Households with safe water, 2015 .....	38
Figure 16: Neonatal, infant and child mortality rates by area of residence, 2013–15.....	39
Figure 17: Maternal mortality, 1990–2015.....	39
Figure 18: Stunting rates for children under 5 by area, 2005–15 .....	40
Figure 19: Prevalence of anemia in children between 6 and 36 months by area, 2005–15.....	40
Figure 20: Share of students that reached a satisfactory level in ECE, 2007–15 .....	41
Figure 21: Performance of students in reading and mathematics in PISA, 2015 .....	41
Figure 22: Employed distribution and informal work by sector in Peru, 2004–15 .....	42
Figure 23: Indigenous population in LAC.....	43
Figure 24: Indigenous and Non-indigenous poverty (%), 2005 and 2015.....	43
Figure 25: Deprivation of services and poor housing conditions for urban populations (2010) .....	44
Figure 26: Stunting among indigenous children, 2013 .....	45
Figure 27: Share of above-age students by ethnicity, 2014 .....	45
Figure 28: Indigenous 4 <sup>th</sup> graders' performance in Spanish as a second language in ECE, 2014–15.....	45
Figure 29: Gender gaps in education performance.....	48
Figure 30: Domestic violence by income quintile.....	49
Figure 31: Peru's GDP per capita has recovered in the past 15 years .....	51
Figure 32: Growth was driven by private sector capital accumulation.....	52
Figure 33: More than half of the US\$1 billion Peru received in FDI from 2006–2016 was in mining.....	53
Figure 34: 10–70 percent of the output of several large domestic sectors is sold directly to mining firms.....	54
Figure 35: Countercyclical fiscal policy stabilized the economy and contributed to high savings.....	56
Figure 36: Investment converged to pre-crisis levels thanks to lower macroeconomic uncertainty .....	57
Figure 37: Labor moved from subsistent agriculture to basic services while the composition of GDP hardly changed since 1990 .....	59
Figure 38: Peru's share of labor in high-, medium-, and low-skill occupations has not changed since 1995 .....	59
Figure 39: Peru developed few new manufacturing export successes in its high growth period, 2000–10 .....	61
Figure 40: The contribution of TFP to aggregate growth has been small.....	64
Figure 41: Raising Peru's productivity (TFP) to U.S. levels would bring Peru close to U.S. per capita income ..	65
Figure 42: Misallocation in services point to severe restrictions in product and labor market competition .....	66
Figure 43: Peru's informal sector is very large by international standards .....	68
Figure 44: Knowledge applicability in its embodied technologies .....	69
Figure 45: Equilibrium of weak labor demand for productive, well-paid jobs .....	72
Figure 46: Only one-third of wastewater is treated .....	75
Figure 47: Evolution of PM2.5 concentration in Lima, 2001–14 .....	77
Figure 48: Pollution cases by mining and extractives are rising .....	80
Figure 49: Illegal gold mining surpasses drug trafficking.....	81
Figure 50: Aerial view of illegal mining & coca fields in San Gabán, Puno .....	81
Figure 51: Peru's tax revenues are low compared to its peers.....	84
Figure 52: Public spending varies substantially and has little impact on reducing interregional disparities .....	87
Figure 53: Public Investment by local governments as a share of GDP .....	88

Figure 54: Peru falls behind in perceived public spending efficiency .....	89
Figure 55: Asymmetries in decentralization of revenues and spending .....	91
Figure 56: Peru's complex and fragmented system of health financing and spending responsibilities .....	94
Figure 57: Higher control has detected more irregularities .....	95
Figure 58: Peru's enforcement of regulations and the rule of law ranks below the regional average .....	98
Figure 59: As incomes increase, households opt out of public services .....	99
Figure 60: Security, not unemployment, became the main concern .....	100
Figure 61: Coca cultivated surface, 2000–14 .....	100
Figure 62: Coca cultivated surface by region, 2014 .....	100
Figure 63: Crime control is not perceived to be effective, affordable, or accessible .....	101
Figure 64: Confidence in judicial system is low .....	102
Figure 65: Judicial system is seen as ineffective .....	102
Figure 66: Peruvians have low trust in the state .....	103
Figure 67: Peruvians say the state is not transparent .....	103
Figure 68: Trust in national Congress .....	104
Figure 69: Trust in municipal government .....	104
Figure 70: Few people think that tax evasion is never justified .....	104
Figure 71: Progress in one key outcome reinforces the other .....	106
Figure 72: Annual investment in water and sanitation by urban and rural .....	110
Figure 73: Households with no or precarious housing .....	111
Figure 74: Households with property title, 2015 .....	111
Figure 75: Population distribution by socioeconomic group and distance to city center .....	112
Figure 76: Climate vulnerability by region .....	112
Figure 77: Road network in Peru, 1925–2011 .....	113
Figure 78: Road infrastructure spending, 1999–2011 .....	113
Figure 79: Share of households with access to basic telecommunications services, 2004–2015 .....	113
Figure 80: Peru's large gap in connecting infrastructure .....	114
Figure 81: Peru is falling behind in accessibility, affordability, and duration of transportation .....	116
Figure 82: There is significant geographic disparity in the access to the nearest larger domestic market .....	116
Figure 83: Shortcomings in public investment management undermine public investment efficiency .....	117
Figure 84: Logistic costs are high especially for customs and infrastructure .....	119
Figure 85: Broadband internet penetration is low .....	120
Figure 86: Share of population with health insurance by area, 2004–2015 .....	122
Figure 87: Out Of Pocket Expenditure, 2000–2014 .....	122
Figure 88: Share of above-age students in Peru in secondary, 2015 .....	124
Figure 89: Share of students that reached a satisfactory level in ECE, 2011–2015 .....	124
Figure 90: Teachers' income relative to other professionals', 2004–14 .....	124
Figure 91: Budget allocation, 2012–2015 (% of GDP) .....	126
Figure 92: Non-wage budget by purpose in basic education, 2012–2015 (% of GDP) .....	126
Figure 93: Social protection spending per capita, Peru vs. LAC .....	129
Figure 94: Labor rigidities, skills, and bureaucratic barriers to competition (licenses and permits) are among the top five constraints perceived by managers .....	131
Figure 95: Non-wage labor costs across different regimes .....	132
Figure 96: Regulatory constraints are the most important factor explaining the large difference in labor informality between Peru and Chile .....	132
Figure 97: Government promotion of agriculture and export performance .....	134

Figure 98: Product market competition performs is stronger than in the average LAC country but significant regulatory barriers for licenses and permits and in service sectors remain.....	136
Figure 99: Costs of credit are high for SMEs and banking is highly concentrated and profitable .....	138
Figure 100: Many bureaucratic barriers to competition and entry are subnational .....	139
Figure 101: Low public investments in innovation compared to peers .....	140
Figure 102: Peru's National Science, Technology and Innovation (STI) System has high coordination costs.	141

## **List of Tables**

Table 1: Priority areas and key bottlenecks to address the two structural challenges .....	19
Table 2: There is little presence of national parties in local governments.....	96
Table 3: Priority areas and key bottlenecks according to prioritization criteria .....	108
Table 4: Regions with higher increase in road network (in km) .....	113
Table 5: Pension schemes by worker types .....	133
Table 6: Household poverty profile, 2015 .....	157
Table 7: Household profile of indigenous and non-indigenous, 2015.....	158
Table 8: Household profile, by gender of household head, 2015 .....	159

## **List of Boxes**

Box 1: Peru's demographic and human capital changes.....	10
Box 2: The effects of internal migration on demographics in Peru .....	17
Box 3: A coordinated approach to combat chronic malnutrition .....	39
Box 4: Sources of growth: a sectoral approach .....	70
Box 5: Mining, social conflict, and the Public Consultation Law .....	82
Box 6: A decade of fiscal decentralization.....	90
Box 7: The rural electrification program experience .....	96
Box 8: Government promotion of agribusiness and sector performance .....	134
Box 9: Knowledge gaps .....	145

## **1. Overview**

- 1. Peru has been one of the most prominent performers in Latin America in the last 25 years.** With GNI per capita of US\$5,975 in 2015 (2011 PPP), its economy is one of the largest in Latin America and the Caribbean (LAC). Peru's rapid economic growth, averaging 5.3 percent since 2001, was second only to Panama's in LAC. Its population of about 31 million is relatively young, with more than half being under 30 years of age (Box 1). After a massive urbanization process over the last 60 years, Peru is today a mostly urban country, with about 80 percent of the population living in urban areas. Economic growth has been widely shared. The poverty incidence rate fell from 58 to 23 percent from 2004–14, and households' incomes at the bottom 40 percent grew 50 percent faster than the national average. The fast and widely shared growth transformed Peru into an upper-middle income economy, with aspirations to become a high-income economy in the next 20 years.
- 2. Peru is characterized by a complex and diverse geography that holds wealth in natural resources and several spatial development challenges.** Peru's geography is incredibly diverse, with the massive Andean cordillera dividing its surface into three natural regions: the Costa (arid coastal plains, where about 55 percent of the population resides) to the west; the Sierra (highlands, with 32 percent of the population); and the Selva (the lush Amazon rainforest, with 13 percent of the population) to the east. The country's latitude, its mountain ranges, sharp variations in topography, and the Humboldt (ocean) Current create dramatically different climatic zones. Its geographic diversity exposes Peru to natural hazards—it has seven of the nine possible characteristics that make a country vulnerable to natural disasters: earthquakes, flash flooding, landslides, and volcanic activity, among them. The country's varied geography causes challenges for connectivity, raising the cost of service delivery. The vast Sierra and Selva regions are difficult to traverse, having historically isolated their remote communities from those living in the Costa region, thereby resulting in large development gaps among the country's regions.
- 3. Its geographic diversity makes Peru a resource rich country.** It has large reserves of ores, including copper, gold, silver, zinc, lead, iron, and tin. Copper accounts for about one-third of total exports and Peru has become the world's second largest copper exporter after Chile. It also has oil and gas reserves, is the third largest producer of fish (the largest exporter of anchovy), and has become a leading exporter of fruits and vegetables. Commodity exports accounted for about 70 percent of total exports in the 2000s.
- 4. Peru has a remarkable cultural heritage and rich ethnic diversity.** Home to the oldest civilization in the Americas (Caral; 3,000–1,800 BC) and to the largest empire in pre-Columbian America (the Inca empire, which spread over 2 million square kilometers), Peru was already a land of great cultural, economic, and scientific wealth well before the 16th century Spanish conquest.

The European, African, Arab, Chinese, and Japanese migration that gradually took place from the conquest through the 20th century formed a multi-ethnic society, with a unique blend of cultures and traditions. Peru's indigenous population, also diverse, makes up about one-quarter of the country's total population and, paradoxically, is disadvantaged in terms of poverty and access to services. This diverse history has made Peru one of the leading cultural heritage and gastronomic destinations in the world.

**5. Peru's geography, natural endowments, and diverse population have shaped its unbalanced economic development.** The country's plentiful natural and human endowments shaped its economic development based on capital-intensive growth that resulted in spatially unbalanced outcomes for the population. The cost of service delivery and connectivity in the vast Sierra and Selva regions is high, which has concentrated economic activity in the Costa region, especially in the area of Lima, the country's capital. The Lima area now accounts for one-third of Peru's population and one half of its GDP. As an example of its unbalanced development, the primary transport network connects Lima to other coastal cities, but not necessarily to medium and smaller cities in the Sierra or Selva, other than those important to the mining industry. The country's abundant resources have attracted large foreign investments in mining and enabled growth based on fast capital accumulation, albeit with few gains in productivity and little export diversification. Mining activities are centered in few areas, which has disproportionately benefitted a small number of districts under current decentralization arrangements.

**6. Geography and resource abundance have thus led to a spatial concentration of economic activities and opportunities, creating large disparities in development across the country's territory and its population groups.** Poverty is unevenly distributed—only 180 out of more than 1,800 district municipalities account for half of all poverty in the country, and districts with the highest poverty incidence are located mostly in the Sierra and Selva. Extreme poverty incidence in rural areas is 13 times higher than in urban centers. Furthermore, a historically low presence of the State in isolated regions fueled a lack of trust in the State that is still visible in the generally low compliance with rules and regulations, which in part explains Peru's abnormally high economic informality.

**Box 1: Peru's demographic and human capital changes**

Peru is close to the apex of its demographic transition and its population is living longer. In 2015, out of the 31 million Peruvians, 65 percent were of working-age (15–64 years old), whereas 28 percent were below 15 years old, and only 7 percent were 65 and above. This is the result of a progressive decline in the total fertility rate, from 3.5 children per woman in 1995 to 2.5 in 2015, which has reduced the share of children in the population, and significantly increased the share of working-age adults. Meanwhile, the dependency ratio continues to decline, and it is expected to reach 0.49 in 2016 (that is, there are two working-age adults per dependent member of the household). As with many Asian countries in the 1990s, this demographic trend is a unique opportunity in growth potential, considering that Peru has high labor force participation rates (at 78 percent, it is the third in LAC, after Barbados and Bahamas); 7 percentage points higher than the LAC average, and nearly 10 percentage points higher

than the world average. Moreover, Peru has steadily improved its human development outcomes, implying an overall increase in human capital. For instance, life expectancy increased by 8.8 years in the last 25 years (to 75 years), infant and maternal mortality rates fell by more than 70 percent—the largest drop in the region—and stunting rates in children under five years old dropped by half in 10 years (from 28 percent in 2005 to 14 percent in 2015).

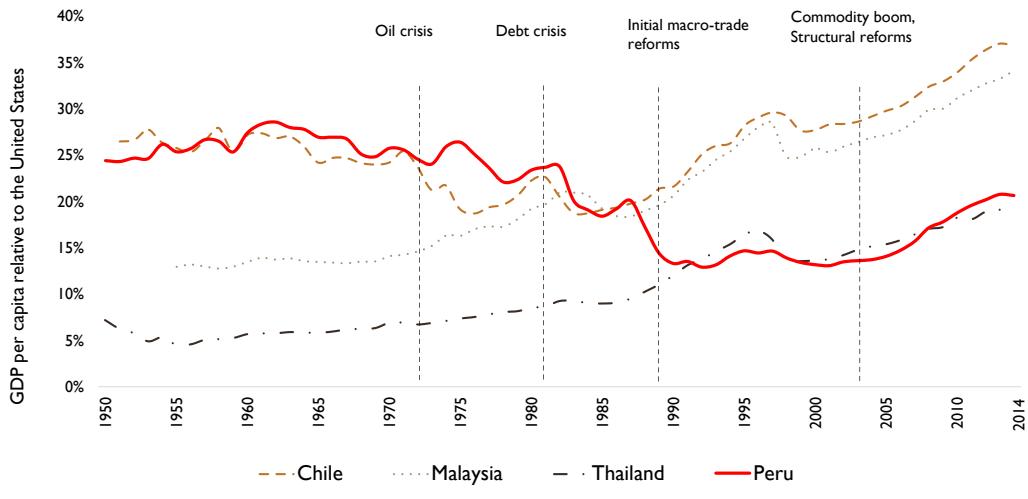
## From a failed economy to a success story

7. **During the 1980s, Peru faced one of its worst economic crises and the start of an internal armed conflict.** The Latin American debt crisis in the 1980s, combined with an inherited state-led growth model, drove the country into a cycle of GDP contraction and hyperinflation. By the end of the decade, inflation rates had hit four digits (reaching 7,500 percent) and output had fallen by 25 percent. GDP per capita, relative to that of the United States, fell from 25 percent in the 1970s to 15 percent in 1990. Moreover, in the early 1980s, the Communist Party of Peru—Shining Path (PCPSL) launched an armed struggle against the Peruvian state that was soon followed by the Tupac Amaru Revolutionary Movement (MRTA). This armed rebellion—similar in spirit, but much bloodier than other communist movements in the region—claimed to empower the peasantry against the State and the ruling classes. The armed conflict left behind close to 70,000 civilian casualties, most of whom were poor, rural Sierra peasants, mainly from Quechua and other indigenous communities.<sup>1</sup> Victims also included local authorities and community leaders. The nature of the PCPSL terror and military tactics, and the lack of a proper response by the Peruvian State subsequently led to thousands of human rights abuse cases on both sides of the conflict, a legacy of violence with which the country is still struggling to come to terms. The human rights abuses and the economic turmoil of that period further eroded social trust.

8. **During the 1990s, Peru undertook several deep macroeconomic reforms supporting monetary and fiscal policy discipline, but also reverted upon some institutional progress.** These reforms included trade and financial liberalization, the privatization of state-owned enterprises, and implementation of a more flexible exchange rate regime. To ensure a credible monetary policy and a sustainable fiscal policy, greater autonomy was given to the Central Bank of Peru (*Banco Central de Reserva del Perú*; BCRP), and the National Customs and Tax Administration Superintendence (*Superintendencia Nacional de Aduanas y de Administración Tributaria*; SUNAT) was created. The reforms laid the basis for the subsequent output recovery (Figure 1). The volatility of output growth declined somewhat in the 1990s but investment uncertainty remained unusually high as high-level corruption scandals and an increasing abuse of executive power undermined the rule of law. During this period previous institutional progress, for instance, in decentralization, transparency, and accountability mechanisms to control executive was partially reverted.

<sup>1</sup> The Truth and Reconciliation Commission Report points out that out of the estimated 69,280 victims, 79 percent lived in rural areas, 56 percent were farmers, and 75 percent were native speakers of an indigenous mother tongue. In addition, 85 percent of them lived in the departments of Ayacucho (40 percent), Apurímac, Huánuco, Huancavelica, Junín, and San Martín. See TRC (2003).

Figure 1: Per capita income started to converge to U.S. levels in the early 2000s



Source: Authors; based on World Bank data.

### *Favorable exogenous conditions, macro-structural reforms, and equitable growth*

9. **Over the last 15 years, Peru experienced a period of remarkable growth led by factor accumulation, resulting in an output recovery.** As the economy stabilized and began to recover from the crisis of the 1980s, high-return investment opportunities increased, and so did capital accumulation, which has accounted for more than two-thirds of aggregate growth since 2001. During this period, average growth reached 5.3 percent, among the highest in the LAC region.

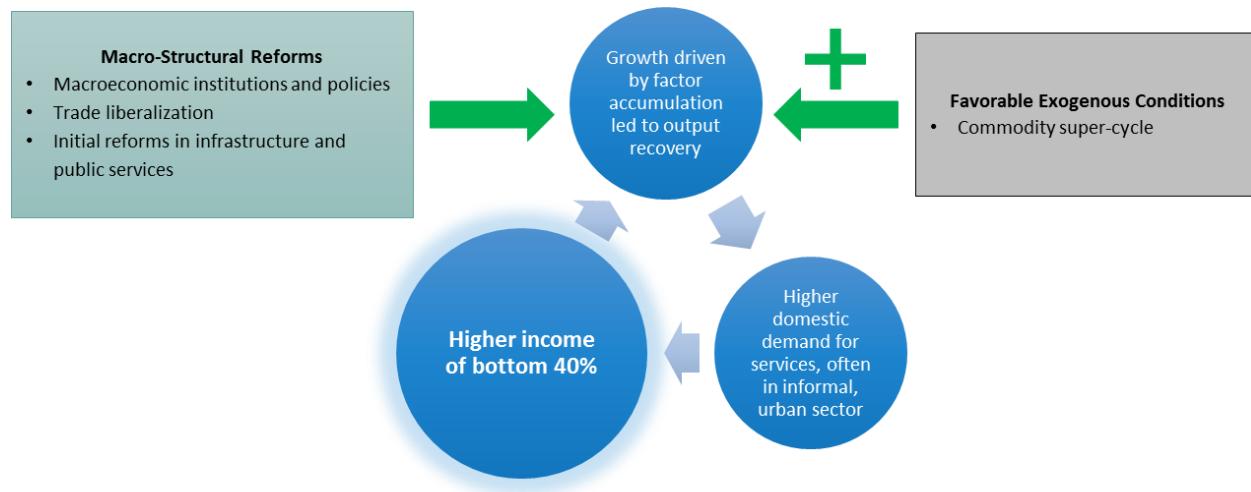
10. **A strong growth in internal demand generated a surge in service jobs, often in the urban informal sector.** During this period, labor moved from farming to mostly unskilled service jobs, especially in urban areas. Indeed, the employment share of agriculture declined from 32 percent in 2001 to 24 percent in 2013, while the employment share of services such as retail trade, hotels and restaurants, and transport—all of which have high informality rates—expanded. At the same time, agricultural productivity and incomes increased, due to better connectivity in the Sierra and increased industrialization of the agro-food exports sector in the Costa. Higher agricultural productivity and the expansion of urban informal service jobs led to a surge in the labor income of the bottom 40 percent, which further fueled growth by raising domestic consumption.

11. **Economic growth was inclusive and reduced poverty significantly.** Poverty responded strongly to growth—for each percentage point increase in GDP growth, poverty fell by 1.4 percentage points. Thus, from 2004–15, 9.3 million Peruvians escaped poverty, moderate poverty fell by more than half, from 58 to 22 percent and extreme poverty fell from 16 to 4 percent. More broadly, households' incomes in the bottom 40 percent increased by an average of 6.8 percent per year, against 4.4 percent for the average income. As a result, inequality declined by 12.6 percent over the period. The middle class grew by 18 percentage points from 2004–14, and outnumbered

the poor by 2013. Higher labor incomes explain the lion's share of the reductions in poverty and inequality. However, non-labor incomes (mostly public transfers from social programs) have helped to reduce rural poverty, especially over the last five years: the non-labor income contribution to rural poverty reduction had increased to 20 percent in 2014.

**12. The virtuous cycle of growth and shared prosperity can be explained in large part by a combination of two main forces: favorable exogenous conditions and successful macro-structural reforms (Figure 2).** The commodity price boom that started in the early 2000s boosted investment in mining, which had important ramifications for Peru's economy. Foreign direct investment (FDI) increased four-fold as a share of GDP. Mining investment, which peaked at US\$10 billion in 2013, accounted for 20 percent of total private investment from 2001-13. The mining boom also spurred private investments in upstream sectors such as chemicals, metal products, electricity and gas, land transport, and financial services. And in mining regions, higher incomes boosted consumption, especially of services

Figure 2: The combination of macro-structural reforms and favorable exogenous conditions created a virtuous cycle of growth and shared prosperity



**13. A number of important macroeconomic reforms supported the acceleration in capital accumulation.** The Government developed a sound macro-fiscal framework for managing public resources. It adopted an inflation-targeting regime, eliminated interest rate controls, and strengthened banking supervision and regulation. It also reduced tariffs and removed other barriers to trade and foreign investments. These structural reforms led to low inflation expectations and together with the adoption of a countercyclical fiscal policy, allowed the Government to accumulate savings from the windfall that came from the commodity boom. In contrast to other Latin American countries, Peru raised its savings during the boom years by almost 2 percent annually from 2000–13, which helped finance the higher investment rates. Over that period, the

public sector ran average fiscal surpluses contributing to the growth in aggregate savings. International reserves increased from 17 to 32 percent of GDP from 2000–15, twice the size of the share of international reserves in Chile, Colombia, or Mexico, while public debt remained low (at about 20 percent of GDP in recent years, with net public debt at only 3 percent of GDP in 2015).

**14. Macroeconomic stability and higher fiscal revenues enabled public investment and social progress.** The stable macroeconomic environment reduced investment uncertainty, which, concomitantly with higher revenues from the mining boom, enabled public investment in connecting infrastructure, education, health, and social programs, diversifying rural economies and supporting urbanization. From 2004–15, mobile phone use increased from 1 to 73 percent in rural areas, and from 23 to 90 percent in urban areas. The total kilometers of paved roads more than doubled in several regional departments, such as Huancavelica (243 percent) and Ayacucho (189 percent). Higher spending for education materials and an increase in the proportion of certified teachers helped increase net enrollment for pre-primary education (3–5 years) from 54 to 83 percent from 2001–15 and in secondary education from 69 to 83 percent. The expansion of public health insurance reduced the socioeconomic gap in enrollment, especially in rural areas. And, targeted, multi-sectoral social programs such as the Articulated Nutritional Program (*Programa Articulado Nutricional*, PAN) yielded great progress in reducing child stunting and improving other dimensions of human development.

#### New exogenous conditions highlight Peru's specific structural challenges ahead

**15. Past sources of shared prosperity are drying out.** A weak external environment, with declining commodity prices, together with the global economic slowdown have led to a deceleration of private investment. The prices of copper and gold, which together account for 35 percent of Peru's total exports, declined by almost one-half and one-third, respectively, since the beginning of 2013. Lower commodity prices reduced the value of Peru's exports—commodities accounted for about 70 percent of total exports in 2014. The deterioration in terms of trade has also had a significant impact on private investment, which declined by 6.1 percent in 2014, and then stabilizing somewhat in 2015. Further, the higher volatility of global financial markets will likely increase firms' financing costs, especially for the large pool of dollar-denominated corporate bonds, making only those projects with high returns attractive. Moreover, Peru's long recovery from the hardships of the 1980s and 1990s is ending, implying that the large pool of profitable investment projects is drying out. The investment share has converged to its pre-crisis plateau where it is expected stagnate in the absence of productivity improvements that raise the returns to investment. Finally, the wage differential across sectors has declined, removing an important channel for the poor to raise their labor income by migrating from rural agriculture to urban services.

**16. The new headwinds indicate that the past virtuous cycle of growth and shared prosperity may have reached its limit.** The dividends for shared prosperity from employment growth in unskilled, informal services are shrinking. The share of capital investment in GDP peaked at a historically high level on the back of high commodity prices and cannot be sustained without raising private sector productivity and, consequently, without increasing returns to capital in non-mining activities. Despite lower commodity prices, Peru's mining exports and investments did not collapse as a result of the sectors' high competitiveness, and the mining sector is projected to continue to support moderate GDP growth rates of about 3 percent per annum over the medium term. But it will not create sufficient new, better-paying jobs to sustain the labor income growth needed to reduce poverty further and raise the incomes of the middle class.

**17. Still, labor income will have to continue to be the main mechanism for reducing poverty and raising the income of the bottom 40 percent.** The scope of public transfers to reduce poverty is limited and labor income will continue to be the main engine of shared prosperity. But many Peruvians still do not have the skills and the access to better-paying income opportunities. As urban migration slows, Peru needs to go beyond the static gains from the shift from rural agriculture to informal urban services and begin to generate dynamic productivity gains within the urban economy. However, labor-intensive activities such as tourism, commerce, and transport still have low productivity levels, limiting the opportunities to create higher-paying jobs.

**18. These new headwinds highlight two structural challenges that have emerged from Peru's specific endowments, and that constrain the opportunities for income growth of the bottom 40 percent.** Peru's geography, natural endowments, and diverse population supported shared prosperity over the past 15 years, relying on previous spatially unbalanced economic opportunities, combined with fast recovery of capital accumulation and the expansion of low productivity informal services providing income opportunities for the bottom 40 percent. To unleash a new virtuous cycle of shared prosperity Peru needs not only to continue to utilize its endowments, it also has to address two main structural challenges emerging from these endowments to provide all Peruvians with access to better-paying income opportunities and to unleash the private sector's potential to create those better-paying jobs. These structural challenges, described in detail below, are the country's persistent spatial disparities in development and its low productivity.

**19. First, the persistence of large spatial disparities in development consistently undermine the ability of certain population groups, particularly indigenous and Afro-Peruvians, from overcoming poverty.** Despite the impressive progress in poverty reduction over the last decade, at least 40 percent of the population is still vulnerable to falling into poverty, and there remain large gaps in income and human development across the socioeconomic spectrum. Many segments of the population are still largely underserved. The rural population is almost a quarter of the total, but it accounts for half of the poor and 82 percent of the extreme poor. Fifty

four percent of Peru’s poor reside in only 181 of its more than 1,800 districts. Human development is lower in rural areas. For instance, child mortality and child malnutrition rates are about twice as high in rural areas, and education outcomes are worse than in urban areas. This situation hurts particular groups disproportionately—indigenous and Afro-Peruvians are still behind in human development and access to services relative to other Peruvians. But even though poverty is higher among the indigenous population, much of this difference is driven by the fact that they live in rural areas.

**20. Moreover, the capital-centric development model contributes to imbalances within the urban sector.** Today, Peru is one of the most capital-centric countries in the world—Lima accounts for 32 percent of the population (40 percent of the urban population) and 45 percent of the national GDP.<sup>2</sup> The unplanned urbanization of Lima has increased disparities between the capital city and the rest of the country, and between Lima’s affluent neighborhoods and its informal urban dwellings. Disparities in access to basic services such as water and sanitation, housing, transport, and security reduce the scope of opportunities that people can access throughout their lifetime, affecting their prospects for a better livelihood for themselves and their children, and ultimately, hurt the growth and shared prosperity potential of the country as a whole.

**21. Addressing Peru’s spatial disparities in a manner that would balance access to opportunities for all of its citizens will require paying close attention to the underlying features of poverty and vulnerability.** The specificities of Peru—in particular geographic segmentation and high urbanization—pose important challenges to ensuring that growth continues to be inclusive and that it consolidates the process of social mobility, not just between poverty and vulnerability, but towards a solid middle class. These challenges include:

- **Chronic rural poverty.** Despite the impressive reduction in poverty and extreme poverty, in half of Peru’s regions, 40 to 90 percent of districts still have a poverty incidence above 50 percent. In other words, there are a large number of districts—even if these are small—that have not benefited from income growth either from better labor market opportunities or from direct social interventions. In terms of individuals, there is evidence that most of the poor in Peru today are chronically poor: they were already poor 10 years ago.<sup>3</sup>
- **Low service quality.** In general, access to services has improved tremendously in the last decade. But quality gaps are still very large. This affects not only the poor in rural areas, but also the large numbers of vulnerable individuals across the country (42 percent of the population in 2015). In many aspects, quality is a significant factor in lifting people out of poverty and vulnerability into the middle class.

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<sup>2</sup> The concentration of some economic activities can be inefficient. In Colombia or Mexico, for instance, manufacturing exporters cluster in less congested, well connected smaller cities.

<sup>3</sup> Vakis, Rigolini and Lucchetti (2015).

- **Large urban populations.** Recent demographic changes pose new challenges for the Government’s inclusion agenda. Urban areas have grown tremendously, reaching around 75 percent of the total population. Lima has grown 10-fold since the 1950s (Box 2). This urban growth puts pressure on the capacity of municipalities to provide good services for their residents that respond to their needs. Urban areas are characterized by having limited urban transport systems, unstable labor markets with high levels of informality, poor planning, and deficient land management, among others.<sup>4</sup> Social services to the poor and vulnerable in these areas are generally non-existent.

**Box 2: The effects of internal migration on demographics in Peru**

A process of urbanization driven by rural-urban migration has changed the demographic landscape of Peru. The share of the population living in urban areas increased rapidly from 47 percent in 1960 to about 76 percent in 2015, one of the highest in the region and typically higher than in peer countries. The rapid urbanization has not been limited to the growth of Lima—the share of the urban population living in the capital city remained almost constant at about 40 percent between 1960 and 2015. Still, given its size—it accounted for one-third of the total population in 2015—the capital city absorbed the largest number of migrants in absolute terms. Since 1950s, rural population from the Sierra began a massive migration to the Coast, especially to Lima, in search of better opportunities. During the next 44 years, Lima grew 10-fold, and rural population went from 65 percent of the total to less than 35 percent. In the early 1980s, close to half of the *Limeños* were migrants, and 80 percent of Lima’s population lived in newly established *barriadas* (shantytowns). A second wave of migrants came to Lima and other urban centers in the 1980s and early 1990s, pushed by the armed conflict in the Sierra. From 1988–93, 8.4 percent of the total population migrated internally. Migration continued to be strong in the 2000s as the urban population has grown steadily of about 2 percent annually. Undoubtedly, migration improved the living standards of millions who lived in extreme poverty in the Sierra with little or no State presence. Migration also changed urban economies, as migrants relied heavily on informal employment in services to generate income. Rural-urban migration is likely to slow down as Peru’s share of urban population is higher than in most Latin American countries and already accounts for close to 80 percent of the population.

Source: Matos Mar (1984); INEI (2009); Yamada (2009).

**22. Peru’s second structural challenge relates to the large productivity gap of its private sector relative to its peers, which is constraining the demand for better-paying jobs and income opportunities.** Aggregate productivity (TFP) is low and has stagnated over the past 20 years—it contributed only 11 percent to economic growth from 2000–14, much lower than in peer countries such as Malaysia (23 percent) and Thailand (29 percent). Raising aggregate TFP in Peru has the highest growth payoff—the country would increase its relative GDP per worker from 25 to 65 percent of that of the United States if it had the same aggregate productivity<sup>5</sup>—while the potential gains from increasing capital or labor are relatively modest. Peru’s growth dividend from closing the large TFP gap with high-income countries is significantly larger than in other Latin American countries.

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<sup>4</sup> World Bank (2016<sup>a</sup>).

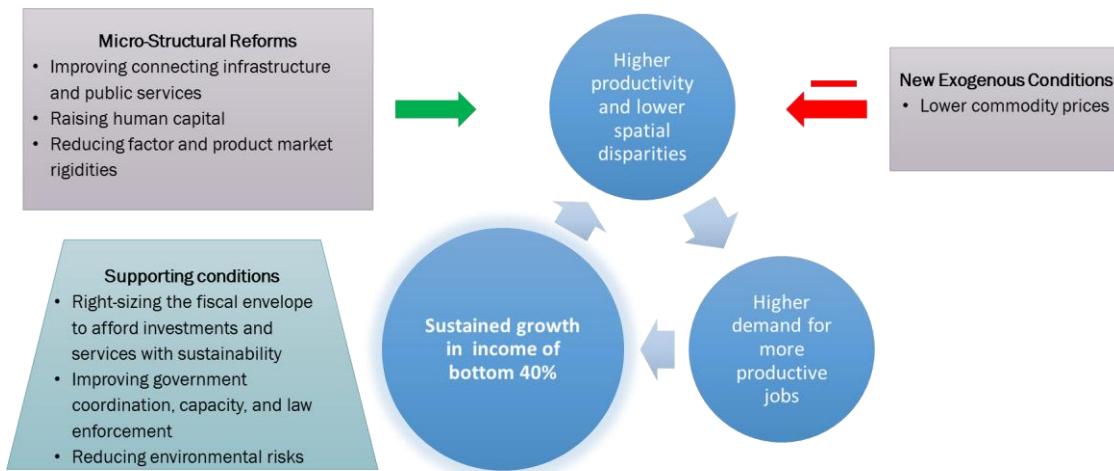
<sup>5</sup> Caselli (2015) and World Bank (2015a). Peru’s GDP per worker is more on par with its peer countries due to the high capital intensity and relatively large size of the mining sector.

**23. Peru's low aggregate productivity stems in part from substantial misallocation of capital and labor as its more productive firms do not necessarily hire more workers or invest more.** The large number of informal firms likely contributes to this misallocation, limiting the size and growth of more productive (informal) firms, especially in service sectors.<sup>6</sup> The lack of technology adoption and integration into global value chains further limit productivity growth. Low productivity, in turn, constrains firms' export diversification, their ability to adopt new technologies, and their demand for better-paying jobs, likely contributing to Peru's high labor informality. Low productivity, high informality, and little export diversification likely reinforce each other, describing an equilibrium of weak labor demand for more productive, better-paying jobs. Addressing the structural challenge of low productivity is thus imperative in order to sustain high returns to investment and continue the path of shared prosperity.

### Areas for priority action

**24. While past policies have been successful and sustaining them continues to be necessary, they are no longer sufficient to keep the country on the path towards high, inclusive, and sustainable growth.** As highlighted in Figure 3, addressing Peru's two key structural challenges described above—namely reducing its persistent spatial disparities in development and removing the barriers to productivity growth—would unleash a new virtuous cycle of shared prosperity. Overcoming these challenges requires a new generation of micro-structural reforms and reforms to address key long-term sustainability risks. If these risks are not addressed, the impact of social and public services reforms might not be sustained in the long term.

Figure 3: Micro-structural reforms are needed to continue on the path of shared prosperity



<sup>6</sup> See a detailed analysis in Section 3.

25. **The Systemic Country Diagnostic (SCD) prioritizes policy constraints that have the greatest impact on Peru's structural challenges of reducing the large spatial disparities and boosting private sector productivity.** The SCD uses the following selection criteria to identify the constraints with the largest impact on achieving shared prosperity going forward. First, it identifies constraints that significantly affect one or both of the two main structural challenges. Second, it identifies policy constraints that present synergies to overcome these structural challenges. Third, it identifies constraints that support the sustainability of addressing Peru's structural challenges.

**Table 1: Priority areas and key bottlenecks to address the two structural challenges**

Priority Areas	Key Bottlenecks	Prioritization criteria			
		Reduces disparities	Increases productivity	P resent synergies to achieve outcomes	Support the sustainability of outcomes
Improving connecting infrastructure and public services	Large gaps in access to <b>water and sanitation</b>	✓		✓	✓
	Lack of urban planning and <b>cadastral</b>	✓		✓	✓
	Large gaps in connecting <b>infrastructure</b>	✓	✓	✓	
Raising human capital	Fragmented coverage and quality of services in <b>health</b>	✓	✓	✓	
	Low quality of services in <b>education</b>	✓	✓	✓	
	Inefficiencies across <b>social services</b>	✓	✓		
Reducing factor and product market rigidities	Labor and tax regulations that hamper productivity and <b>formalization</b>	✓	✓		
	Regulatory barriers to competition (at the subnational level) that hamper productivity and <b>formalization</b>		✓	✓	
Right-sizing the fiscal envelope	Low <b>efficiency of public spending</b>			✓	✓
	Low <b>tax revenues</b>			✓	✓
	Unfinished <b>decentralization process</b>			✓	✓
Improving government coordination, capacity, and law enforcement	Weak enforcement of the rule of law in the <b>justice system</b>			✓	✓
	Weak <b>enforcement of regulations</b>			✓	✓
	Low level of government coordination and <b>red tape</b>	✓	✓	✓	✓
	Low levels of trust and social capital ( <b>citizen-government</b> )			✓	✓
Reducing environmental risks	High exposure to <b>climatic risks and natural hazards</b>			✓	✓
	Reactive and loosely coordinated <b>natural resources management</b>			✓	✓

26. **Applying the three criteria described above, the SCD identifies a set of constraints that are pivotal to address Peru's two main structural challenges and should thus be the focus of policies in coming years.** Macroeconomic stability and openness to trade and investment will remain pre-conditions for prosperity. But a new generation of *micro-structural* priority areas needs to be tackled, including (i) improving connecting infrastructure and public services; (ii) raising human capital; and (iii) reducing factor and product market rigidities. At the same time,

sustainability risks undermine the long-term impact of the micro-structural reforms. These include (i) an inadequate fiscal envelope; (ii) low capacity and inefficient government coordination and law enforcement; and (iii) environmental risks. Without policies that address these risks, any progress from sector-specific, micro-structural reforms on reducing spatial imbalances will be reversed. The list of critical constraints and the specific bottlenecks associated with them are summarized in Table 1.

### *The need for micro-structural reforms*

27. **Micro-structural reforms are needed to raise the endowments of and incentives to people, firms, and communities to increase their productivity.** The constraints that have the greatest potential effect on Peru's structural challenges are discussed in more detail below.<sup>7</sup>

#### *Improving connecting infrastructure and public services*

28. **Improving the provision of public services, especially in rural and marginal urban areas, will have a large impact on reducing spatial disparities in Peru.** Throughout the country, there are important inefficiencies in the quality and reliability of public service provision. For example, in spite of high levels of public investment in water and sanitation, only 15 percent of rural households receive drinking water, compared to 90 percent of urban households. And access to water can be inequitable, as it costs up to 65 Soles (S./) per 5 cubic meters in informal urban settlements, compared to only S./12 in residential areas. Water provision enterprises (EPS) incur significant water losses of about 40 percent, much higher than in developed countries (estimated at 15–20 percent), and also higher than the level attained in the best-performing utilities in developing countries (estimated at 20–25 percent). Service continuity also is a problem, and there is increasing water pollution from untreated wastewater, dumping of industrial solid waste, and uncontrolled use of agrochemicals. In 2012, only about a third of wastewater was treated before being sent back into the environment. The situation in water and sanitation mirrors the quality of service provision in many other sectors, including electricity, waste collection, and public transportation. Typically, rural households have much lower access to good quality services. But even in urban areas, unplanned growth has led to large inequities within cities, as many low-income neighborhoods have inadequate waste collection, security, public spaces, and so forth. A considerable share of the urban population lacks adequate housing, which increases their exposure to earthquakes and landslides. And, despite the importance of access to land for investment, planning, and services, only 8 of more than 1,800 municipalities hold comprehensive and up-to-date cadasters.

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<sup>7</sup> The analysis for the SCD was conducted in 2016 and does not include the legislation passed by the new administration in the last 2 months of 2016 when it was allowed to pass new laws in several defined areas without the approval of congress. For instance, the government passed a law in December 2016 to further strengthen the power of the competition authority (INDECOPI) to make legally binding recommendations to align regulations with the competition law.

**29. Investing in connecting infrastructure will help improve the competitiveness of Peruvian firms.** Markets towards the interior, south, and north of the country have low accessibility. The lack of connectivity divides domestic markets, undermining efficiency gains from competition and economies of scale. Poor connectivity also reduces the export competitiveness of domestic firms and diminishes incentives for FDI, thus limiting access to foreign markets and technologies. In contrast, markets are better connected in Colombia and Ecuador, which also have a complex geography. Peru's logistics costs—about 32 percent of product value—are among the highest in Latin America, while many larger Peruvian cities face transport cost markups for commercial and social exchanges of 50 percent or higher relative to Lima.<sup>8</sup> The export competitiveness of Peruvian firms is further undermined by the high bureaucratic costs of Peru's customs administration, in which Peru ranks below its peers.<sup>9</sup>

#### *Raising human capital*

**30. Improving human capital will require efforts to increase access to quality health services and to scale up successful social assistance programs.** While Peru has expanded health care coverage for the poor through the Comprehensive Health Insurance system (*Seguro Integral de Salud*, SIS), there are still severe disparities in the coverage and quality of health services. Enrollment in health insurance reached 69 percent of the population in 2014, but while SIS covers the rural poor and formal sector workers are covered by the contributory social security system (*EsSalud*), there is still a “missing middle” of non-poor informal workers who lack health coverage. Moreover, poorer regions tend to have fewer doctors per capita, and out-of-pocket health expenditures continue to be high, constraining the access to quality health service for the poor and vulnerable. Social assistance programs are often well targeted but have low coverage. The *Juntos* conditional cash transfer (CCT) program, for instance, is limited only to districts with more than 40 percent of poverty incidence; it is thus effective in reducing poverty in rural areas, but its aggregate poverty impact is limited.

**31. Improving the quality of education and especially reducing disparities in quality is required to ensure that all Peruvians develop to their potential.** From the start of their lives, all Peruvians should have access to the structures and assets that they need to learn and develop their skills and job readiness, to exploit their potential as productive adults, and finally, to have income protection in their later years when they are no longer able to sustain themselves. Yet, many Peruvians, especially among the poor and in rural areas, lack access to the necessary structures and support systems, and therefore cannot expect to achieve good and secure income opportunities over their lifetime. The low average human capital, for example reflected in Peru's Programme for International Student Assessment (PISA) scores (improving, but still among the

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<sup>8</sup> Well above Colombia's (23%), Chile's (18%), Brazil (26%), and Argentina (27%).

<sup>9</sup> Logistic performance index, 2015.

lowest worldwide), masks notable gaps between different groups. For example, net enrollment in secondary school for extremely poor students is 20 percentage points lower than for non-poor students. Likewise, the proportion of above-age students at the primary and secondary levels is higher among rural and indigenous population, and the performance of students in national and international tests is significantly lower for rural students. This is due in part to poorer teaching conditions in rural and remote areas (including infrastructure, teachers, and other inputs), but also to the lower nutritional levels among children in disadvantaged areas, which is an impediment to cognitive development. In tertiary education, there is a large heterogeneity in the quality of training and higher education institutions, which results in large mismatches in the labor market.

#### *Reducing factor and product market rigidities*

**32. Peru needs to reduce the rigidities of its labor market to encourage the allocation of human capital to more productive activities.** Only three out of 15 Latin American countries have more rigid regimes for hiring and firing employees. For instance, dismissals for economic reasons are severely limited and require explicit authorization from the Ministry of Labor (*Ministerio del Trabajo y Promoción del Empleo*; MTPE). Nonwage formal sector labor costs under the general labor regime account for 68 percent of the basic wage, by far the highest in the region. These labor market rigidities undermine private sector competitiveness and also, potentially, formal job creation. While past initiatives to reduce labor informality have failed, a successful formalization process probably requires a coordinated approach that combines reducing the costs of formality (hiring and firing, labor costs and contributions, tax burden, and other regulations) while increasing the benefits of formality (public services, more consistent enforcement).

**33. Improving the productivity of Peru's firms will also require actions aimed at reducing regulatory barriers, especially at the subnational level, that constrain market entry and competition.** Peru has removed most tariff and many non-tariff technical trade barriers, introduced a best-practice legal framework for competition, and established an independent competition authority. But according to the WBG-OECD product market regulation indicators, the complexity of regulatory procedures and protection of incumbents stifle competition, especially in backbone service sectors such as transport, telecom, retail, and professional services. Unlike in Chile, Mexico, and Colombia, professional service firms in Peru self-regulate the entry conditions for new providers. In some cases this leads to anticompetitive practices. According to the national competition authority, subnational government bodies imposed all of 76 percent of the bureaucratic barriers (licensing, permits, and inspections). Further, the Doing Business data show that entrepreneurs in Peru, unlike in peer countries, spend almost all of the time required to open a business (26 days versus 8.3 days in OECD) dealing with municipalities (15 days) and notaries (9.5 days).

### *Supporting and sustainability conditions*

**34. Failure to address important sustainability risks would undermine potential achievements from micro-structural reforms.** As discussed earlier, shared prosperity in Peru relies on raising the quality human capital, improving the connectivity infrastructure and public service provision, and reducing factor and product market rigidities. But to make the impact of these reforms sustainable over time, Peru needs to address important sustainability risks. The country needs to strengthen environmental risk management, right size the fiscal envelope to afford investments and services with sustainability, and implement institutional reforms improving government coordination, capacity, and law enforcement.

#### *Right-sizing the fiscal envelope to afford investments and services with sustainability*

**35. The low efficiency of public spending undermines the quality of infrastructure and public services.** Inefficiencies in public spending limit the quality of public and social services.<sup>10</sup> The low efficiency of public infrastructure spending, for instance, is related to shortcomings in public investment management such as the absence of multiyear budgeting or insufficient national or sectoral planning. Peru does not publish projections of capital spending beyond the current budget year and does not have multiyear targets or ceilings on capital expenditure by ministry or program. Also, there is no official record regarding commitments in future years from signed public investment contracts. The high administrative costs associated with public investment management are to some extent the consequence of the decentralized system with small, potentially weak capacity municipalities accounting for a large share of public investments. As a response to the potential low local capacity, the central government put in place additional procedures and control mechanisms to enforce quality standards. For instance, it created 110 investment committees in all three levels of government to ensure prioritization of strategic projects.

**36. Low tax revenues constrain the quality of public services.** Peru's government has kept fiscal spending at sustainable levels, but this has also constrained investments in public services and the Government's ability to reduce the large spatial gaps. Peru has a relatively small government compared to other upper-middle income countries. For instance, Peru collects a lower share of GDP in taxes.<sup>11</sup> On average, Peru spends only 9 percent on all social expenditures (including pensions and social assistance programs), less than in most peer countries. An important challenge ahead is to increase the efficiency of spending without sacrificing quality and to expand the revenue base to finance higher investments in sectors where spending is relatively low. The

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<sup>10</sup> An ongoing World Bank Public Expenditure Review for Peru analyzes the efficiency of public spending in Peru and benchmarks the size of the state in different sectors relative to peer countries.

<sup>11</sup> According to OECD (2015), the tax revenue in Peru in 2013 was 18.3 percent of GDP, compared to 21.3 percent for LAC on average and 34.1 percent for the OECD.

SCD finds, for instance, that spending in social assistance programs is low despite the existence of well-targeted programs.

*Reducing environmental risks*

**37. Regulating the use of natural resources and better enforcing environmental laws will mitigate the risks facing crucial resources like air, water, and fish stocks.** Increasing urbanization and incomes have raised Peru's levels of congestion and air pollution. Further, the pollution of water and land—often related to illegal mining activities—negatively affects people's health and thus the country's human capital endowment. Key economic sectors (agriculture, extractives, and tourism) depend on natural resources; managing them sustainably is a precondition to increasing their growth potential. Moreover, Peru is highly exposed to climatic risks and natural hazards. In the last 35 years, Peruvian glacier surface area fell by 22 percent. It is estimated that by 2020 all glacier surfaces below 5,000 meters will disappear, endangering the sustainability of water resources and the production of hydroelectricity. While more stringent environmental regulations have been implemented in selected cases, the lack of proper regulations and enforcement appears to be the norm. For instance, while the Government has put into place an effective quota system for anchovies—a major export crop—similar regulatory frameworks for other species are absent. And, while the 2012 Public Consultation Law, enacted after the sharp increase of mining related conflicts since 2007, improved the legal framework through which to channel local community concerns about extractive industries, specific sector roles and monitoring obligations are still unclear. Further, there is limited funding for consultation processes, limiting the interpretation and implementation of the law.

*Improving government coordination, capacity, and law enforcement*

**38. Current institutional arrangements are not well suited to provide the level and quality of services demanded by Peru's population while coping with the economy's increasing complexity.** Clusters of excellence in government coexist with other government bodies that lack capacity and appropriate resources. More importantly, there is often a substantial overlap in responsibilities across government tiers, while coordination mechanisms are typically absent. Further, the unfinished decentralization process has generated additional inefficiencies in public investment and service delivery. The transfer of public investment responsibilities to the smallest government tier discourages investments in larger, cross-jurisdiction infrastructure projects with higher social returns, such as roads connecting cities, and has led instead to a large number of small-scale public investment projects. Further, mining revenues are primarily distributed to the few municipalities hosting the mines—only four of the 1,842 municipalities receive more than 50 percent of the total canon transfers to local governments. This creates abundant resources in some municipalities and severe shortages in others, thus undermining the efficiency in public spending and raising spatial inequalities in public service delivery. The decentralization of administrative

functions to subnational governments, without a decision-making authority and in the absence of relevant own revenue sources has led to misaligned incentives and the reduced efficiency of service delivery.

**39. Improving law enforcement and access to justice for all citizens would also increase public trust and enhance levels of compliance.** The lack of compliance with the legal framework has many facets, including building permits, municipal licenses, taxes, and labor standards. The belief of many Peruvians that regulatory evasion is justified, combined with the Government's low enforcement capacity, generates risks and debilitates the social contract which is reflected in the increasing number of social conflicts throughout the country (207 as of September 2016, Ombudsman Office). Citizens' perception of transparency and efficiency of the state are among the most pessimistic in LAC. The lack of transparency and accountability mechanisms, especially at the local level, together with the abundance of corruption investigations has led to a generalized mistrust in public institutions and the justice system. Only 21 percent of all citizens trust the judicial system, and most consider it inequitable. The limited access to judiciary services also undermines the ability of large parts of the population, especially the poor and vulnerable, to protect their rights. A case in point is the pervasiveness of domestic abuse, which most often goes unreported and rarely ends in prosecution. An inefficient justice system also increases firms' investment uncertainty and reduces the appropriability of returns from more risky and productive activities, such as innovation. Finally, it increases the exposure to crime and the private costs of security.

**40. The list of priority areas for action reflects the fact that the quality of government policies and services has fallen behind the pace of economic growth and the aspirations of the country's population.** Macroeconomic stability and favorable exogenous conditions helped Peru to achieve fast economic growth in the past 15 years. But public services and institutions did not improve at a similar pace. Despite rapid growth in recent years, the quality of social, infrastructure, and regulatory services still needs to improve for Peru to become an inclusive society with a solid middle-class. Sectoral reforms will not yield the desired results in Peru unless institutional constraints to improve government efficiency are eliminated, including improving the Government's ability to plan, coordinate, and implement policies, and to guarantee law enforcement and access to justice.

## **Process and structure of the SCD**

**41. The SCD seeks to identify the critical constraints and priority interventions necessary for Peru to achieve the goals of reducing poverty and improving shared prosperity.** The study steps back from the World Bank's existing portfolio, and even the Peruvian Government's strategy, to conduct a broad overview of socioeconomic development progress in Peru. It is

designed as an analytical input for stakeholders to debate development priorities, and also to inform the preparation of a new Country Partnership Framework (CPF).

**42. In preparation of this SCD, extensive consultations were held with various stakeholders.** Three meetings with the Country Team were held on January 20, June 8 and October 13, 2016. A first specific SCD mission took place February 1–5, 2016. A second consultation mission that met with private sector representatives took place in July 4-8, 2016. Moreover, many bilateral meetings with Global Practice (GP) teams have been held to obtain feedback from colleagues and build consensus on priorities. The knowledge base on Peru is substantial and the analysis draws heavily on World Bank studies recently prepared across various GPs, new specific analysis prepared by the SCD team, and external work. The challenge of an SCD is to prioritize the binding constraints in order to tackle the most pressing development challenges.

**43. The guiding question of this SCD is: *What is necessary for Peru to continue on the path of high growth, poverty reduction, and shared prosperity?*** The SCD is organized around the following set of questions:

- What are the critical factors determining poverty and inclusion? (Section 2)
- What are the critical factors determining aggregate growth? (Section 3)
- How sustainable (environmentally, socially, and fiscally) is the current pattern of growth, distribution, and poverty reduction? (Section 4)

Section 2 reviews the recent trends and determinants of poverty, inequality, and inclusion—the analysis identifies Peru’s large spatial disparities as the main structural challenge to sustain poverty reduction and inclusion. Section 3 analyzes the trends and determinants of aggregate growth—the analysis identifies Peru’s low private sector productivity as the main structural challenge to sustain high growth. Section 4 focuses on the environmental, fiscal, and socio-institutional risk factors that will undermine the impact of microstructural reforms in reducing spatial disparities and boosting productivity, if not addressed. Finally, Section 5 identifies crucial policy areas that must be addressed to overcome the binding constraints to shared prosperity identified in Sections 2, 3, and 4. The SCD concludes with a set of priority areas and key bottlenecks for Peru that emerge from the analysis.

## 2. Poverty and Inclusion

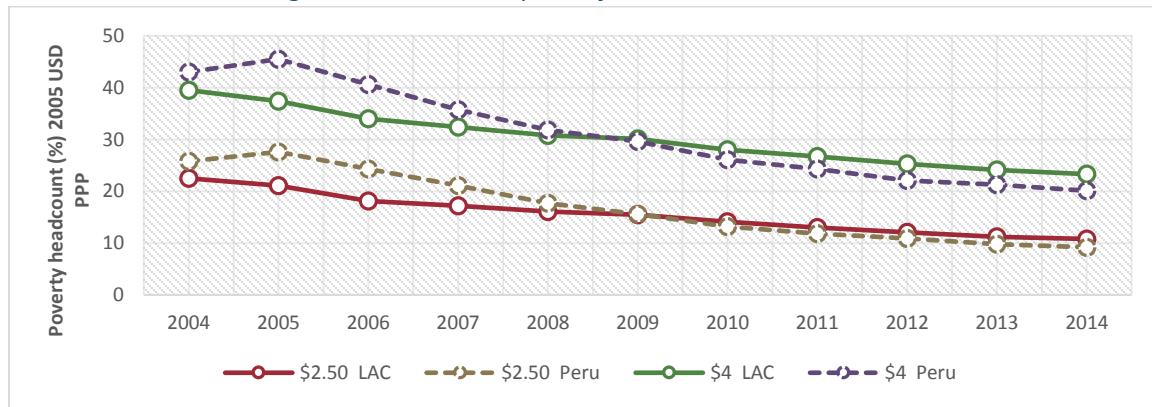
Over the last decade, poverty and inequality dropped dramatically in Peru, thanks to economic growth and increasing labor incomes, especially at the bottom of the income distribution. Human development and access to services also improved. Rural areas, however, still have high poverty rates, and their populations have lower access to services and lower human capital than their urban counterparts. Women face disparities in the labor market, and they are highly exposed to violence, in particular in the domestic realm. And, Indigenous and Afro-Peruvians face further disadvantages in living conditions. However, location plays a much larger role than ethnicity in explaining poverty. Peru's large spatial disparities in development are thus a key impediment hindering many Peruvians from acquiring the human capital necessary to access better job opportunities.

A remarkable decade of poverty reduction and increased shared prosperity

*Sustained growth caused poverty and extreme poverty to fall sharply in the last ten years*

**Over the last ten years, moderate poverty fell by more than half, and extreme poverty by more than two-thirds.** As Section 1 presents, the strong and sustained economic growth of the last decade was broad-based. Households in the bottom 25 percent experienced income growth rates of about 7 percent per year between 2004 and 2014, while households in the top 25 percent saw increases of only 5 percent or less per year. The share of the population living in poverty fell from 58.7 percent in 2004 to 21.8 in 2015, a 63 percent fall in the poverty rate. Similarly, extreme poverty fell by three-fourths, reaching 4.1 percent in 2015. In absolute numbers, these changes signify that 9.3 million people exited poverty, and 3.2 million people exited extreme poverty over this ten-year period.

Figure 4: Evolution of poverty, Peru and LAC, 2000–14



Source: SEDLAC, CEDLAS, and The World Bank. Note: Income poverty is computed to be able to compare Peru's performance with other countries in the region.

**44. Both extreme and moderate poverty rates fell faster in Peru than the regional average.** Using standardized poverty and extreme poverty lines for the LAC region, Peru started the period with poverty rates above the regional average. Peru's rates fell to the regional average by 2009, and have since fallen even further (Figure 4). At the national level, for each percentage point increase in Peru's GDP growth, poverty fell by 1.4 percentage points. On average, the poverty-growth elasticity was higher in Peru's urban areas in the first half of the period (until 2010), after which rural poverty became substantially more responsive to growth. This trend is apparent especially in the Sierra and Selva regions of the country.

*A strong labor market generated better incomes, especially at the bottom of the income distribution*

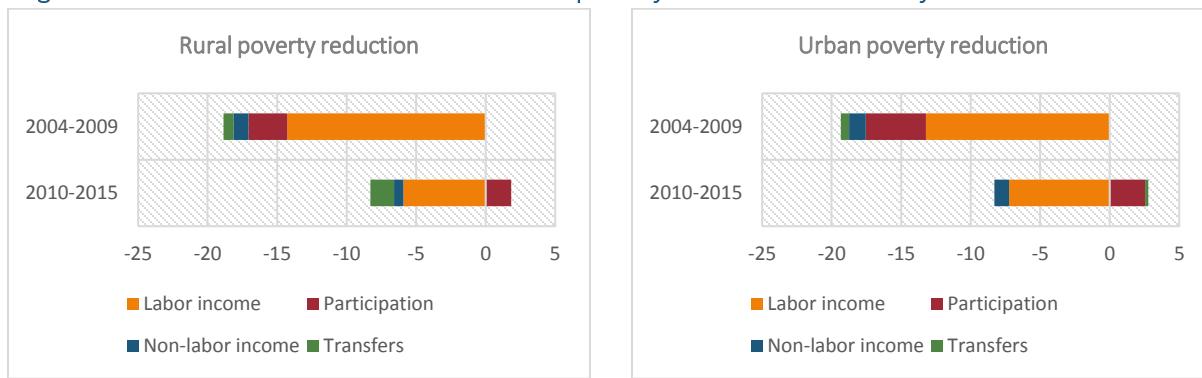
**45. Labor earnings in urban and rural areas increased sharply in the last decade.** Median monthly real income in urban areas increased by 45 percent between 2004 and 2015, from S/. 611 to S/.887. In rural areas, growth of the real median income was 54 percent, but median income in 2015 (S/.377) was still only 60 percent of urban median income in 2004. Hourly earnings show a similar pattern, with higher growth rates in rural areas (60 against 53 percent), reaching, in 2015, S/.2.5 per hour in rural and S/.4.8 per hour in urban areas, respectively. Nationally, median monthly wages grew by more than 50 percent in real terms during the last ten years, rising to S/.783 by 2015, and were a major driver for poverty reduction during this period. There are, however, important regional disparities. Wages in the Sierra and Selva regions are almost 40 and 30 percent lower, respectively, compared to those of Costa region. Similarly, wages in Lima are 60 percent greater than throughout the rest of Peru, and urban areas also show marked differences with rural areas.

**46. Higher labor income was the primary driver of poverty reduction over the 2004–15 period.** The decomposition of changes in income into changes in employment, changes in labor and non-labor income (non-labor income split into transfers and others), and changes in the households' dependency ratio reveals that labor income was the largest contributor to the decline in poverty, followed by changes in dependency and in non-labor income.<sup>12</sup> In rural areas, transfers played an important role in poverty reduction, in particular during the last five-year period (Figure 5). Agriculture and services generated the largest increases in income for the poor: the contribution of agriculture was stronger in the reduction of extreme poverty, whereas labor income from services played a more significant role in moderate poverty reduction.

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<sup>12</sup> These decompositions are made using the official definition of employment used by INEI. Using the SEDLAC definition, which counts any person that receives zero income as unemployed, the employment effect is slightly higher and the labor income effect slightly lower. This is because an increase in earnings from individuals with no earnings, but classified as employed, has an employment effect under the SEDLAC definition, but not under the official definition.

Figure 5: Labor income contributed the most to poverty reduction, followed by transfers in rural areas



Source: Staff calculations based on ENAHO

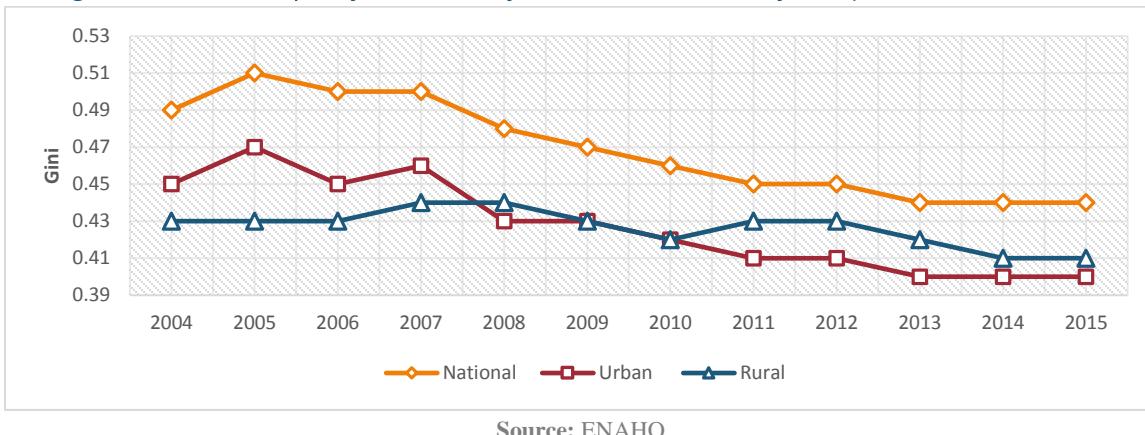
**47. As urban employment increased, rural employment fell, but the latter also diversified.** Disaggregating the past decade into three sub-periods reveals distinct patterns of job creation by sector and region. Rural employment grew from 2002 to 2006, but it then stagnated and subsequently declined, driven by large contractions in agricultural employment. Nonetheless, services and construction jobs have increased in rural areas since 2010, but not enough to offset the move away from farm work. The large majority of jobs were created in urban areas, and across many sectors, especially wholesale and retail trade (24 percent of total new jobs), government services (16 percent), transportation and construction (12 percent each), and manufacturing (10 percent).

#### *Peru also made significant progress in increasing shared prosperity*

**48. Peru also made progress in reducing overall income inequality, albeit progress was more significant in urban areas.** At the national level, the Gini coefficient fell by 5 points over the last 11 years: from 0.49 in 2004 to 0.44 in 2015 (Figure 6). Urban inequality fell by the same magnitude, dropping to 0.40 in 2014. In contrast, rural inequality—due in part to Peru’s varied geography—has proven harder to reduce, falling by only 2 points. As a result, urban inequality—which had been higher than rural inequality until 2008, fell to rural levels between 2008–10, and has been lower ever since.

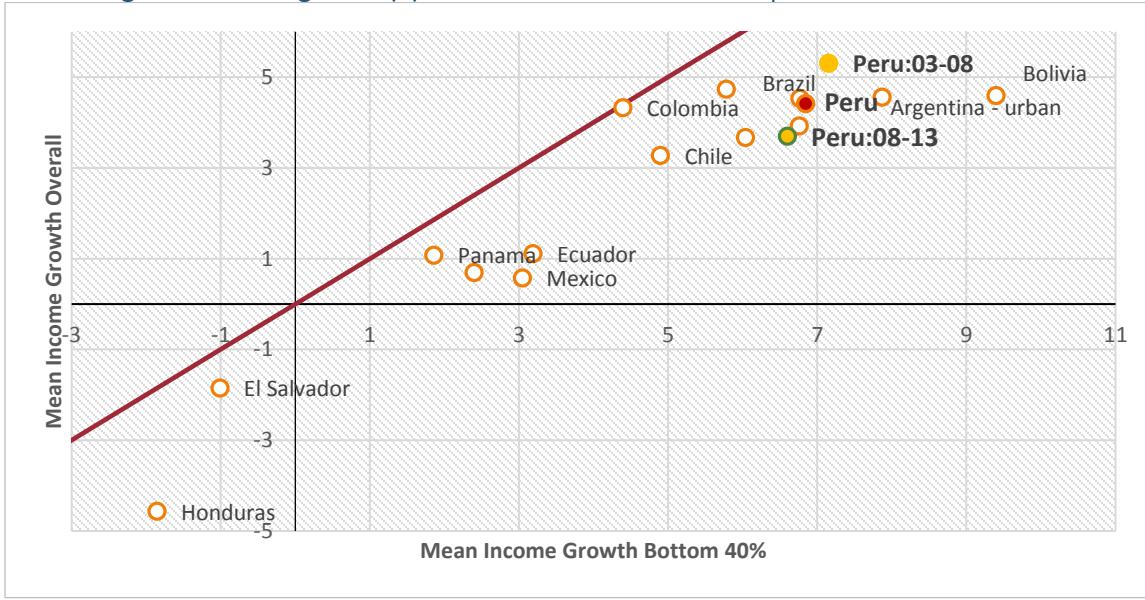
**49. Similarly, shared prosperity—the growth rate of real income per capita among the bottom 40 percent, increased significantly over the period.** Income for the bottom 40 percent grew at a faster rate than average growth (6 percent against 4.4 percent over the period 2004–15). This pro-poor growth was remarkable within the region: it was similar to that of Brazil, and third only behind that of both Argentina and Bolivia (Figure 6). The Figure also presents the results for Peru divided in two periods. While the mean income and the income among the bottom 40 both grew at a lower rate during the most recent period (2008–13), the difference in growth rates in favor of the bottom 40 has been stronger in recent years.

Figure 6: Income inequality measured by the Gini coefficient, by rural/urban, Peru 2004–15



Source: ENAHO

Figure 7: Income growth (%), Bottom 40 and the Entire Population – LAC, 2003–13

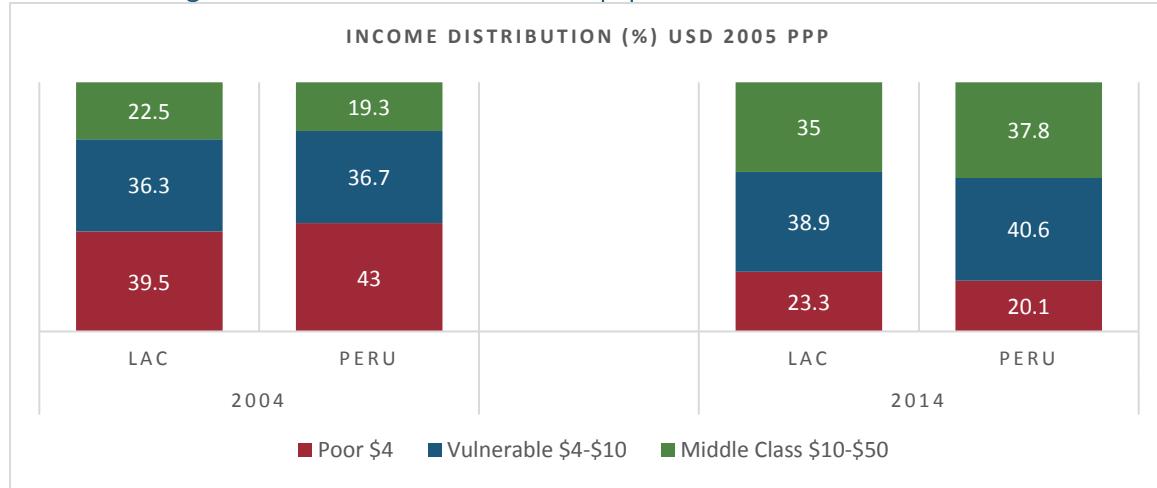


Source: Authors' elaboration with data from SEDLAC, CEDLAS and The World Bank, circa 2003-2013

50. In line with similar patterns throughout the LAC region, the substantial fall in poverty was accompanied by a significant increase in the size of its middle class. The fall in poverty rates was accompanied by a significant increase in its middle class population, and in only a marginal increase in the share of its vulnerable population. Between 2004 and 2014, the share of its vulnerable population increased by 3.9 percentage points while the middle class grew by 18.5 percentage points (Figure 8). By 2014, the number of people in Peru's middle class exceeded the number of its poor population. Despite this progress, the vulnerable class still accounts for the largest portion of Peru's population. In 2014, while 40.6 percent of the Peruvian population was not considered poor, this group still faced the small but real probability of becoming poor if hit by a negative shock. Indeed, the income threshold for this group—which corresponds to US\$10 per

capita per day—is defined so that, above it, the probability of falling into poverty is less than 10 percent (Ferreira et al. 2013).

**Figure 8: Middle class and vulnerable population, Peru and LAC, 2004–14**



Source: SEDLAC, CEDLAS and The World Bank

51. **At the same time, poverty is converging towards chronic poverty.** Consistent with the prolonged and pro-poor growth experienced for more than a decade, upward mobility was substantial. A three-year panel analysis of households from 2007–10, shows that about 50 percent of the extreme poor and 32 percent of poor households in 2007 had exited extreme (total) poverty by 2010. Conversely, medium-term downward mobility is relatively low, and likely to be lower if considering longer periods of time. However, over the same three-year period, 67 percent of households who were the extreme poor in 2010 (and 82 percent of the moderately poor) were already poor in 2007. This suggests that there is a significant proportion of Peruvians who, despite the favorable economic conditions, were not able to leave poverty. A similar analysis over a longer period of time, applying a synthetic panel methodology, shows that nearly all of those who were poor in 2012 were also poor in 2004 (Vakis *et al.*, 2015).

### Poverty in Peru is predominantly rural

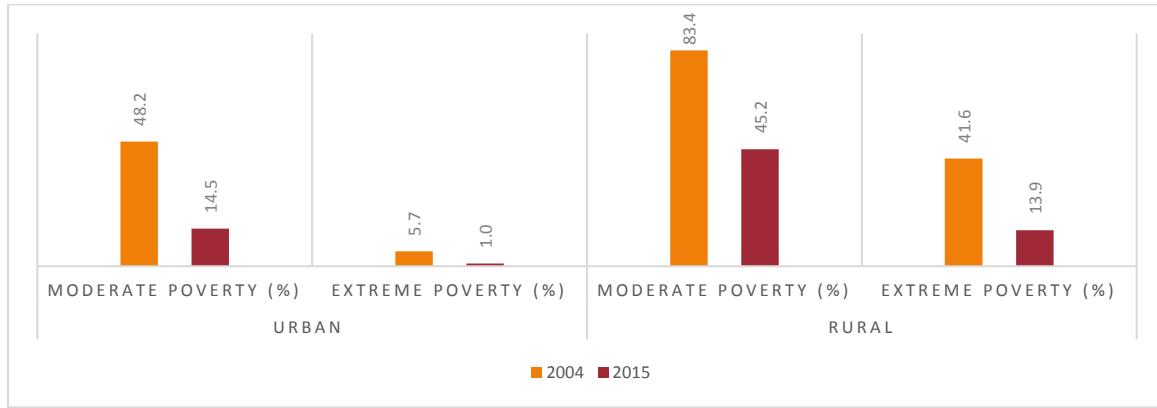
#### *There are large gaps between urban and rural poverty*

52. **Poverty is unevenly distributed across the country, and is concentrated in rural areas.** Some Regions, such as Ica and Madre de Dios, have very low poverty rates (5 and 7 percent, respectively), while Cajamarca, Amazonas, Huancavelica and Ayacucho have poverty rates above 40 percent<sup>13</sup>. While less than a quarter of Peru's population is rural, about half of the poor and 80

<sup>13</sup> Peru's territory is divided into 26 administrative units, 25 Departments or "Regions" and the Callao Province. When the term "Region" is used in this report it refers to one of the country's 25 regions, as administrative units. Regions are further divided into provinces, which are further divided into districts.

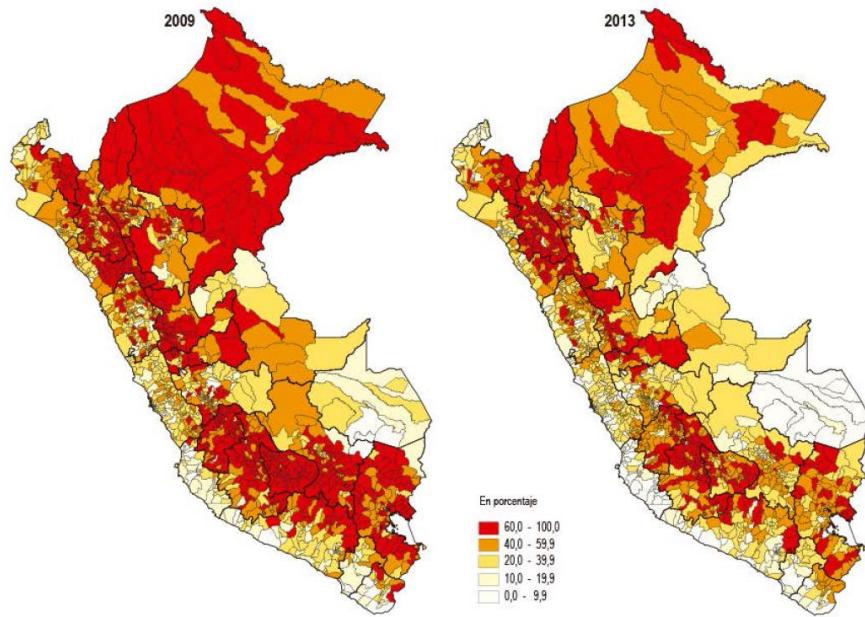
percent of the extreme poor reside in rural areas. Finally, in 2015, the poverty headcount in rural areas was more than three times the urban headcount, and the extreme poverty headcount was 13 times higher (Figure 9).

Figure 9: Poverty headcount (%) in urban and rural areas, 2004 and 2015



Source: ENAHO

Figure 10: District-level poverty, 2009 and 2013



Source: INEI (2015)

53. **Both total and extreme poverty are concentrated in relatively few districts.** According to the 2012–13 district poverty map (Figure 10), almost half of the extreme poor are concentrated in approximately 8 percent of Peru’s districts, a large percentage of which are located in the Apurimac, Cajamarca, La Libertad, and Piura Regions (Genoni and Salazar, 2014). Similarly, 181

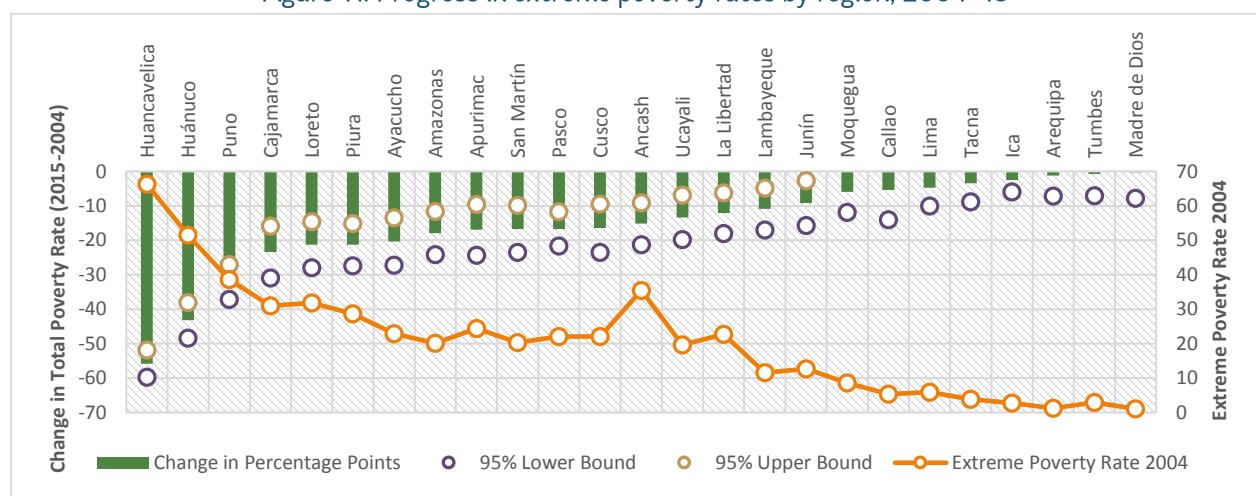
of the approximately 1,800 districts contain 54 percent of the total poor, and a large share of those districts are located in the Regions of Lima, Cajamarca, Piura, and La Libertad (Diaz *et al.*, 2016).

### **Poverty fell more in the poorest places, creating geographic convergence**

54. **The reduction in extreme poverty was more pronounced in Regions that had the highest poverty rates at the beginning of the period, thereby helping to diminish regional gaps.** Changes in extreme poverty rates were positively correlated to the levels of extreme poverty in 2004: the higher the poverty rate in 2004, the larger the improvement by 2014 (Figure 11). The Huancavelica, Huánuco, and Puno Regions, which started the period with extreme poverty rates of over 40 percent, witnessed the best performance with reductions of over 30 percentage points. At the district level, an analysis based on estimated poverty maps between 2007 and 2012–13, suggests that progress was more likely among very poor districts in poorer Regions than among very poor districts in better-off Regions (Diaz *et al.*, 2016).

55. **There is no clear pattern of Regional convergence in the reduction of moderate poverty, but there is some convergence at the district level.** There is no definitive relationship between the magnitude of moderate poverty reduction and baseline poverty rates in 2004. For example, the Piura and Cajamarca Regions started the period with similar poverty rates, of about 73-77 percent. By 2015, Piura's poverty rate had fallen by 60 percent while Cajamarca's progress was only about half as much (35 percent). At the district level, however, those districts with higher poverty rates at baseline experienced, in general, greater success in poverty reduction. However, many districts have not seen significant progress: 61 percent of the 1,179 districts with poverty rates above 50 percent in 2007 still have poverty rates above 50 percent six years later (Diaz *et al.* 2016).

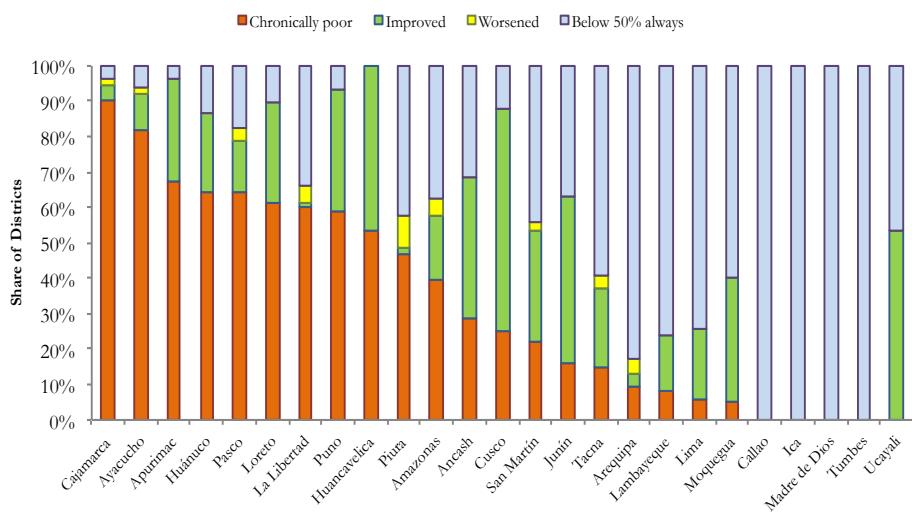
Figure 11: Progress in extreme poverty rates by region, 2004–15



Source: Authors, with data from ENAHO

56. **Within Regions, poverty reduction is very heterogeneous.** Among the Regions containing a large number of districts with poverty rates above 50 percent in 2007, some saw poverty rates in most of their districts fall below 50 percent by 2013, while others saw very few districts cross that 50 percent bar. Still others saw something in between (Figure 12). In Regions like Cajamarca and Ayacucho, more than 80 percent of districts can be classified as ‘chronically poor’: having poverty rates above 50 percent in both 2007 and 2013. At the other end of the spectrum, Cusco had more than 80 percent of districts with high poverty rates in 2007, but most of its districts had lowered their poverty rates to below 50 percent by 2013.

Figure 12: Distribution of districts, by changes in poverty rates between 2007 and 2012–13



Source: Diaz et al. 2016.

57. **Mining activities at the district level are closely related to local poverty reduction, but the benefits from mining appear to be unevenly distributed across, and even within districts.** Mining activity is beneficial for districts where production occurs, resulting in higher consumption per capita, and lower poverty and extreme poverty rates than in comparable non-producing districts (Loayza and Rigolini, 2016). The benefits, however, are limited to producing districts, and fall rapidly with increasing geographic distance from those districts. Mining also tends to increase inequality. For instance, the consumption Gini coefficient increases in all districts of mining provinces, and particularly in those districts where mining takes place. Moreover, inequality across districts increases as well, as mining benefits are substantially higher in producing than in non-producing districts, even those located in the same province. Furthermore, when isolating the effects of mining revenues (for example, the *Canon Minero*), these are insignificant at the local level, suggesting that benefits from mining are more likely to come from higher incomes in mining-related jobs rather than through improved public services and infrastructure.

**Basic services and human development have accompanied poverty reduction, but gaps remain**

***Access to simultaneous services is still low, and water and sanitation gaps are large***

**58. The probability of an individual being in poverty is much higher when there is a lack of access to multiple services and assets.** Asset endowments have been found to be the main factor explaining poverty reduction differences across districts, especially between rural and urban areas.<sup>14</sup> Chronically poor districts lag behind improved and non-chronically poor districts in the number of households with simultaneous access to basic infrastructure services.<sup>15</sup> In 2013, only 17 percent of households in chronically poor districts had simultaneous access to four basic services (water, sanitation, telephone and electricity), compared to 32 percent in improved districts and 75 percent in non-chronically poor districts. Conversely, there is evidence suggesting that households that own a combination of two or more assets perceive higher returns than the equivalent of the sum of individual returns in terms of income.<sup>16</sup>

**59. Districts where access to more than one basic service increased have reduced poverty faster.** Improved districts performed better than chronically poor districts in providing simultaneous access to four services between 2007 and 2013 (Diaz et al. 2016). The share of households with access to four services increased by 22 percentage points for improved districts, significantly higher than the increase of 12 percentage points among chronically poor districts. This evidence suggests that providing packages of services could trigger different services' complementarities and increase assets' returns.

**60. One area of remarkable progress during the last decade was the increases in access to basic services for rural populations, especially electricity and telecommunications.** Most Regions experienced substantial expansion in access to infrastructure services, and Regions that were below the national average experienced larger improvements. As a result, gaps in access across Peru's diverse Regions decreased substantially between 2004 and 2015, especially in access to electricity and telephones. Still, large differences remain between urban and rural areas in the simultaneous access to basic infrastructure services. In urban areas, 81 percent of households have access to water, sanitation, electricity and telephone (86 percent if telephone is excluded). Furthermore, no urban households report a total absence of services. In rural areas, between 2004 and 2015, the share of households with no access to electricity, water or sanitation fell from 38 to 11 percent, and the share of households with access to those three services more than tripled,

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<sup>14</sup> See Escobal and Ponce (2009, 2011). However, in the short run, the authors argue that poverty may be driven by the rate of return to assets rather than access.

<sup>15</sup> See Diaz et al. (2016).

<sup>16</sup> See Escobal and Torero (2000).

increasing from 9 to 34 percent. Still, as many as 21 percent of rural households still had access to only one service—mostly electricity.

**61. Nevertheless, there are still significant spatial disparities in the quality of energy services.** In 2014, 2.2 million people still had no access to electricity. The distribution sector still relies on the state for service provision in Regions other than Lima, which together serve 62 percent of all users through different regional state-owned enterprises (SOEs).<sup>17</sup> These SOEs face performance issues due to a lack of management capacity, financial restrictions for long-term investments, and inadequate cost recovery. As a result, two-thirds of the population are experiencing decreasing quality of services. A key sector challenge is thus modernizing the distribution sector to improve the quality of supply and reach the last mile in rural electrification. Moreover, a pricing policy for natural gas could promote the development of a market beyond the energy sector and deficient infrastructure constrains the hydrocarbons sector. Further, Peru's electricity generation oversupply (with reserves margin of over 50 percent) can lead to underinvestment. While the marginal price of energy declined, the regulated tariff has not been changed, inducing unregulated consumers to switch to direct agreements with generators. This trend can force regulators to increase tariffs which, coupled with a decreasing quality of service, could raise social conflicts. The enactment of the legal framework to enable electricity exports could help solve the issue. Another important sector challenge is the lack of coordination and planning between the different entities and institutions which has resulted in the lack of a long-term energy policy definition and weak coordination between the Peru's energy plans and its social and environmental objectives.

**62. The gap in access to adequate water and sanitation is still significant.** Peru is behind its structural and aspirational peers in terms of access to water and sanitation, particularly in rural areas. While 86 percent of households nationally have access to water, this figure drops to 64 percent for households in rural areas. Likewise, sanitation coverage is 77 percent nationally, but only 44 percent in rural areas, and 56 percent in the Selva region.<sup>18</sup> Open defecation is close to 30 percent among the rural population.

**63. In addition, there is still a large gap between urban, peri-urban, and rural areas in the quality of basic service provision.** For example, for rural households, piped water coverage increased from 36 percent in 2004 to 65 percent in 2015, yet only 16 percent had drinking-quality water and fewer than 5 percent had water with some level of chlorine in 2015, well behind urban households (Figure 14 and Figure 15). Even though urban areas show significantly better coverage levels, in fast-growing peri-urban areas services tend to lag due to the unplanned urban expansion

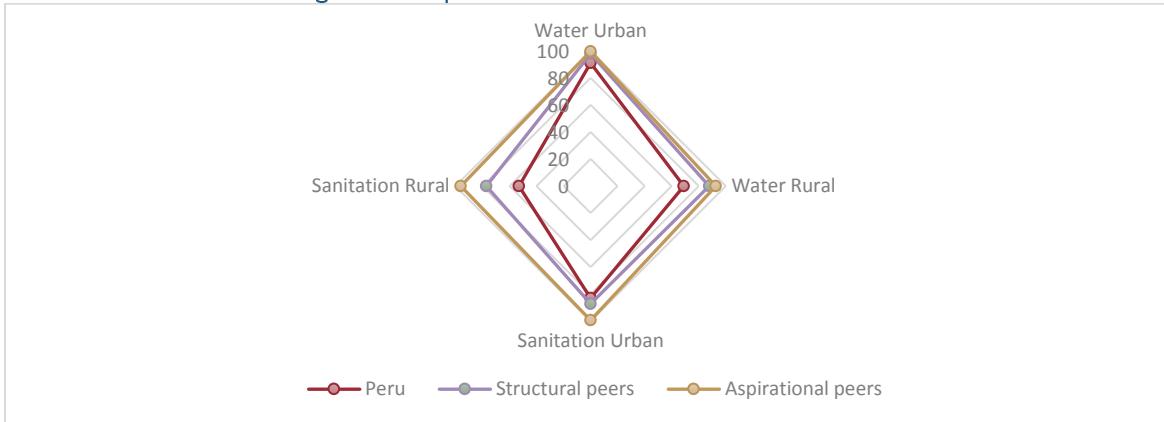
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<sup>17</sup> They are under the administration of the Fondo Nacional de Financiamiento de la Actividad Empresarial del Estado, FONAFE, which is a holding company under the direct supervision of MEF.

<sup>18</sup> ANA (2015).

and a lack of resources. As a result, households in these areas often pay much higher fees for access to these services. For instance, water can cost up to S/.65 per 5 cubic meters in informal settlements, compared to S/.12 for piped water to a residential area.<sup>19</sup> Continuity of water service is also erratic. For instance, in Trujillo, Peru's third most important city, average service is only 17 hours per day, and in smaller cities and rural areas it can go as low as only one to two hours per day.<sup>20</sup>

**Figure 13: Improved access to water and sanitation, 2015**



Source: World Development Indicators (WDI). Note: Structural Peers: Ecuador, Colombia, Mexico, Thailand, South Africa, Romania and Malaysia. Aspirational Peers: Poland, Korea Rep. and Chile.

**64. Peru's large urban-rural gaps in human development that have historically accompanied its income gaps are now somewhat smaller.** For instance, the Human Development Index (HDI) shows a general increase, particularly among Peru's poorer provinces. The average HDI grew from 0.49 in 1993 to 0.58 in 2007.<sup>21</sup> The largest growth occurred in the southern Sierra provinces (Cusco, Puno, Ayacucho, Huancavelica and Apurimac), although areas in the northern Sierra also showed important increases. Similarly, disparities in life expectancy have also fallen significantly at the same time that the average life expectancy increased. Life expectancy in Peru went from 66 years in 1993 to 75 years in 2014. The regional gap between the lowest (Huancavelica) and the highest (Lima) was reduced three times, from 21 to 7 years.<sup>22,23</sup>

**65. Infant and maternal mortality rates have declined, but rural areas, particularly in the Sierra and Selva, have not yet achieved the national Millennium Development Goals (MDG).** In 2015, national average for infant mortality fell to 15 per thousand infants born, surpassing the MDG goal of 18 (Figure 16). However, it is still much lower in urban areas (13 per 1,000 infants born) than in rural areas where it has not yet achieved the national MDG goal despite having achieved greater improvements in rural areas since 2009. Child mortality, at a national average of

<sup>19</sup> El Comercio (2015).

<sup>20</sup> SEDALIB S.A. (2015).

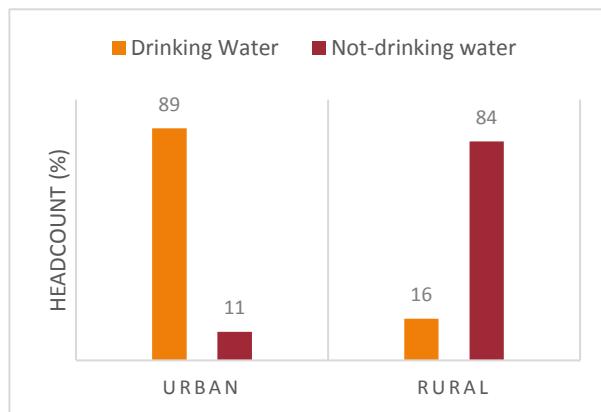
<sup>21</sup> Remy (2015).

<sup>22</sup> In Huancavelica life expectancy increased from 54.4 years to 71 years; in Lima it went from 76 to 77.4 years.

<sup>23</sup> Still, there are significant life expectancy average differences between the Sierra and the Costa regions, with the Costa region having higher averages.

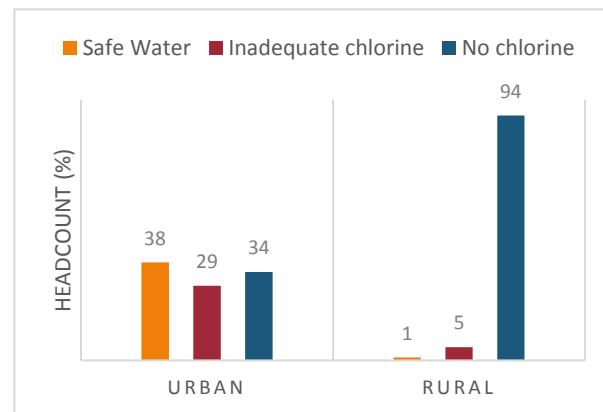
18 per thousand, has also surpassed the MDG goal (26 per thousand), but follows a similar pattern: at 28 per thousand children it is almost double in rural areas than in urban areas (15 per thousand children). The Sierra and Selva regions particularly stand out relative to the rest of Peru. Similarly, maternal mortality has decreased significantly since 1990, although in the 2004–10 period it was still considerably higher than the MDG goal of 66.3 per hundred thousand live births (Figure 17).

**Figure 14: Households with drinking water, 2015**



Source: Staff calculations based on ENAHO

**Figure 15: Households with safe water, 2015**



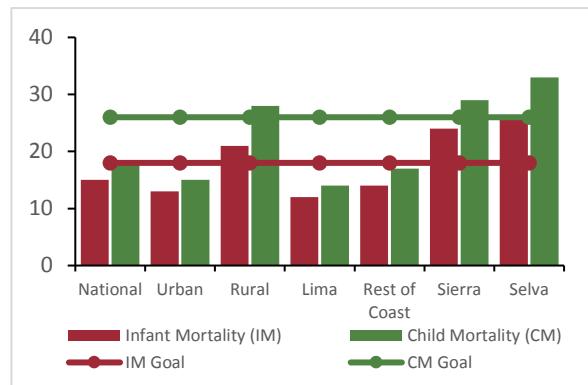
Source: Staff calculations based on ENAHO.

*A substantial improvement in human development indicators has contributed to narrow the large spatial gaps*

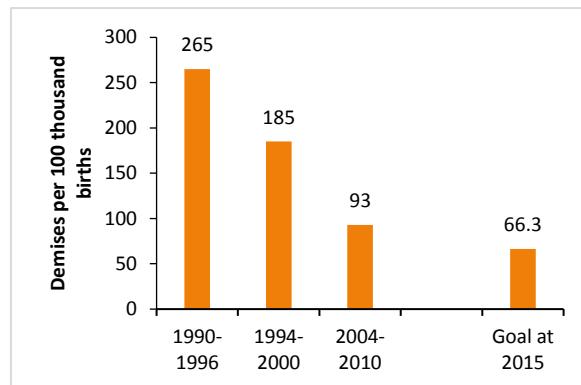
**66. Stunting rates in children under five years of age have fallen considerably, but anemia rates in children remain a pressing issue.** Stunting in children under 5 years of age, especially in rural areas, had been an important problem in Peru for a long time. Not until 2008 did stunting begin to decline sharply, falling to 14 percent in 2015, half of the prevalence during the decade before 2008 (Figure 18). Economic growth was an important driver in reducing stunting. In addition, over the last 15 years, the Government managed to secure an appropriate stream of resources through the Articulated Nutritional Program (*Programa Articulado Nutricional*, PAN—See Box 3). Resources were delivered through a results-based approach to the same districts prioritized by the conditional cash transfer (CCT) program, *Juntos*, providing a virtuous cycle in which supply and demand for vital health services intertwined, including a higher coverage of institutional births, the timely provision of the necessary nutrients and medicines, better performance of existing health services, improved access to water and sanitation services, among others—all policies strongly related to gains in maternal and early childhood health outcomes. This, together with increased household incomes from the economic growth allowed improvements in households' caloric consumption and in resilience against health setbacks, in turn resulting in this remarkable reduction in stunting. However, anemia rates in children between 6 and 36 months have shown a less impressive downward trend, and have remained at around 43 percent since 2011 (Figure 19). Despite these breakthroughs, there are still marked geographical disparities in

outcomes of both stunting and anemia rates, which continue to be higher in rural areas, especially in the Sierra and Selva regions, and among indigenous people and the poorest population.

**Figure 16: Neonatal, infant and child mortality rates by area of residence, 2013–15.**



Source: Staff calculations based on ENDES



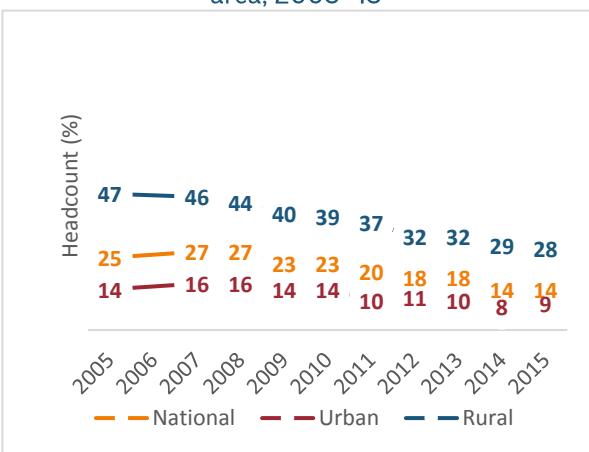
Source: Staff calculations based on ENDES

**67. Enrollment in pre-primary and secondary education has increased significantly.** Net enrollment for pre-primary (3–5 years) increased from 53.5 percent in 2001 to 83.2 percent in 2015, surpassing even the LAC average in basic education coverage. This increase came with higher spending for education materials and an increase in the proportion of certified teachers, and a greater focus on formal education (that is, in an institutional setup, which represents almost 90 percent of enrollment). Primary enrollment is almost universal in Peru. In secondary education, net enrollment increased from 68.8 percent to 84.3 percent between 2001 and 2015. This increase was driven by a fall in cumulated dropout rates from 22 percent to 12 percent from 2005 to 2015 among students 13–19 years of age.

#### Box 3: A coordinated approach to combat chronic malnutrition

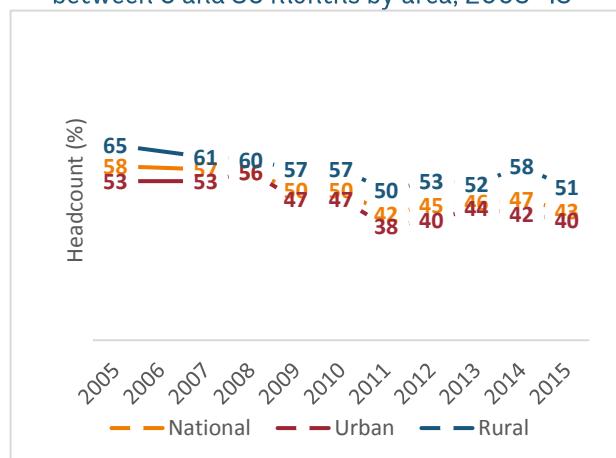
Peru's strategy to tackle malnutrition is a clear illustration of the importance of multi-pronged interventions in the area of child development. The country's political commitment to achieve specific goals in the nutrition field led to a national strategy to reduce child malnutrition which was supported by the development of budgetary tools. In 2007, the Government adopted the Articulated Nutritional Program (PAN) to provide an umbrella for a number of multi-sectorial interventions aimed at reducing stunting. The PAN was designed to improve the efficiency of spending on nutrition and lined up national objectives, indicators and specific budgetary channels to finance key activities. The PAN setup of interventions was designed based on a UNICEF model that explains the relation between different drivers of malnutrition. In 2009, a system of incentives was put in place to resolve implementation bottlenecks and provide monetary incentives to regions and local governments to prioritize results in access to water, sanitation, health checkups, etc. Those incentives were initially piloted through the European Union's *EUROPAN* and World Bank's *SWAp Results for Nutrition* projects, and in 2013 they were institutionalized through the *Fondo de Estímulo al Desempeño* (FED).

Figure 18: Stunting rates for children under 5 by area, 2005–15



Source: Staff calculations based on ENDES

Figure 19: Prevalence of anemia in children between 6 and 36 months by area, 2005–15



Source: Staff calculations based on ENDES

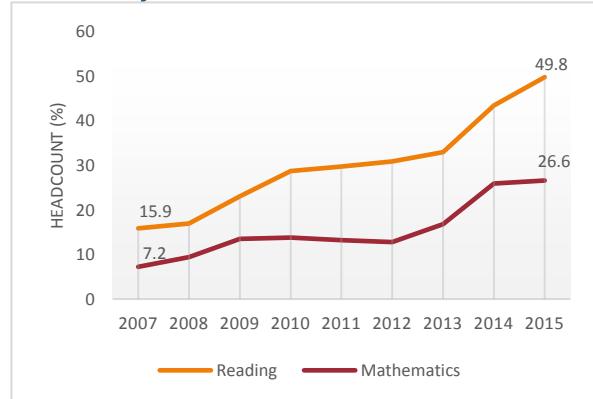
**68. Learning outcomes in primary and secondary education are low, but they are improving.** According to the national test for second graders (ECE) developed by the Ministry of Education (*Ministerio de Educacion*, MINEDU) as part of the universal testing strategy, the proportion of students with a satisfactory level in Reading increased from a stunningly low 15.9 percent in 2007 to 49.8 percent in 2015. In Mathematics, the improvement has also been threefold, from 7.2 percent to 26.6 percent of students (Figure 20). Likewise, performance among secondary students also improved. Between 2000 and 2015, Peru's results under the Programme for International Student Assessment (PISA) showed the largest improvement of any country. This reflects the country's remarkable performance in increasing basic education learning outcomes in such a short period of time. Despite notable progress, there is still considerable room for improvement: still only half of the students can read at second grade level and almost three-quarters of second graders do not have a satisfactory level in Mathematics. Furthermore, in the last round of PISA in 2015, only 3.1 percent and 3.8 percent of students achieved a strong performance (level 4 or higher) in Mathematics and Reading, well behind OECD averages of 29.3 percent and 28.8 percent, respectively (Figure 21).<sup>24</sup> These results improved in the 2015 PISA—Peru had the fourth strongest improvement in test scores. However, Peru still remains one of the worst performers among participating countries (ranked 65 out of 69 countries) and is still the worst performer among participating LAC countries other than the Dominican Republic (which participated for the first time in 2015).

**69. Access to higher education has increased, but not for all.** Graduation from higher education among young people (ages 22 to 24) increased from 12 to 19.8 percent between 2003 and 2013. Since 2013, however, there has been a slight downward trend (to 18.2 percent in 2015).

<sup>24</sup> World Bank (2016b).

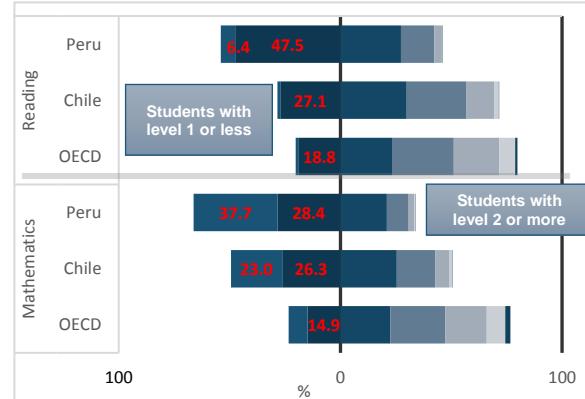
While 20.2 percent of non-poor in this age group has completed higher education, only 8.1 percent of poor youth have done so (3.3 percent among extreme poor). Furthermore, 60 percent of those graduates work in fields outside their expertise, including 54 percent of university graduates and two-thirds of technical higher education graduates.

**Figure 20: Share of students that reached a satisfactory level in ECE, 2007–15**



Source: MINEDU - Learning Quality Measurement Office.

**Figure 21: Performance of students in reading and mathematics in PISA, 2015**



Source: PISA (2016).

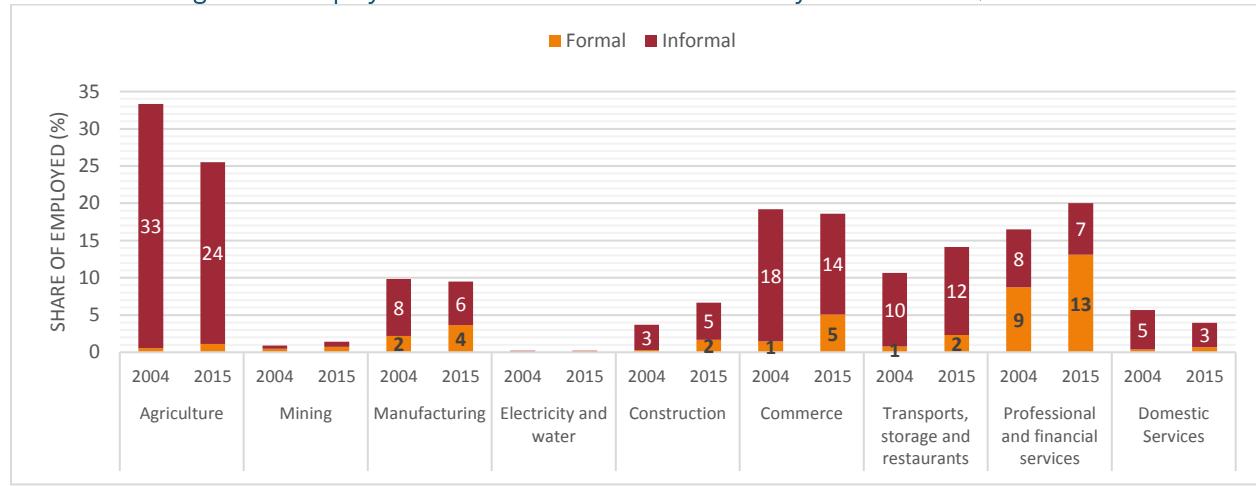
### *Although the labor market is a driver of poverty reduction, job quality is uneven*

70. **Informality is a generalized phenomenon in Peru.**<sup>25</sup> Informality rates have decreased in the past decade, but more than 70 percent of those employed were considered informal workers in 2015. The majority of new formal jobs created are fixed-term contracts. Informality is more common among young, poor, and low-educated workers. There are also regional disparities: workers located in rural areas and the Sierra and Selva regions are more likely to be part of the informal workforce. More than half of employment in almost all economic sectors is informal; the exceptions are in high skilled services, mining, and electricity and water, which combined represent a very small share of total employment (Figure 22). Moreover, informality is almost universal among self-employed workers and employees in small firms. Unlike other countries, where informal jobs constitute an entry into the labor market while workers “queue” for formal jobs, in Peru mobility from informal to formal employment is low. Education is the main driver for these transitions: workers without education are extremely likely to be stuck in informal jobs. Still, the correlations are rather low, and other demographic characteristics have even fainter associations, which points to the importance of demand side constraints. Irrespective of education, workers in certain types of jobs, economic sectors and geographic areas are more prone to remain

<sup>25</sup> For this document, we define informal employees as those not covered by social security (*Seguro Social de Salud*; EsSalud), and informal employers or own-account workers as those not registered with the tax authorities. All unpaid workers are considered informal, irrespective of the formal status of the enterprise that employs them.

in informality: farmers, the self-employed, those outside of Lima and in commerce, agriculture or, to a lesser extent, services are less likely to transit into formal jobs.

**Figure 22: Employed distribution and informal work by sector in Peru, 2004–15**



Source: Staff calculations based on ENAHO

### ***Indigenous, Afro-Peruvians, and women still face specific disadvantages***

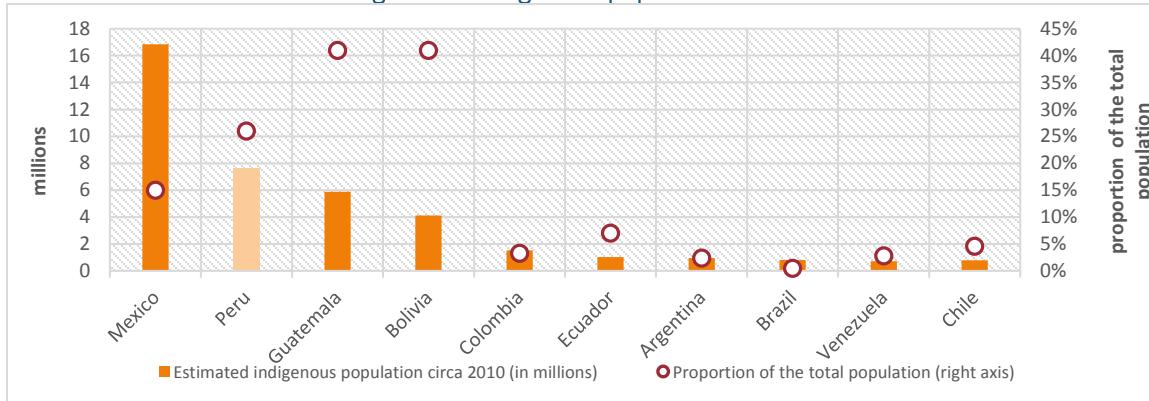
71. **In 2010, Peru had the second largest population of indigenous people in Latin America, with its 7.6 million indigenous surpassed in absolute number only by Mexico** (Figure 23).<sup>26</sup> Indigenous people represent around one-quarter of Peru's population, and are incredibly diverse, with the Quechua and Aymara being the largest groups. Interestingly, indigenous people are roughly equally distributed between urban and rural areas, with 53 percent living in urban and 47 percent in rural areas. Although the rural indigenous population is larger than the national average of 23 percent, in absolute numbers the indigenous are more concentrated in urban areas. However, the rural-urban split varies widely across Regions. In southern Regions like Madre de Dios, Moquegua, Arequipa, and Tacna over 70 percent of the indigenous population reside in urban areas. In contrast, in the north central Regions like Ancash, Huánuco, and Huancavelica, between 70 percent and 80 percent of the indigenous population live in rural areas.

72. **Although indigenous people in Peru have historically suffered from poverty and exclusion, in recent years their incomes have improved substantially.** As recently as a decade ago, over 70 percent of Peru's indigenous people were poor or extremely poor, compared to slightly less than half of the non-indigenous population (Figure 24). The incidence of extreme poverty was almost three times higher among the indigenous than the non-indigenous, and the

<sup>26</sup> For countries without census data for 2010, the 2010 projection of the national population is used. The indigenous population was estimated using self-identification in all censuses, except for Peru, where surveys and censuses do not ask people to self-identify. Instead, the indigenous population was estimated by identifying as “indigenous” all the members of a household where the head of the household speaks an indigenous language. Thus, this definition of indigenous peoples includes Andean indigenous communities, traditionally self-identified and referred to as “peasant communities.” See World Bank, 2015b.

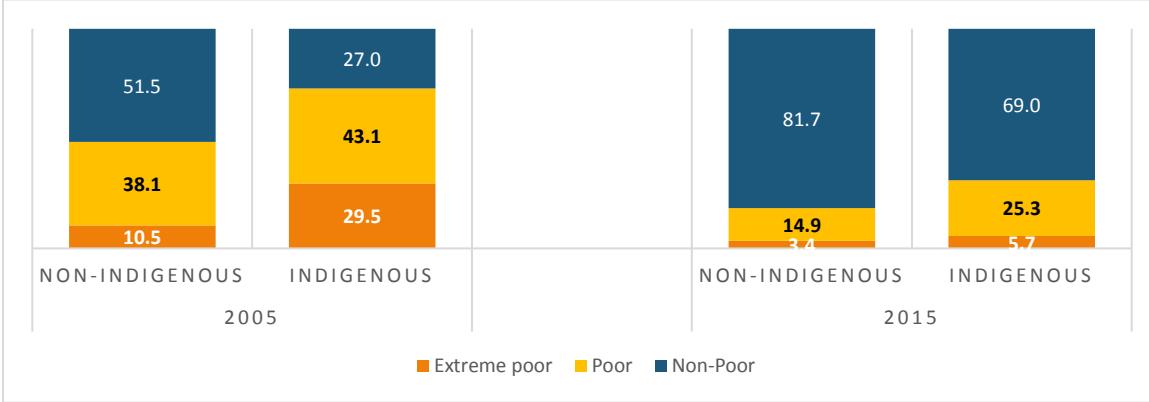
poverty incidence for the indigenous was 13 percent higher than for the non-indigenous. In the decade that followed, the poverty profile of the indigenous people in Peru improved dramatically. By 2015, only 31 percent of the country's indigenous people were poor or extremely poor. However, while this improvement followed the pattern for the entire population, poverty fell more for the non-indigenous than for the indigenous (by 61 percent compared with 41 percent). As a result, the difference in poverty incidence between the two groups actually widened: in 2015, indigenous poverty was 70 percent higher than that of the non-indigenous.

Figure 23: Indigenous population in LAC



Source: World Bank, 2015(b).

Figure 24: Indigenous and Non-indigenous poverty (%), 2005 and 2015



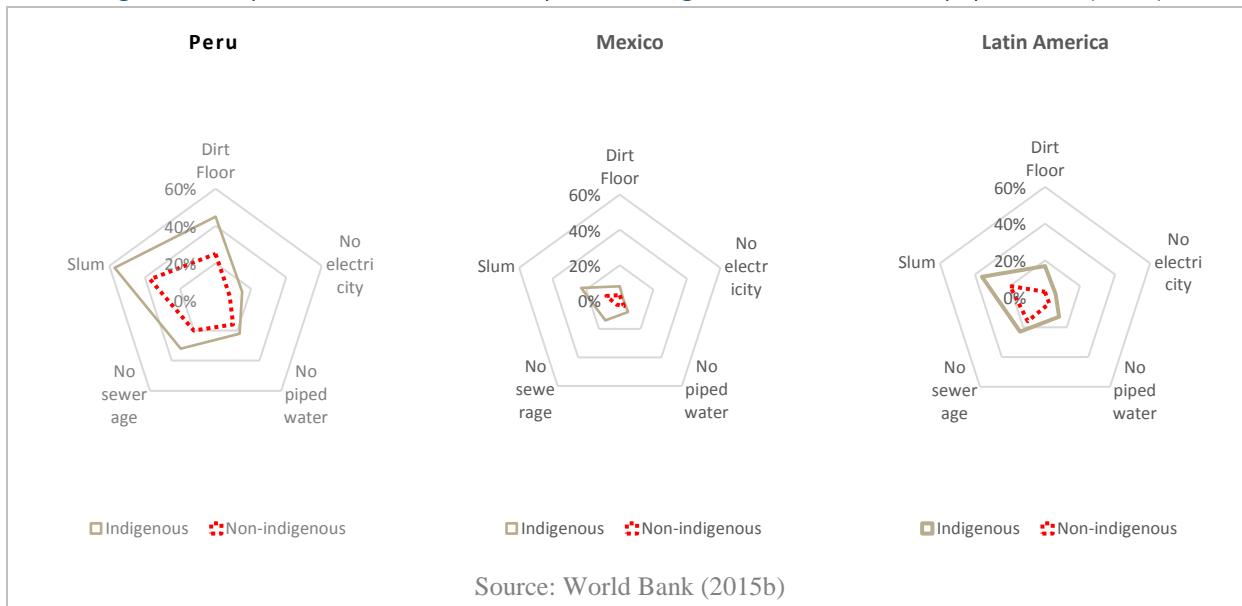
Source: ENAHO. Note: Poverty computed with official poverty lines.

73. **There is a clear link between residing in a rural area and poverty, even for the indigenous people.** The higher poverty incidence among indigenous people is often driven by the fact that they live in rural areas, rather than by their ethnicity. For example, Regions like Moquegua and Ancash both have indigenous populations of about 40 percent; however, in Moquegua 70 percent live in urban areas, compared with only 30 percent in Ancash. Poverty in Moquegua is about 8 percent, while it is 24 percent in Ancash. A more rigorous regression analysis of the probability of being poor that takes into account several socio-demographic variables, including ethnicity and location, shows that the probability of being poor for an indigenous household is

positive and significant, all other characteristics equal. However, this probability is more than three times higher if the household is rural. In fact, conditional on being rural, the probability of an indigenous household being poor is only marginally higher, increasing by 0.016.<sup>27</sup> A comparative analysis for other LAC countries revealed that the marginal effect of being indigenous on poverty was the lowest for Peru.<sup>28</sup>

**74. Still, human development outcomes remain substantially lower among Peru's indigenous population.** A comparison between the indigenous and non-indigenous populations in 2015 shows that despite the improvements in monetary outcomes, human development still lags for indigenous people. The indigenous have significantly lower levels of education (on average, about three fewer years of education than non-indigenous, and are about 20 percentage points less likely to have a high school diploma or more) and lower access to basic services, in particular sewerage (54 percent have access compared with 73 percent among the non-indigenous). Even comparing the non-poor indigenous and non-indigenous reveals a similar pattern: the non-poor indigenous household heads have fewer years of education (6.4 years relative to 9.1), lower access to services, in particular sewerage (62 percent compared to 76 percent) and are less likely to have simultaneous access to all services.<sup>29</sup> Among the urban indigenous, access to services is much lower than for the non-indigenous, and this difference is much more significant in Peru than in other LAC countries (Figure 25).

Figure 25: Deprivation of services and poor housing conditions for urban populations (2010)



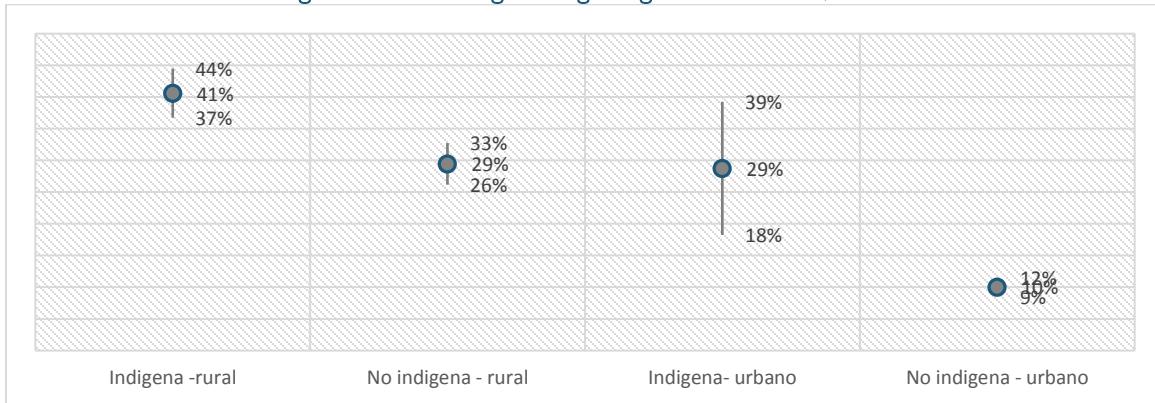
<sup>27</sup> See Appendix B.

<sup>28</sup> Other countries included Bolivia, Ecuador, Guatemala, and Mexico. See World Bank (2015b).

<sup>29</sup> See Appendix B.

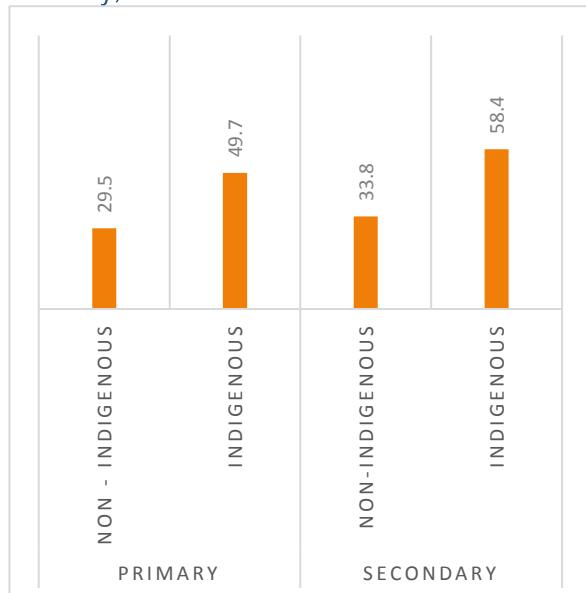
75. **Children in indigenous households are also more likely to suffer from stunting, even in urban areas.** Early childhood nutrition is crucial to enable the cognitive development of the child, and therefore has important implications for outcomes later in life, such as education attainment and earnings. In Peru, indigenous children are more likely to suffer from disadvantages in their cognitive development, relative to non-indigenous children, as a higher proportion of indigenous children suffer from stunting (Figure 26). In 2013, almost a third of indigenous children in urban areas suffered from stunting, close to three times more than non-indigenous children, while one in four rural indigenous children suffered from stunting.

Figure 26: Stunting among indigenous children, 2013



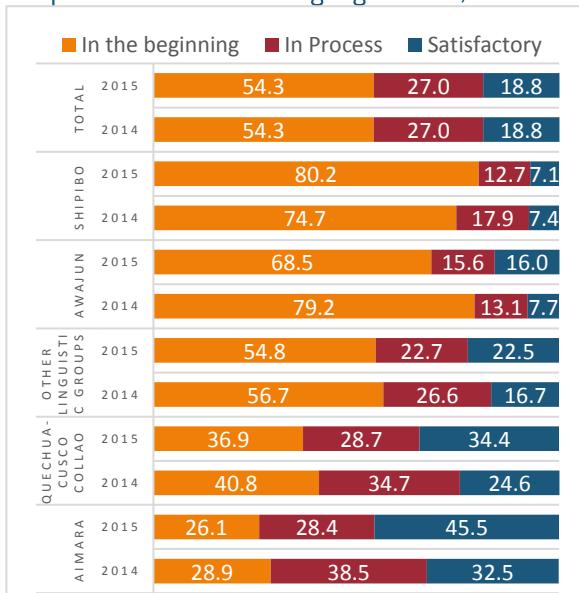
Source: Staff calculations based on ENDES (2013)

Figure 27: Share of above-age students by ethnicity, 2014



Source: Staff calculations based on MINEDU data

Figure 28: Indigenous 4<sup>th</sup> graders' performance in Spanish as a second language in ECE, 2014–15



Source: Staff calculations based on MINEDU data

76. **Likewise, indigenous children have lower learning outcomes.** Net school enrollment is significantly lower for indigenous students, especially at the pre-primary and secondary levels.

Moreover, a larger proportion of indigenous children are above-age in primary and secondary school (Figure 27). Half of indigenous students in primary and secondary school are above-age, whereas this proportion for non-indigenous children is 29.5 percent and 33.8 percent, respectively. Furthermore, although indigenous students have improved their reading comprehension both in their mother language and in Spanish, they still lag behind Spanish-speaking students (Figure 28).

**77. Finally, indigenous people have worse labor market outcomes than non-indigenous.** Indigenous people are less likely to be employees and more likely to be self-employed or unpaid workers. They are more likely to work in the primary sector and less likely to work in the services sector, and these patterns are similar among the non-poor indigenous. Further, even though indigenous people are more likely to participate in the labor market (about 5 percentage points, after controlling for gender, age, urban location, household size and education), their wages are about 6 percent lower than those of the non-indigenous (again after controlling for worker characteristics). For indigenous women, there is an additional 40 percent wage gap over men.

**78. Recent evidence suggests that the living conditions of the Afro-Peruvian population have not improved dramatically over the last ten years.** The regular household surveys in Peru are not designed to capture information regarding this minority group (which represents between 3–5 percent of the total population), and therefore there is scant quantitative evidence to track the evolution of their living conditions. However, a survey conducted in 2014 specifically targeting the Afro-Peruvian population revealed that while in some respects their living conditions improved over the last ten years, on average, their overall standard of living declined.<sup>30</sup> Poor housing and overcrowded conditions are prevalent among the Afro-Peruvian population, relative to the rest of the Peruvian population. The share of Afro-Peruvian households with poor housing conditions increased from 5.3 percent in 2004 to 8 percent in 2014. This increase was especially large in the south Costa region (from 3.7 percent to 17.6 percent), reflecting the devastating effect of the 2007 earthquake on this population, and the slow recovery thereafter.

**79. Economic and social outcomes for Afro-Peruvians still lag behind the rest of the population.** For instance, labor participation has declined among Afro-Peruvians over the last ten years, and the disparity between female and male participation is larger than for other Peruvians. Job quality is generally lower for Afro-Peruvians as well: the percentage that has unskilled jobs has decreased, but it is still 10 percentage points higher than the national average. In education, enrollment, attendance, and attainment have improved but some differences remain. Finally, university and technical education attainment is expanding among the Afro-Peruvian population, but it is still lower compared to national data. In health, Afro-Peruvians show higher incidence of non-communicable diseases such as high blood pressure, cholesterol problems, diabetes, and heart

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<sup>30</sup> See Benavides et al. (2015).

problems. Finally, discrimination in Lima and urban areas seems to be prevalent and more likely based on racial (rather than economic or class) grounds.

80. **For women, many socioeconomic human development outcomes are remarkably similar to those of men.** Women head one in every 5 poor households and one in every 4 non-poor households. But overall female-headed households and male-headed households are very similar. On average, the household heads in both categories are around 50 years old (52.6 for women), they have less than complete secondary education (8.6 years for men and 7 years for women), their households have between four and five members and they are mostly urban (more so for female heads). Their housing conditions are also similar, and they have very similar labor participation rates. There are, nevertheless, some interesting differences. Female-headed households have larger shares of older adults, female heads are more likely than male heads to work as employees, and slightly less likely to be self-employed and they are more likely to work in retail and services and less likely to work in agriculture (which reflects their slightly higher urban concentration). Among the extremely poor and poor households, female-headed households have somewhat higher dependency ratios than male-headed households.

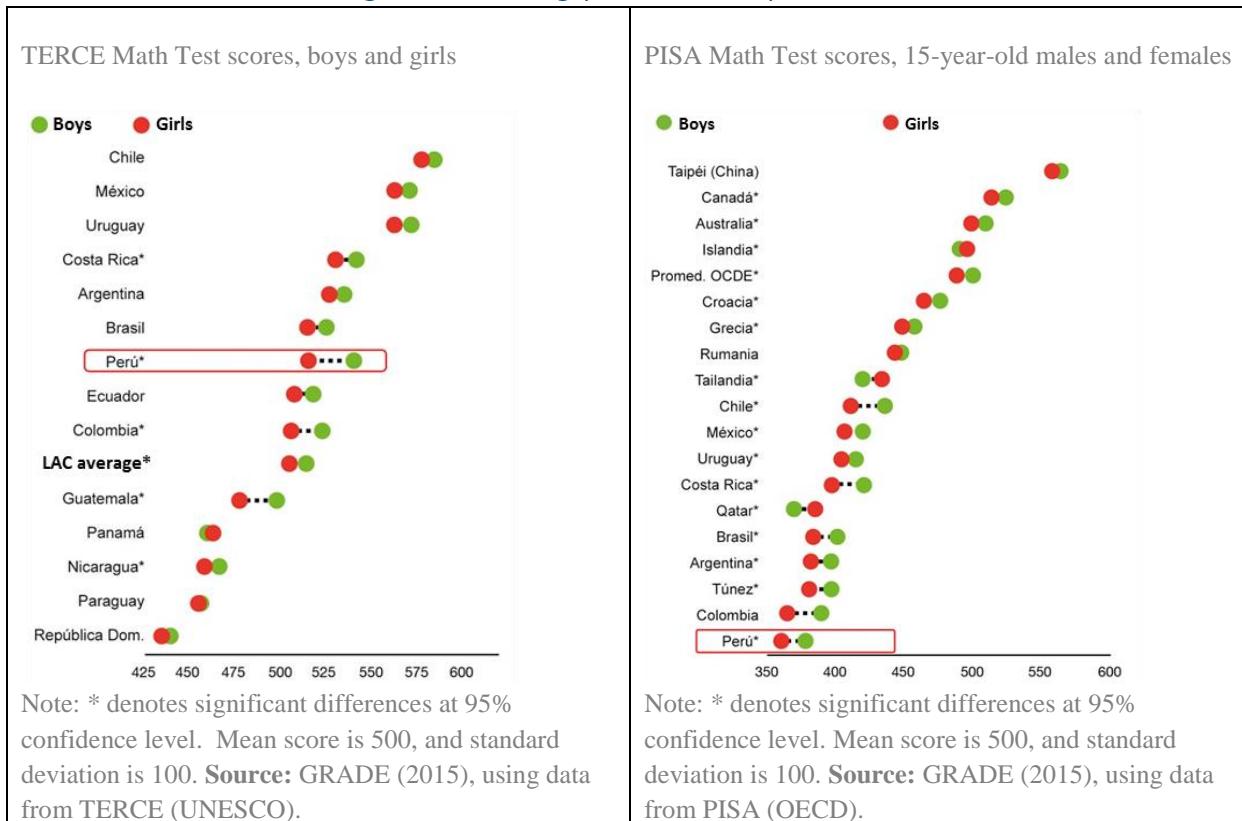
81. **Basic health and education outcomes are similar among girls and boys as well.** In health, indicators for girls are better than those for boys. Girls have a lower incidence of chronic malnutrition, lower incidence of anemia, and lower neonatal, infant, and child mortality. In education, enrollment levels across are extremely similar for girls and boys at all ages, and virtually universal among both sexes between the ages of 6 and 15. While overall enrollment rates are lower both at younger and older ages, there is no significant disparity between enrollment rates of girls and boys, except over the age of 18, when enrollment rates of girls exceed those of boys.

82. **But there are some important gender gaps in education performance.** Peru's gender gap in education performance follows a common pattern found in almost all countries in the LAC: Boys outperform girls in Mathematics, and girls outperform boys in language. These differences are found in the results from both the national second-grade test (ECE) and international exams such as TERCE or PISA (Figure 29).

83. **An important economic gender gap exists in labor market performance.** About 1 in 4 women and 1 in 10 men were considered low earners in 2015, that is, workers whose monthly earnings were below the poverty line. Although these shares have fallen significantly since 2004 (when they were at 38 percent and 21 percent, respectively), the gap between the low earnings rate of women and men has widened, as men's incomes have increased faster than women's. Thus, women were 76 percent more likely than men to be low earners in 2004 and 140 percent more likely in 2015. This gender gap increases further when workers who need to work overtime to compensate for low earnings are counted as low earners. In other words, women are more likely to work longer hours to earn wages above the poverty line. Moreover, an analysis of differences

in hourly labor income that controls for individual characteristics, such as age, location, household size, education, sector of employment, and firm characteristics, also suggests that being male is associated with an additional 30 percent in hourly earnings on average.

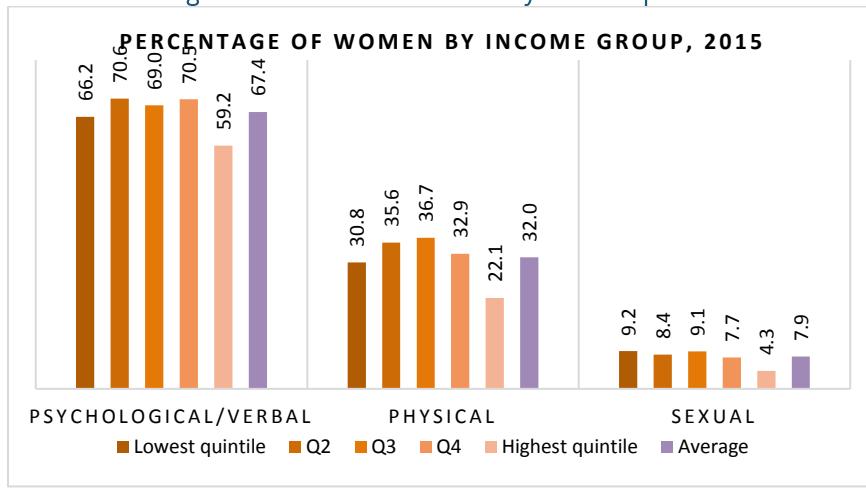
Figure 29: Gender gaps in education performance



84. **Domestic violence is a well-known social problem in Peru that affects a large number of families, with serious individual and social consequences.** Women are frequently subjected to verbal, psychological, and physical abuse, both inside and outside their households. According to the latest demographic and health survey (*Encuesta Demográfica y de Salud Familiar; ENDES*), which collects information on women 15–49 years old, and children between 1 and 5 years of age, domestic violence against women and girls is widespread. In 2015, 70.8 percent of women who have had a partner reported suffering some kind of violence by the husband or partner, including psychological or verbal abuse (67.4 percent), physical violence (32 percent), and sexual abuse (7.9 percent). Domestic violence is not a phenomenon restricted to low-income households: although slightly lower for the highest quintile, the share of women reporting various types of abuse is remarkably similar across income quintiles (Figure 30). Violence towards women has wider repercussions, as it affects the development of children in the household, with negative consequences on their schooling performance. Indeed, a recent study (Alcazar and Ocampo 2016)

shows that exposure to domestic violence towards the mother increases the probability of grade repetition for children below 11 years of age.

**Figure 30: Domestic violence by income quintile**



### **3. Economic Growth**

*Peru experienced a period of remarkable growth averaging over 5 percent annually over the last 15 years. Growth was led by factor accumulation, made possible by Peru's rich endowment of natural resources, which attracted large (foreign) investments in mining and related sectors, despite little improvement in productivity. Peru's low aggregate productivity stems in part from an inefficient allocation of capital and labor among firms, especially in the services sector, indicating severe constraints in product and labor markets. The large number of informal firms likely contributes to this misallocation, limiting the size and growth of more productive (informal) firms. The lack of technology adoption and integration into global value chains further limit productivity growth. The low productivity, in turn, limits firms' export competitiveness, their ability to adopt new technologies, and the demand for well-paid jobs, likely contributing to the high labor informality. Raising aggregate productivity would have the highest growth payoff while the potential gains from increasing capital or labor are modest. Peru's potential productivity gains are significantly larger than in other Latin American countries. The low private sector productivity is thus a key impediment to sustaining high returns to investment and creating the demand for better-paid jobs and income opportunities for the bottom 40 percent. Addressing this structural challenge is vital to continue the path of shared prosperity (see Figure 45).*

#### **A decade of fast economic growth and convergence**

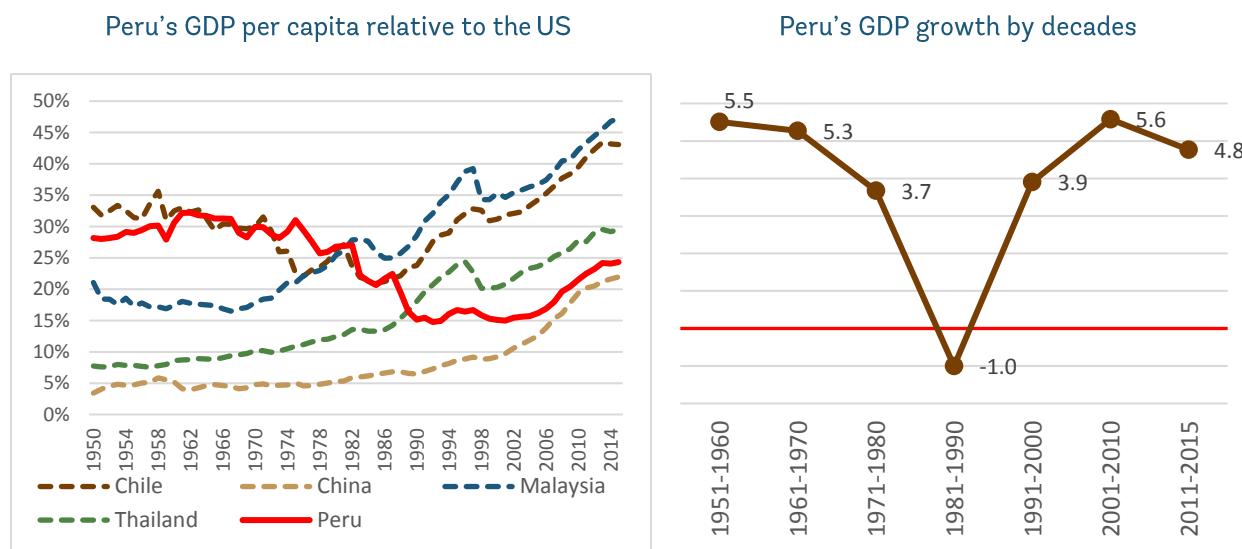
**85. Peru doubled its real per capita income during the 12-year period of high growth between 2002 and 2013.** The country grew at an average rate of 4.4 percent per year during 1990–2015, compared to global and LAC regional growth of around 3 percent. Growth was even faster since 2001, averaging 5.3 percent, which was one of the highest in Latin America. As a result, income per capita started to converge and Peru achieved high middle-income status in 2008.

**86. This high growth marked a recovery period after the 1980s' output collapse that was accompanied by political and social turmoil and followed by high output volatility in the 1990s.** Dramatic changes in policy orientation until the year 2000 impeded economic convergence. After robust economic performance during the 1960s, averaging more than 5 percent annually, growth decelerated in the 1970s and collapsed in the 1980s—Peru's GDP contracted by almost 15 percent between 1981 and 1990 (Figure 31, right). The economic crisis was triggered by growing domestic and external imbalances that were rooted in populist economic policies such as the nationalization of mining companies and implementation of a program of land reform. Economic mismanagement finally led to a debt crisis and hyperinflation in the late 1980s. Structural reforms implemented in the early 1990s (for example, removal of price controls, trade liberalization, and strengthening Central Bank autonomy) ensured a stable macroeconomic environment. The

volatility of output growth declined somewhat in the 1990s but investment uncertainty remained high as high-level corruption scandals undermined the rule of law.

**87. Peru's income per capita relative to that of the United States is still slightly below the level in the 1970s.** The economic situation turned around in the 2000s, a decade characterized by macroeconomic stability, trade openness, and fewer social and economic tensions—the latter assisted by a political decentralization agenda that redistributed large parts of the mining receipts to the local governments hosting the mines. In recent years, Peru's GDP per capita relative to that of the United States has exceeded 20 percent, still somewhat below the levels in the 1960s and 70s (Figure 31, left). While adverse external economic conditions slowed growth to about 2-3 percent in 2014 and 2015, the current growth rate is still well above the levels of many other commodity exporters in the LAC region.

Figure 31: Peru's GDP per capita has recovered in the past 15 years



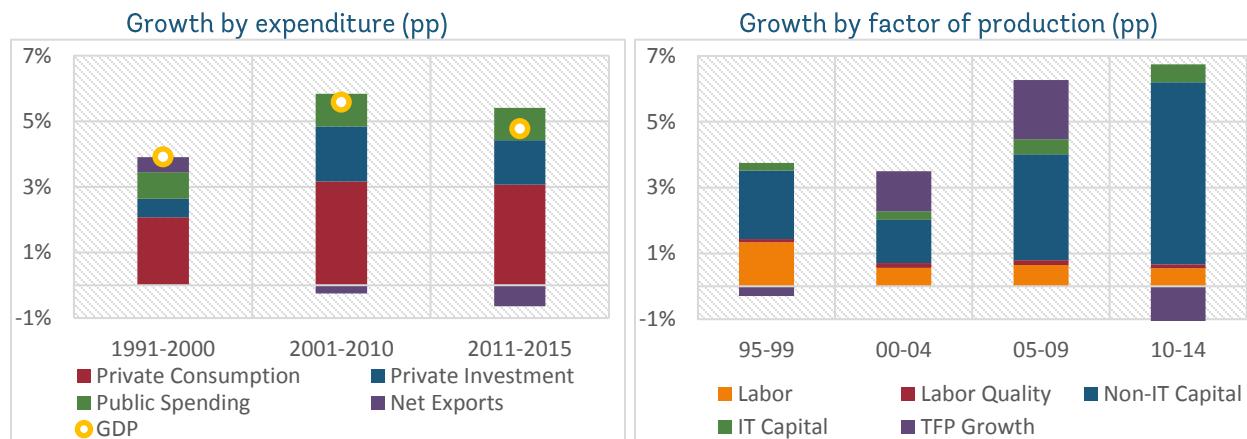
Sources: World Bank Staff calculation based on Total Economy Database by The Conference Board (left); World Bank staff calculations based on data from the Central Reserve Bank of Peru (right). Note: GDP per capita based on constant 2014 US\$ per capita, 1950-2015 (left); average annual GDP growth by decades (right).

### Past growth was driven by private capital accumulation

**88. Capital accumulation has been the main driver of growth, accounting for more than two-third of Peru's high growth rates of about 6 percent annually since 2001.** Capital accounted for 70 percent of total growth when including the contribution of investments in information technology (IT). Since 2005, capital accumulation accounted for 82 percent of aggregate growth—non-IT capital accounted for 74 percent and IT capital for 8 percent (Figure 32, right). Labor contributed about 20 percent to aggregate growth between 1995 and 2014 based on high labor force participation rates of more than 70 percent. In contrast, the contributions of

quality improvements in human capital (3 percent) were negligible. Similarly, increases in total factor productivity (TFP) played a relatively minor role, contributing only 11 percent to growth between 2000 and 2014. We note that we account for changes in the quality and utilization of capital and labor when computing TFP, for instance, by distinguishing between IT and other forms of firms' physical capital. Applying this more refined measure of TFP is important in the case of Peru because it reduces the TFP contribution to growth in the past 15 years compared to previous studies not making these adjustments and allows for more adequate comparisons across countries.<sup>31</sup> We also note that the contribution of TFP to growth should be analyzed over the longer horizon since it has been established that it is typically overestimated in (boom) periods of high commodity prices.<sup>32</sup> The stronger contribution of TFP to growth in Peru in the 2000s (Figure 32, right) should thus be regarded with some caution, and the TFP contribution should instead be evaluated over the longer term including periods of lower prices (e.g., 2000-14). Despite the capital investment boom, the level of capital accumulation in recent years, i.e. the economy's capital intensity, is close to the level predicted by Peru's income per capita.<sup>33</sup> This implies that Peru's capital stock was significantly below its equilibrium level in the 1980s and 1990s due to the output collapse and the associated investment uncertainty.

Figure 32: Growth was driven by private sector capital accumulation



Source: World Bank Staff calculation based on data from the Central Bank of Peru (left); World Bank Staff based on the data from The Conference Board (right). Note: Data in percentage points (pp).

<sup>31</sup> The recent World Bank (2015a) report estimated a higher contribution of TFP to growth of about 30 percent from 2000-13. The report did, however, not account for changes in IT capital and capital utilization so that the contribution of these factors were attributed to the residual TFP measure instead of capital accumulation. Accounting for changes in the quality and utilization of capital and labor appears to be especially important in recent years—we find that TFP contributed about 30 percent to growth in the 2000s but that its contribution turned negative since 2010. This trend is consistent the findings of Céspedes and Ramírez-Rondán (2014) who also show that the TFP contribution to growth in Peru declines once one controls for the quality and utilization of capital; the authors show that it is important to account for the total hours worked which have been declining over past years.

<sup>32</sup> The computation of TFP is based on measuring revenues (value added) which need to be adjusted for yearly price changes over time. Output prices, however, are typically only observed at the industry level and not for all individual products in an economy. Therefore, in periods of high commodity prices, the use of (too low) industry level prices leads to an overestimation of the contribution of the residual output measure (that is TFP) to output growth (see Foster et al., 2008).

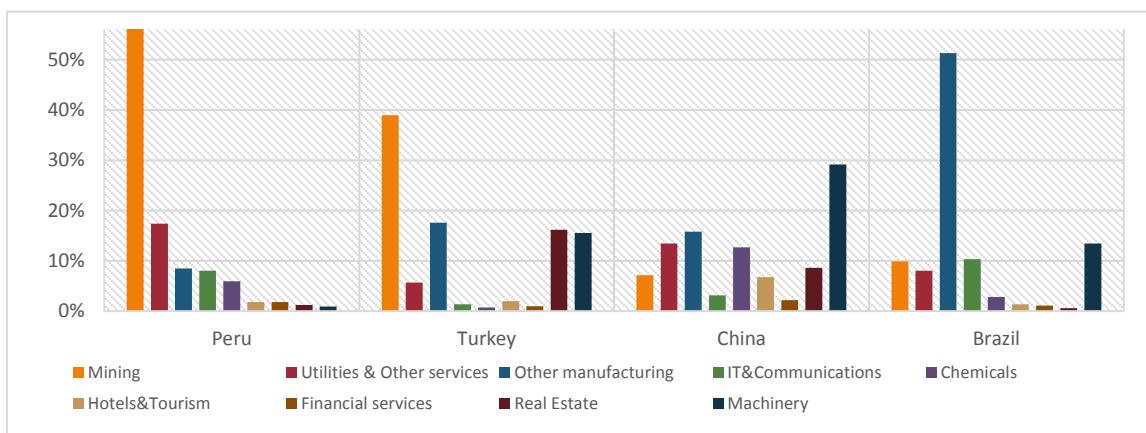
<sup>33</sup> World Bank (2015a).

89. **Growth has been led by private investments and consumption since 2001.** The share of total investment in GDP doubled from about 10 percent in the early 1990s to more than 20 percent in recent years, with private investments accounting for the bulk of capital accumulation (about 75 percent). Private investments grew by an average annual rate of about 12 percent from 2001-2015 compared to about 5 percent in the 1990s. The contribution of private investment to growth increased from 14 percent between 1991 and 2001 to 30 percent from 2001-15 (Figure 32, left). Private domestic consumption accounted for about 55 percent of total growth in both periods (Figure 32, left). The average annual growth rate in private consumption increased from 2.9 percent between 1991 and 2001 to 5 percent between 2001 and 2015. Thus, the high growth in private investment did not crowd out domestic consumption (savings) in the high-growth period since 2001.

#### *Foreign private investment in mining has been strong*

90. **Mining investment surged over the past 15 years, including large inflows of foreign direct investment (FDI).** Peru is one the world's largest producer of metals. It recently became the second largest producer of copper (behind Chile) and is the second largest producer of silver, third of zinc and tin, and seventh of gold. Mining accounted for about 15 percent of GDP in 2015 and mining exports totaled US\$20.4 billion in 2014, over 50 percent of total exports. Mining investments accounted on average for about 20 percent of total private investments over the last 15 years and peaked at almost US\$10 billion in 2013. The surge in mining investment was supported by a large inflow of FDI, which has increased four-fold in the last 15 years. Total FDI amounted to US\$61 billion between 2006 and July 2016; the mining sector absorbed more than half of all FDI during this period (Figure 33).

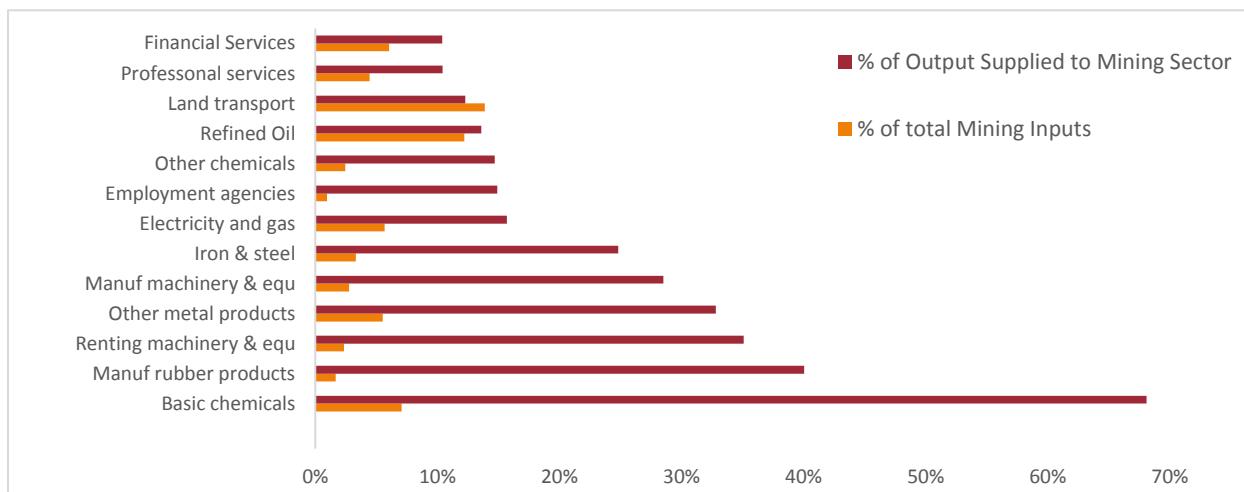
Figure 33: More than half of the US\$61 billion Peru received in FDI from 2006-2016 was in mining



Source: World Bank staff based on FDI markets database. Note: Share of sector FDI in total FDI into Peru between 2006 and July 2016; Peru's total FDI in that period amounted to US\$60,924 million.

**91. Several upstream goods and service producers benefited significantly from the mining sectors' higher domestic demand.** Forward linkages from mining to other sectors are negligible in Peru—only the domestic precious and non-ferrous metals industry demands a notable fraction of the metal mining industry's output (14 percent). Backward linkages are stronger. For instance, 68 percent of the output of the basic chemical sector is sold to mining companies (Figure 34). Several other manufacturing sectors also sell significant shares of their output to mining companies, such as manufacturers of rubber (40 percent), other metal products (33 percent), and machinery and equipment (29 percent). Several higher productivity modern service sectors also benefitted substantially from the mining boom. Mining companies accounted for 16 percent of output for electricity and gas, 12 percent for land transport, and 10 percent for financial and professional services.

Figure 34: 10-70 percent of the output of several large domestic sectors is sold directly to mining firms



Source: World Bank staff based on INEI input-output data from 2008. Note: All sectors for which the share of output supplied to mining companies exceeds 10 percent of their output (in percent of supplying sector's output).

**92. The extractive industries sector remains competitive despite lower international prices.** Weak linkages with the local economy further undermine local support of large mining projects. Investment is projected to decline in 2016–17, due to the phasing out of some large mining projects and low prices of copper, gold, and zinc.<sup>34</sup> Mining investments are projected to continue declining, reaching a new balance significantly below its peak in 2013. Still, this new, lower level of investment is expected to be above its pre-commodity boom level as a result of the sector's high international competitiveness due to high metal grades and relatively low energy, water, and transport costs (for mining products). Mining output is projected to increase in the coming years despite lower international prices, due to the substantial increase in capacity. Further,

<sup>34</sup> One Peruvian private sector think tank projects a decline in mining investment of up to 25 percent in 2016 and another 15 percent in 2017, due to the phasing out of several major mining projects (for example, Cerro Verde).

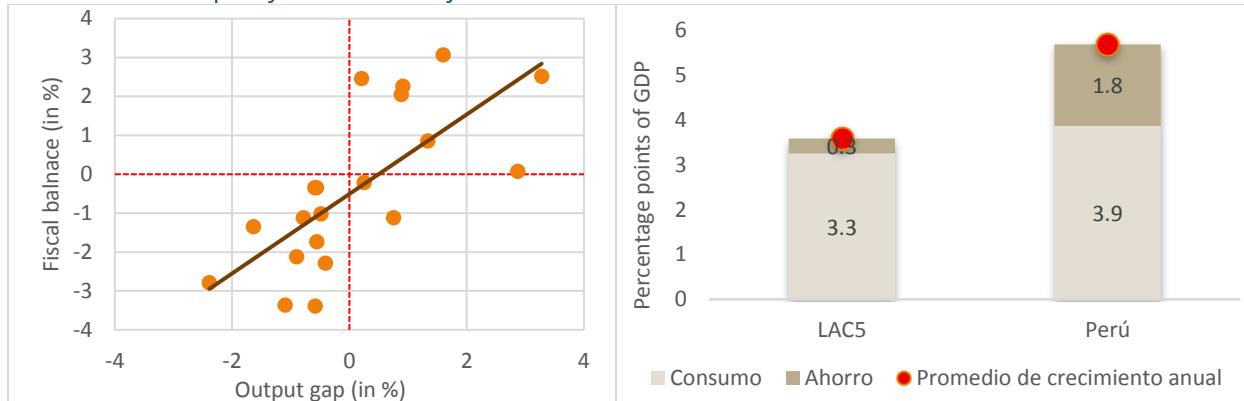
there are large untapped hydrocarbon reserves with large exploration opportunities—Peru has 18 hydrocarbon basins, but 98 percent of the exploratory wells have been drilled in only four basins. *Petroperú*'s involvement in exploration has been small, and it has been unsuccessful in promoting foreign investment due to lack of an open and stable regulatory environment. Increases in regulatory costs and potential social tensions in the areas hosting extractive industries are considered major investments risks.

**93. Low energy costs resulting from abundant domestic sources and successful sector reforms promote the competitiveness of mining and other sectors.** Peru has abundant domestic sources of energy—hydroelectricity accounted for 38 percent of the installed generation capacity and natural gas for 45 percent in 2014. The *Camisea* gas project, for instance, has provided a reliable source of cheap and environmentally friendly energy since 2004 and has made the country an exporter of liquefied gas. Peru has a modern regulatory system for the energy sector. The activities of generation, transmission, and distribution are separated by regulation since 1992. The management and operation of the main electricity facilities in generation and transmission have been transferred to the private sector.

#### *Macroeconomic stability has supported high savings*

**94. Sound macroeconomic management allowed Peru to maximize the long-term benefits of the commodity super-cycle.** The country benefitted from prudent fiscal and monetary policies. Throughout the period of high growth fueled by high commodity prices between 2004 and 2013, and unlike many countries, Peru saved the commodities' windfall (Figure 35, right), leaving significant savings to provide for needed investments and strong macroeconomic buffers to face more challenging times. The countercyclical fiscal policy (Figure 35, left) contributed to public savings, which played an important role in boosting domestic savings over the last 10 years from just above 10 percent of GDP in the early 1990s to 24 percent in 2014. The Central Bank of Peru (*Banco Central de Reserva del Perú*; BCRP) kept an open capital account, but actively intervened in the foreign exchange market to smooth out short-term volatility and maintain a stable and appropriate real exchange rate, which has been critical to external sustainability. The modest current account imbalances were covered by FDI and portfolio investments. The BCRP has also adhered to a well-established inflation-targeting regime since 2002, which, together with the countercyclical fiscal policy, has stabilized the economy and anchored low inflation expectations. Foreign exchange reserves stood at 32 percent of GDP or 20 months of imports by the end of 2015. Public debt has remained low, around 20–25 percent of GDP in recent years and net public debt was only 3 percent of GDP in 2015, one of the lowest in the world.

**Figure 35: Countercyclical fiscal policy stabilized the economy and contributed to high savings  
Fiscal policy was countercyclical**



Source: Staff calculations based on UN and BCRP data. LAC5 includes Argentina, Brazil, Chile, Colombia and Mexico.

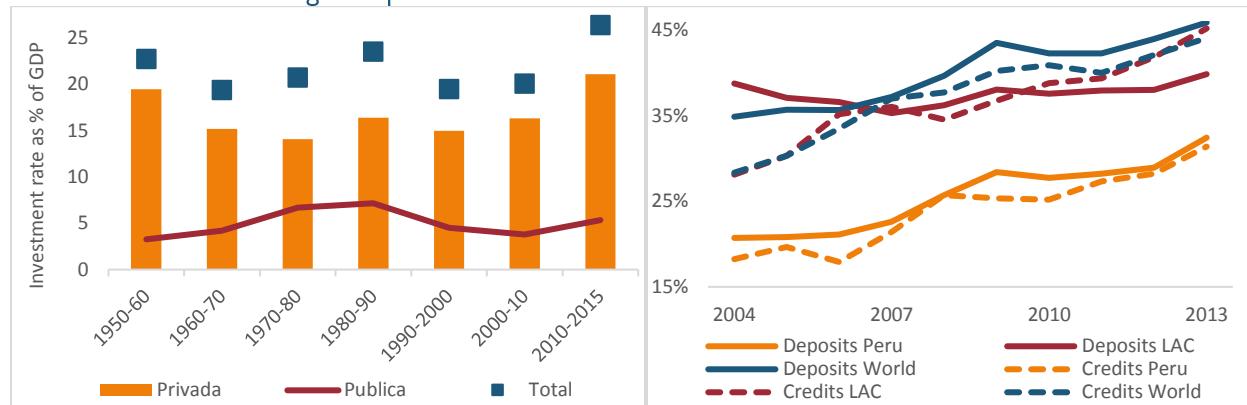
**95. The recovery of capital accumulation was supported by foreign and domestic savings.** Prudent macroeconomic management and an increasingly open economy ensured access to international capital markets and attracted foreign investments. Fiscal and monetary policy generated the appropriate incentives to maintain a balance between the growth of domestic consumption and savings. In contrast to most other major commodity exporters in the LAC region, Peru's high domestic savings helped finance the acceleration in capital accumulation, with domestic financing exceeding 80 percent of total in recent years.

**96. And financial intermediation increased significantly, albeit from a low base, while the rate of dollarization declined, reducing financial sector volatility.** Credit to the private sector surpassed 30 percent of GDP and the liquidity of the financial system improved. Deposits to GDP increased simultaneously from 21 percent in 2004 to 32 percent in 2013 (Figure 36, right). Even so, the volume of credit to the private sector is lower than predicted by the country's level of development. At the same time, the rate of dollarization declined, reducing exposure to exchange rate fluctuations. The dollarization rate of net loans declined from about 50 percent in 2010 to almost 30 percent by July 2016. Deposits denominated in US\$ remained at about 50 percent of total deposits for the same period. The decline in the financial sector dollarization was enabled by several measures implemented by the BCP. The recent depreciation of the domestic currency further helped to reduce the demand for US\$-denominated loans.

**97. As a result, the share of investment converged to pre-crisis levels.** The average total investment rate dropped from 27 percent in the first five years of the 1980s to 16.7 percent in the first five years of the 1990s. The private investment share collapsed from 18 to 12.6 percent in the same period. It then started to accelerate in the early 2000s as macroeconomic stability was

regained and recovered to an average of 20.8 percent between 2010 and 2015, slightly above its pre-crisis levels and the high levels of the 1950s (Figure 36, left). Similarly, the total investment share has recovered to 26.2 percent of GDP in the past six years (2010–15).

**Figure 36: Investment converged to pre-crisis levels thanks to lower macroeconomic uncertainty**  
**Investment converged to pre-crisis levels**      **Financial intermediation increased**



Source: World Bank staff based on UN and BCRP data (left); World Bank staff based on the Global Financial Development database (right).

### *But financial inclusion and structural change have been slow*

98. **Peru's financial inclusion continues to be low compared to its regional peers, pointing to inefficiencies in the financial sector.** Peru's credit to GDP ratio of about 34 percent lags behind the 45 percent average for the LAC region. Only 29 percent of the population has a savings account, lower than in Bolivia (42 percent), Colombia (39 percent), Ecuador (46 percent), and Chile (63 percent).<sup>35</sup> Only 22 percent of women report owning a deposit or transaction account in Peru--one of the largest gender gaps in the world. Peru is ranked as having one of the world's most developed microfinance sectors—aggregated assets account for 5.4 percent of the financial sector, while outstanding credit and deposits account for 10 and 8 percent, respectively. Non-bank financial institutions, especially microfinance institutions, contribute to financial inclusion, accounting for one-third of the total financial assets in 2015. Apart from limited financial literacy, the high costs of accessing financial services is the main obstacle to greater penetration. High transaction costs, the high costs associated with the opening of new branches, and limited connectivity and poor infrastructure, have all been identified as the main obstacles to broader financial inclusion.<sup>36</sup>

99. **The percentage of firms with a bank loan or credit line is above the average for the LAC region but capital markets are still underdeveloped.** The percentage of firms with a bank loan or credit line (60 percent) is above the average in the LAC region (45 percent) and only a

<sup>35</sup> World Bank, Global Findex Database: <http://datatopics.worldbank.org/financialinclusion/>.

<sup>36</sup> Center of Financial Inclusion (2013).

fraction of firms report access to finance as a major constraint. Peru also has made significant advances in the implementation of the Basel III requirements as the Superintendence of Banks, Insurance, and Pension Funds (*Superintendencia de Banca, Seguros y AFP*; SBS), started to implement the corresponding banking regulations. Despite the country's continuous classification as an emerging market, however, capital markets are not liquid due to low stock trading volumes—averaging only 1.8 percent of GDP in 2014 compared to the Latin American average of 16.9 percent and the OECD average of 131 percent--and an underdeveloped bond market. The amount traded in fixed income instruments in Peru's local market was 0.47 percent of GDP compared to 185 percent in Colombia and 101 percent in Chile. The insurance market is also underdeveloped with insurance spending amounting to only 1.7 percent of GDP in 2013 compared to 2.7 in Colombia and an OECD average of 8.4 percent.

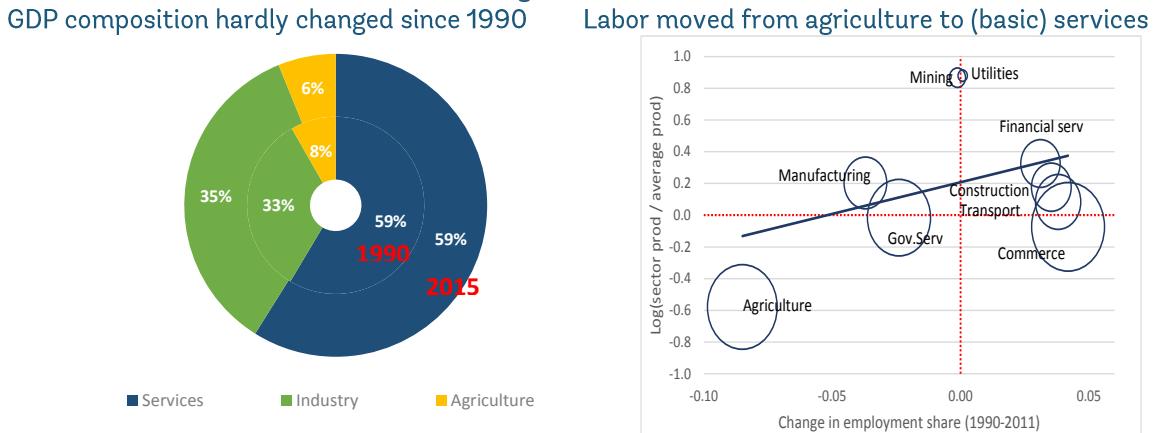
**100. Over the past 20 years, labor moved from low-productivity, rural agriculture to somewhat higher productivity services activities, often in the informal urban sector.** The labor force working in agriculture declined from 32 percent in 2001 to 24 percent in 2013. At the same time, the share of labor working in retail trade, hotels and restaurants, and transport increased. This shift raised the economy's aggregate productivity, since the declining share of labor in low-productivity subsistent agricultural activities in the Sierra and Selva was compensated by an increase in the labor share of somewhat higher productivity basic service activities, often in the urban informal economy (Figure 37, right).<sup>37</sup> Nontradable sectors (services, utilities, and construction) grew the fastest, accounting for two-thirds of aggregate GDP growth since 1991. The growth in non-tradable sectors was spurred by a strong recovery in domestic demand.

**101. But unlike other fast-growing middle-income countries, Peru's reallocation of labor across sectors (that is structural change) has been slow overall, signaling low growth in the potentially higher productivity manufacturing and service sectors.** The composition of GDP into agriculture, industry, and services has hardly changed since 1990 (Figure 37, left). All three sectors grew at a comparable pace so that their contribution to GDP was determined by their size, with services accounting for about 3 percentage points of GDP growth since 1990 (industry 1.8 and agriculture 0.3). Production structures hardly changed even within service sectors: the share of many service activities in GDP remained constant between 1994 and 2015, apart from a slight increase in retail, financial, and IT services at the expense of health, education, and other services.

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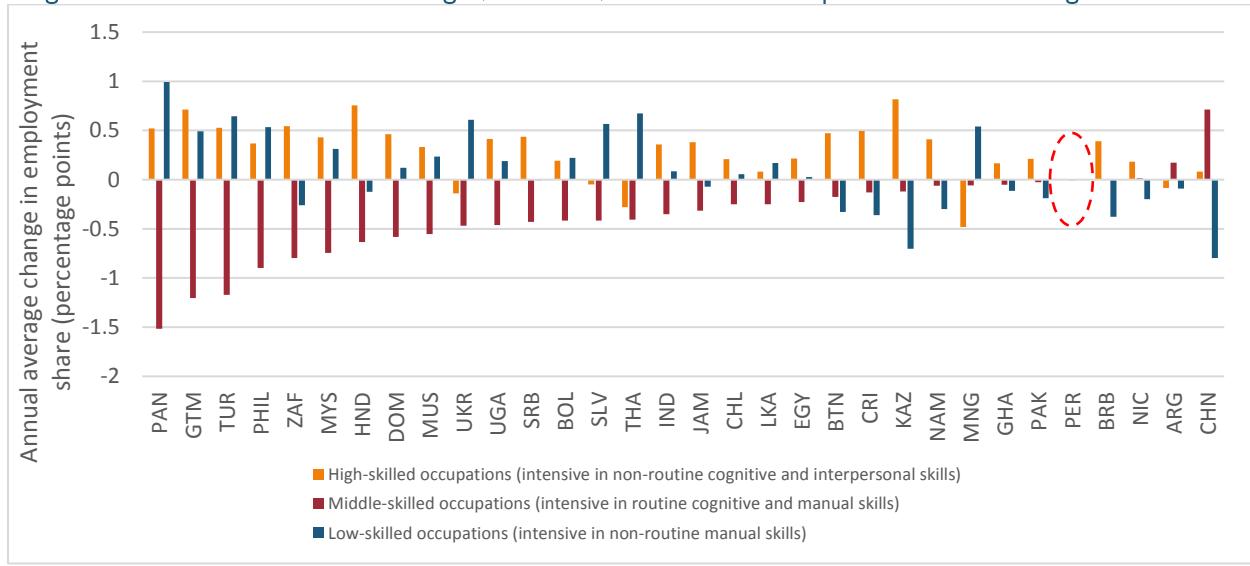
<sup>37</sup> Aggregate growth of added per worker can be decomposed into labor productivity growth within sectors or structural shifts in employment from lower- to higher-productivity sectors. Measures of value added per worker and employment patterns across 15 economic sectors were used to estimate the relative contributions of these two sources. Shifts in employment from agriculture to construction and services accounted for about 1 percent of the total labor productivity growth of 4 percent between 2002 and 2012—within sector gains accounted for the rest. Following the critique of this approach, we also constructed marginal labor productivity measures by sector and conducted similar analysis (using the World Bank I2D2 database for wages). The ranking across sectors using marginal measures of labor productivity was the same.

Figure 37: Labor moved from subsistent agriculture to basic services while the composition of GDP hardly changed since 1990



Source: World Bank staff based on INEI data (left); Araujo et al. (2015) based on Groningen data (right).

Figure 38: Peru's share of labor in high-, medium-, and low-skill occupations has not changed since 1995



Source: World Bank 2016. Note: The figure displays average annual changes in employment shares (percentage points) between circa 1995 and circa 2012. Classification follows Autor (2014). High-skilled occupations include (i) legislators, senior officials and managers, (ii) professionals and (iii) technicians and associate professionals; middle-skilled occupations comprise (i) clerks, (ii) craft and related trades workers, (iii) plant and machine operators and assemblers; low-skilled occupations are (i) service and sales workers and (ii) elementary occupations.

**102. The composition of employment in terms of high, medium, and low skill occupations has not changed since 1995, confirming that higher productivity activities failed to absorb more workers despite high economic growth overall.** Employment shares were growing in high-skilled, high-paying occupations (managers, professionals, technicians) in most other countries over the past 20 years. This trend reflects the changes in the structural composition of employment, in particular the growth of demand for high-skill occupations that complemented new technology in other fast-growth, emerging economies that became technologically more advanced. Low-

skilled, low-paying occupations (elementary, service and sales workers) typically also grew while the demand for middle-skilled, middle-paying occupations (clerks, plant and machine operators) has often been squeezed since most of these occupations reflect routine work that is susceptible to automation as firms start to adopt new technologies.<sup>38</sup> In Peru, however, the composition of employment has barely changed over the past 20 years. The absence of changes in the demand for occupations with different skill intensities highlights the lack of structural change in the economy despite substantial trade and investment liberalization.

### ***Non-mining firms trade very little, indicating low productivity growth***

103. **Peru has one of the world's most liberal trade policy regimes.** Trade liberalization began in 1990 when Peru cut tariffs significantly, eliminated most nontariff barriers, and opened several service sectors to foreign investment. By 2013, Peru had lowered its average tariff<sup>39</sup> to 1.9 percent, which is one of the lowest worldwide. Moreover, only around 37 percent of imports are subject to nontariff technical barriers to trade (NTMs), including import licenses, quality inspections, and rules of origin. This figure is lower than in most comparator countries such as Mexico (43 percent), Chile (47 percent), South Africa (52 percent), Colombia (70 percent), and China (90 percent). Peru also signed free trade agreements with its main trading partners, including the United States, the European Union and China. Increased openness of the economy allowed Peru to take advantage of the rapid growth in world trade. Exports accounted for only 17 percent of GDP in 1990, immediately after the output collapse, but recovered continuously in consecutive years, reaching a peak of 33 percent in 2005 supported by favorable external conditions. The share of exports in GDP amounted to about 25 percent of GDP in 2015.

104. **But non-mining firms trade very little.** Peru leveraged the boom in global commodity markets for rapid growth in the 2000s but still trades much less than countries at similar income levels. Peru exports primarily raw or semi-processed goods instead of high added value products. Commodity exports accounted for 70 percent of total exports in 2014. Copper and gold—the two most important commodities in Peru—accounted for about 35 percent of total exports. The quantity and value of exports of apparel products, and of plastics and metal products—such as automotive parts—grew in recent years (albeit from a low base), partly due to better access to the U.S. market. The services trade accounts for 20 percent of world trade but only 5 percent of Peru's exports. Travel and transport services grew the fastest and account for the bulk of services exports (see also Box 8). Overall, Peruvian firms are poorly integrated into global value chains. Peru's low trade cannot be explained by Dutch disease effects, as the Government followed a managed

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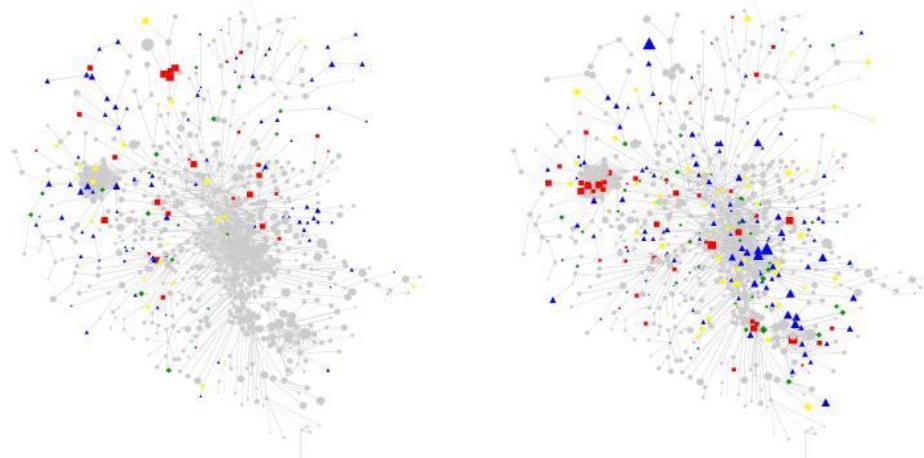
<sup>38</sup> In developing countries, the average decline in the share of routine employment was 7.8 percentage points between 1995 and 2012. Other than technology, urbanization and trade are also likely to influence this trend. See World Bank (2016e) for details.

<sup>39</sup> Weighted average (by trade volume) most-favored-nation tariff.

floating exchange rate regime, preventing a strong appreciation of the real effective exchange rate during the commodity boom years of the 2000s.<sup>40</sup>

**105. The composition of exports has hardly changed in the last 50 years as Peru developed few new export successes.** Commodities accounted for about 66 percent of export in 2015, the same level as in the 1970s. Five sectors (minerals, metals, vegetables, foods, and textiles and apparel) accounted for almost 90 percent of exports in 2013, virtually unchanged from the 92 percent share in 1970. In other words, the sectors that led the Peruvian exports recovery since 1990—hydrocarbons, mining, and traditional agriculture—were the same sectors that collapsed in the 1980s. Peru underwent very little structural transformation and diversification in response to its export collapse. Consistent with this trend, almost all (95 percent) of aggregate export growth from 2007–13 came from selling existing export products to existing markets—the diversification of products or markets contributed little. Peru also developed few new recent export successes despite its high growth. Peru has revealed comparative advantages (RCA) in exporting agricultural and mining-based products, including fresh or chilled vegetables, copper or zinc alloys, metallic salts, and manufacturers of asbestos. Over time, a few new RCAs emerged (colored green), primarily in garments (Figure 39). But overall Peruvian firms developed few new export successes from 2000–10. Instead, 68 percent of all exported products in which Peru has a RCA were primary and resource-based products in 2010. Peru only gained RCA in one medium-tech manufacturing sector, while it lost RCA in three medium-tech sectors from 2000–10.

Figure 39: Peru developed few new manufacturing export successes in its high growth period, 2000-10



Source: Araujo et al. (2015). Note: The graph shows Peru's product space in 2010. The product space is a graphical representation of the relatedness between every pair of the 775 4-digit SITC manufacturing products whereby each node represents a product and distances between two products represent the similarity between their production structures. More complex, closely-related products such as machinery and equipment, motor vehicles, and chemicals are located in the densely populated core. Peru's main exports such as mining products, agribusiness, and textiles are in the periphery of the product space. Blue triangle: classic products that have a revealed comparative advantage

<sup>40</sup> World Bank (2016g).

(RCA) in 2000 and 2010; red square: disappearing products with an RCA in 2002 but not in 2010; green diamond: emerging products with an RCA in 2010 but not 2002. Final yellow pentagon: marginal products for which Peru has not acquired an RCA ( $0.5 < \text{RCA} < 1$ ) but experienced positive export growth (of at least 10%) since 2002.

**106. Peru also participates little in sectors typically associated with dynamic global value chains like motor vehicles, electronics, and services offshoring.** The exceptions are agribusinesses, which developed new export successes, and some exporters that are well integrated into global value chains. Critically, Peru has extremely limited upstream linkages in global value chains, that is, it makes very little use of imported inputs (and their embedded technology) in its exports. Just 2 percent of Peru's imports are embedded with high technology, far lower than, for example, Thailand (50 percent) and Argentina (30 percent). Similarly, the share of foreign value added in Peruvian exports is low—it is only one-third that of Mexico and Malaysia. This is because most Peruvian exports are natural resource-based and most of the value added is from extracting and processing minerals and other natural resources with scant foreign inputs (Figure 44, right).

**107. Non-traditional agricultural exports are the exception.** Non-traditional agricultural exports grew by more than 15 percent annually over the last 15 years and some Peruvian agribusinesses became global players, well integrated into global retail chains.<sup>41</sup> The sector benefitted from generous special tax and labor regimes, and targeted infrastructure investments along the coast, such as dams, irrigation canals, and wells (Box 8). Peru is the world's leading exporter of fresh or canned asparagus, organic banana, and quinoa and ranks among the top five global exporters of avocado, grapes, and mango.

**108. The Costa region has registered the strongest growth in agricultural productivity.** The rapid expansion of a number of agribusiness projects in the Costa region, led by local conglomerates with deep roots and connections to local banks, spurred the development of new export successes. As a result, area expansion has been fast in the Costa region where new land brought under cultivation has accounted for 50 percent of the total expansion since 2000. Many crops achieve substantially higher yields in the Costa region than in the Sierra or Selva (for example, maize, bananas, and avocados) based on improved access to water and irrigation, more widespread mechanization, a higher adoption rate of improved varieties, greater crop and product diversification, larger farm sizes, and proximity to consumers and export markets. Coffee and cacao production in the Selva have also expanded significantly, contributing to the high recent growth of rural incomes. Increasing internal demand from the growing domestic middle class provides further growth opportunities. But insufficient transport infrastructure is limiting sector competitiveness, and water availability and environmental considerations bear risks in the Costa region. Land fragmentation further represents a significant constraint: 80 percent of producers are smallholders with farms of less than 5 hectares.

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<sup>41</sup> The Central Bank defines traditional agricultural exports as cotton, coffee, and sugar.

## Going forward, growth will have to rely on higher productivity

### *Peru's low aggregate productivity is a bottleneck to growth*

109. **Peru's future growth will have to rely much more on productivity gains to sustain the high growth rates of the recovery period while reducing the vulnerability to external shocks.** Growth slowed to about 2-3 percent in 2014-15. The recovery is expected to be gradual, since Peru's growth potential in the following years is likely to be lower compared to the last decade, given an assumption of a non-temporary price adjustment on the country's main exports. While the economy is expected to grow beyond potential in 2016–17 as large mining projects are coming online and public infrastructure investments peak, growth is then projected to stabilize at about 3.5 percent of GDP in the absence of further structural reforms. While growth requires a number of important ingredients, increasing productivity will be a critical for Peru.

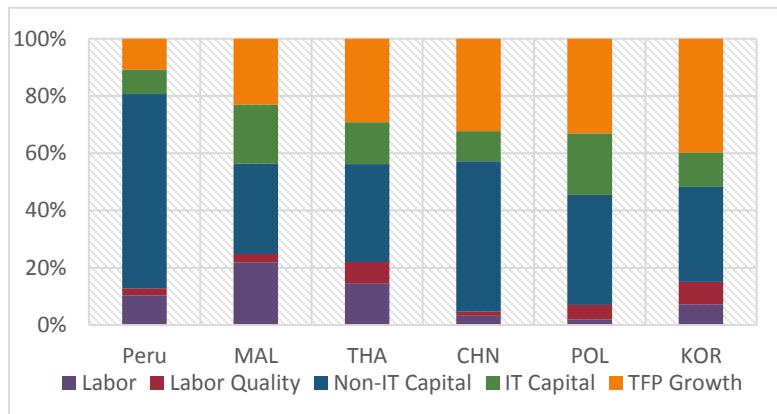
110. **Higher private sector productivity is also needed to sustain high returns to investment.** The lack of private investment and the degradation of the physical capital stock during the crisis years created a large pool of profitable investment projects in the early 2000s. During the recovery period since 2001, firms began catching up with forgone past investment opportunities and as a result growth was driven by capital accumulation. Peru's private investment share converged to its pre-crisis level of 26 (21) percent in the past six years (Figure 36). As the recovery period is ending and Peru's relative GDP recovered to its level prior to the 1980s collapse (Figure 32, right), the private investment share has reached a plateau as the *low hanging fruits* of profitable investment projects available for reinstalling the pre-crisis capital stock are running out. Growth solely based on physical capital accumulation with slow improvements in TFP or human capital is encountering diminishing returns, and is thus no longer sustainable. The share of investment converged to the pre-crisis levels where it will stagnate without productivity improvements.

111. **But private sector productivity is low and has barely improved in the past 20 years.** Capital accumulation has been a main factor contributing to growth in most countries during the commodity price boom from 2000–14, especially in mining intensive countries. But Peru's improvements in aggregate productivity have been slow. TFP contributed only 0.6 percentage points to Peru's aggregate growth from 2000–14 (11 percent of total GDP growth).<sup>42</sup> The contribution was much stronger for emerging economies that had a comparable rate of average growth (4–5 percent) in the same period. In Malaysia and Thailand, which are also resource-intensive economies, improvements in aggregate productivity contributed 1.1 and 1.2 percentage points to growth—23 and 29 percent of total growth—respectively. In Korea and China, TFP accounted for 32 and 40 percent (3.2 and 1.7 percentage points) of total growth.

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<sup>42</sup> The contribution of TFP to growth was small in most Latin American countries (-7 percent on average), however, most countries in the region also had significantly higher levels of TFP for given stocks of physical and human capital (Figure 41, left).

Figure 40: The contribution of TFP to aggregate growth has been small



Source: World Bank Staff based on the data from The Conference Board. Note: Data in percentage points (pp); all included countries had high average GDP growth of 4–5 percent from 2000–14.

**112. Peru's growth dividend from closing the large TFP gap with high-income countries is significantly larger than in other Latin American countries.** Peru's GDP per capita is comparable to the average among Latin American countries, amounting to about 25 percent of the GDP per capita of the United States (Figure 41, right).<sup>43</sup> It is significantly lower than the aggregate GDP per capita in Chile and Mexico (35 percent of United States). The potential gains from further increasing the capital and labor stock in Peru are relatively modest. For instance, Peru would raise its relative GDP per capita from 25 to 47 percent of that of the United States if it had the same level of aggregate capital (Figure 41, left). But raising its aggregate TFP, which reflects the overall efficiency and technological progress in the economy, would bring a much higher payoff—Peru would raise its relative GDP per worker from 25 to 65 percent of that of the United States if it had the same aggregate TFP. The potential gains are significantly larger than in other Latin American countries (Figure 41, left). Thus, increasing the aggregate productivity would boost output per worker even without the accumulation of additional physical or human capital. And it would also raise the returns for firms to invest in human and physical capital stimulating further growth.<sup>44</sup>

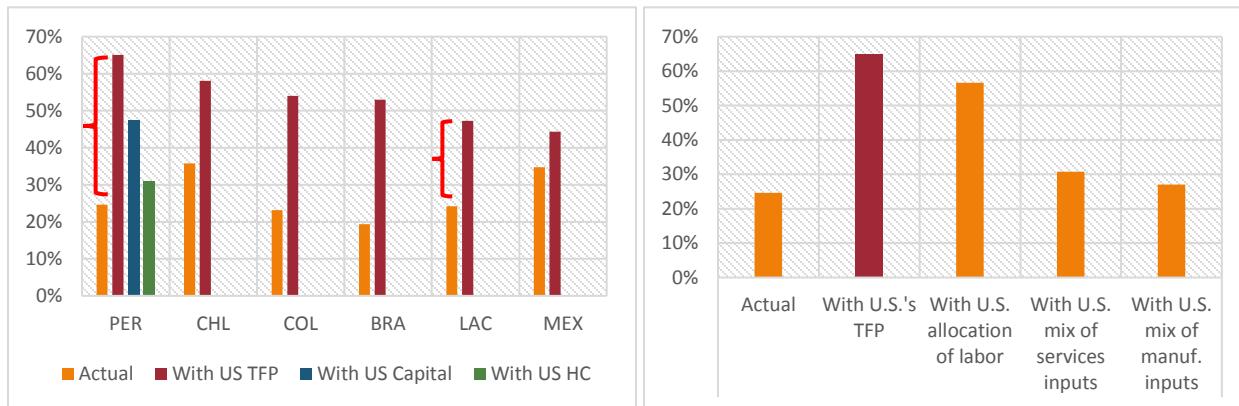
**113. The low aggregate productivity in Peru stems in part from substantial misallocation of capital and labor in that more productive firms do not necessarily hire more workers or invest more.** Formal sector manufacturing firm productivity has been growing, albeit from a low level, converging with that of the United States. But overall, the degree of misallocation is much more pronounced than in most other Latin American countries, especially in services. In fact, many services in Peru are not traded internationally, so that services firms face less foreign competition. And productivity growth has been negative between 2007–12 in many backbone service sectors such as land and water transport, support activities for transport, water collection and supply,

<sup>43</sup> This part of the analysis uses Caselli (2015) results, and applies them to a different measure of output per worker. For output per worker, this report uses PWT8.2 GDP in constant 2005 US\$, projected to 2011–2013 by growth rates of similar variable in WDI.

<sup>44</sup> Caselli (2005).

wholesale trade, other professional services, construction, real estate, travel agencies, and maintenance of machinery and equipment.

**Figure 41: Raising Peru's productivity (TFP) to U.S. levels would bring Peru close to U.S. per capita income**



Source: Caselli F., in Araujo et. al. (2015) and authors' calculations (left); Aterido and Iacovone (2015) and Fattal (2015) (right). Note: GDP per worker in % of that of the U.S., actual and under different scenarios. The counterfactual refers to countries' output per worker if their TFP were equal to that of the United States.

**114. Defying market forces, more productive formal sector firms grew slower than less productive firms.** Normally, market forces should allow more productive firms to expand their business and grow faster while less productive firms should shrink or exit—these dynamics are referred to as creative destruction. But the market share of more productive firms, measured by TFP or value added per worker, was lower in Peru for the years with available data from 2007–12, in contrast to most other countries, including Colombia and Mexico (Figure 42, left). The misallocation was strongest in service sectors, in particular retail and wholesale trade, the sector with the largest share of employment in the country. Moreover, unlike in most other countries, large firms are about 30 percent less productive than smaller formal sector firms, measured in terms of TFP or value added per worker.<sup>45</sup> Reallocating capital or labor from large to smaller firms would thus raise Peru's aggregate productivity and per capita GDP. The misallocation of labor across firms reduces aggregate TFP and severely limits its income level—imposing the same allocation of labor across firms with different productivities as in the United States has been estimated to boost aggregate TFP and double Peru's GDP per worker (Figure 41, right).

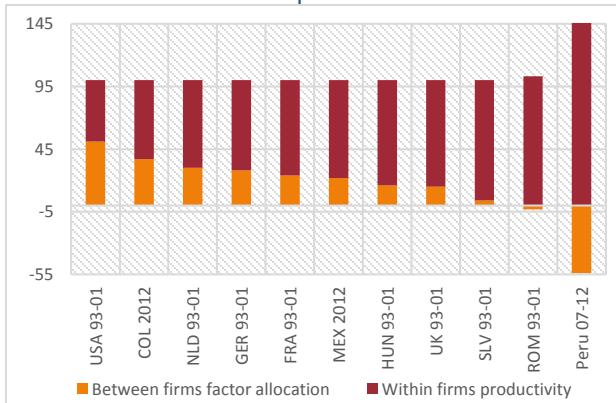
**115. There are large differences in productivity growth among firms located in different regions within Peru.** Formal sector firms in Lima have been, on average, more productive than those in the Sierra and Selva regions, while firms in the Costa have slowly started to converge towards those in Lima more recently. While manufacturing productivity in the formal sector converged across Peruvian regions, this was not the case for services productivity—differences in

<sup>45</sup> See World Bank (2015a). The only other country where large formal sector firms have been measured as less productive than smaller firms is Egypt, The World Bank 2014(a).

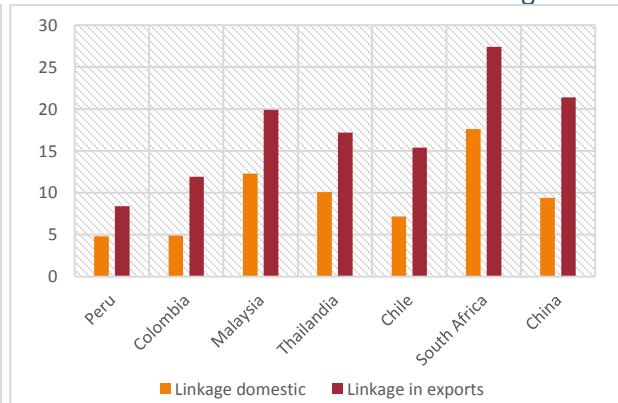
the productivity of formal sector services firms remain large across regions within Peru and do not show signs of convergence, pointing to local market segmentations in major services sectors.

**116. These misallocations point to severe restrictions to market entry and competition in product and factor markets.<sup>46</sup>** Misallocations are typically caused by rigidities in product and factor markets that prevent market forces from allocating labor or capital to more productive uses. These rigidities often originate from sector-specific regulatory barriers to market entry and competition. The analysis points to the existence of severe regulatory barriers in service sectors and across different municipalities, limiting a more efficient allocation of capital and labor across firms, and thus productivity growth.

**Figure 42: Misallocation in services point to severe restrictions in product and labor market competition**  
**Market share of more productive firms declined**



**Services value added in manufacturing is low**



Source: Aterido and Iacovone (2015), Brown et al (2014), and Bartelsman, Haltiwanger, and Scarpetta (2004) (left); World Bank (2015a) (right). Note: Left graph: contributions to aggregate value added per worker growth, in percentage; right graph: aggregate services value-added in manufacturing, domestic and exports, 2011.

**117. Young firms are driving formal sector manufacturing productivity growth in Peru but there is not enough firm entry, pointing again to barriers to entry and competition in product and factor markets.** Young (formal) firms are driving manufacturing productivity in Peru and elsewhere.<sup>47</sup> Formal manufacturing plants in Peru double their productivity in the first 25 years after they start operating; almost all productivity gains materialize in the first 10 years of plants' life cycles. The link between firm age and productivity is similar in Mexico, but less strong than in the United States where new plants increase their productivity 6-fold over the same time period. Yet, Peru's stagnant aggregate productivity growth suggests that there are not enough young firms, or, in other words, there is too little market entry of (formal) firms. Again, the

<sup>46</sup> Recent regulatory changes in insolvency legislation that have not been yet captured by the data include: the creation of the Registry for Judicial Delinquent Debtors that simplifies legal framework for insolvency and aims to reduce the time and cost of exit (Law 30201); introduction of electronic auctions for asset foreclosures to reduce the costs and risks of insolvency (Law 30229). It is expected that a significant reduction of time in the implementation of judicial auctions and an improvement in transparency would be the result of these changes. These regulatory changes are expected to facilitate firm exit and entry, potentially reducing the degree of misallocation in the economy.

<sup>47</sup> The World Bank (2014a, and 2016a), Hsieh and Klenow (2014).

evidence points to rigidities in product and factor markets that lead to barriers for new entrepreneurs to enter markets and grow, slowing down the process of creative destruction in which new firms adopting more productive technologies or management practices challenge incumbents, forcing them to innovate or exit.

**118. Peru’s GDP per capita would surpass that of Chile if both countries had the same aggregate productivity levels as the United States.** Reducing regulatory distortions in the demand for services, by imposing the same composition of service input demand as in the United States is estimated to increase Peru’s aggregate TFP by about 25 percent. Removing regulatory barriers to competition in services would thus lift Peru’s GDP per capita close to that of Chile.<sup>48</sup> Misallocation in the service sectors—such as transport, financial, or professional services—lead to higher prices and lower quality, which also reduces productivity growth indirectly by constraining the growth of other sectors that rely on them. As a result, service sectors provide insufficient inputs to manufacturing firms, limiting their productivity—service sectors contribute only 5 percent to domestic manufacturing value added, and only 8 percent to exported manufacturing value added (Figure 42, right), much lower than in comparator countries such as Colombia (12 percent), Chile (15 percent), Thailand (17 percent), Malaysia (20 percent), and South Africa (27 percent). Services firms also have lower linkages with other service sector firms in Peru. These weak linkages, again, point to regulatory barriers in the formal service sector.

**119. Peru’s large informal sector also poses potential challenges to a more efficient allocation of labor and capital, and thus to productivity growth.**<sup>49</sup> Informality is generally high in the LAC region but comparable estimates of informality outside of agriculture suggest that at 70 percent in 2009 Peru’s level of informality is one of the highest in Latin America, far above that of Mexico (60 percent) and Colombia (54 percent) during the same period (Figure 43, left).<sup>50</sup> During the periods of massive migration from the Sierra to the Costa, migrants often started their own, family-based informal service jobs in cities. The high labor informality is thus reflected in the large number of informal firms—almost three-quarter of the informal jobs are in unregistered informal firms (Figure 43, left). This potentially limits aggregate productivity growth—informal businesses innovate less and have more limited access to credit, foreign technology, trade facilitation, and global value chains. And it contributes to the misallocation of production factors

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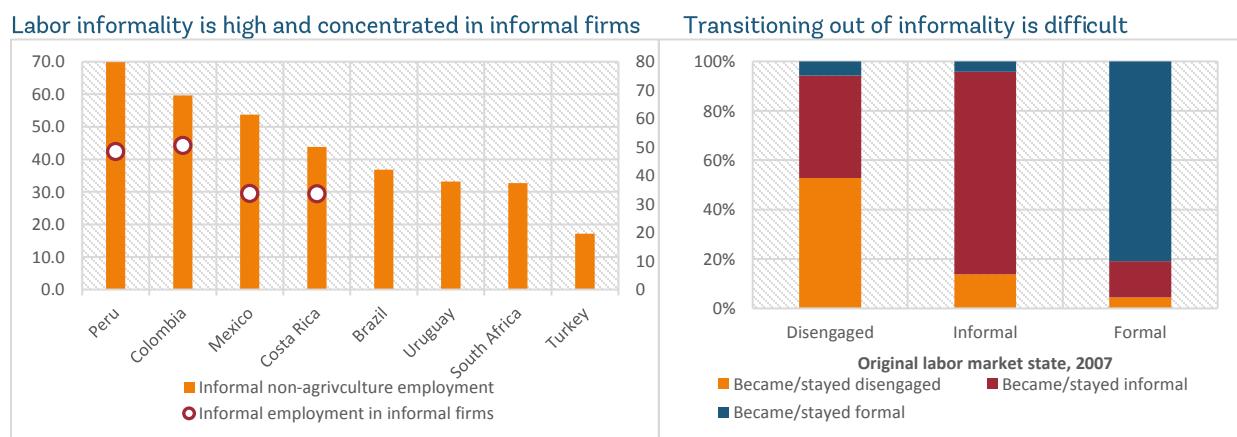
<sup>48</sup> This assumes that Peru would have the same input demand for services that the U.S. (imposed from U.S. input-output matrix). In contrast, the analog TFP gains in Argentina, Brazil, Chile, or Mexico, would be about 5 percent. See Buera and Fattal (2016).

<sup>49</sup> There are different mechanisms how high firm informality reduces aggregate productivity growth. Informal firms have less access to credit, customs, and other public services, constraining productive investments. What is more, productive informal firms often stay small to avoid raising awareness of tax or other inspectors, contributing to resource misallocation. The empirical evidence estimating the link between the size of the informal sector and aggregate productivity is scarce due to data constraint. Firm census data often do not allow to identify non-registered firms. Recent empirical evidence, however, shows that differences in firm size are a source of misallocation explaining differences in productivity across countries; the large number (tail) of micro firms explains cross-country productivity differences and these micro firms are typically informal (Hsieh and Klenow, 2009; Hopenhayn, 2016).

<sup>50</sup> ILO (2012). Peruvian authorities calculate the share of informal employment at 77.2 percent in 2009 (74.3 percent in 2012) referring to the total number of informal jobs in the formal sector (without social contributions by employers), informal companies or the household sector, see INEI (2014).

since informal firms' access to more productive foreign capital and more skilled workers is limited. Workers in the informal sector are far less productive: wages are on average only one-third and productivity only one-sixth that of formal workers. Further, informal employees have little chance of moving to formal employment. From 2007–12, less than 4 percent of informal workers made the shift to formal employment (Figure 43, right) which is significantly lower than formal transition rates in Brazil or Mexico. Part of the difficulty of transitioning to formal employment can be explained by education: all else being equal, a worker with higher education has a probability only 6 percentage points higher of transiting into a formal job than a worker without education. A large part of informality, however, appears to be based on demand-side constraints, that is, the lack of the creation of more productive jobs.

**Figure 43: Peru's informal sector is very large by international standards**



Source: ILO 2012 and World Bank staff calculations (left); Ruppert Bulmer et al. (2015) based on ENAHO (right).

Note: Share of non-agricultural employment, 2009; informal employment outside the informal sector include employees holding an informal job in formal sector enterprises; the remaining informal employment is own-account workers engaged in production of goods and services (left). The probability of transitioning to alternate labor market category or remaining in same category, 2007–12 (right).

**120. Productivity growth is also constrained by the lack of skilled workers.** Returns from secondary and post-secondary education in Peru are high and continue to increase, suggesting that, despite the substantial rise in educational attainment over the past two decades, demand for secondary and tertiary educated workers continues to outpace supply. Enhancing the supply of high quality graduates would raise firms' ability to adapt new technologies and management processes and hence boost their productivity. The low and heterogeneous quality of education also contributes to the insufficient human capital in the workforce.

#### *Slow technology adoption limits the demand for more productive, well-paid jobs*

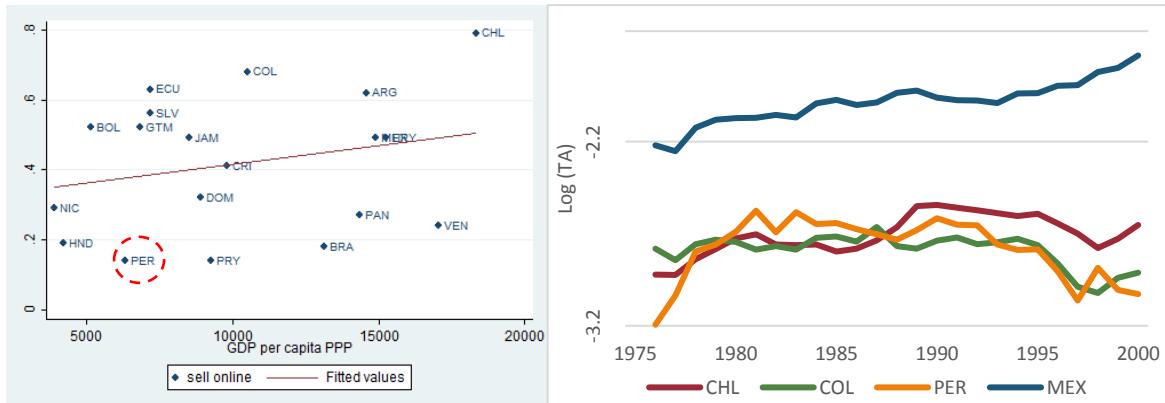
**121. The large share of informal firms potentially limits the extent to which these entrepreneurs can access more productive, foreign technology and innovate.** What matters for productivity growth and convergence in developing countries is not so much cutting-edge

innovation at the technology frontier of a few individual firms, but rather the extent to which all firms in a country adopt the latest available, more productive technologies developed elsewhere.<sup>51</sup> While the speed of technology diffusion reaching new countries has increased recently, the penetration of these new technologies across all firms within a country has been slower than for past technologies. This has constrained growth. Informal firms are slow to adopt new technologies since they have only limited ability to license foreign technologies, interact with foreign firms and markets, access the necessary logistics, finance investments in new machinery, obtain quality accreditations, and so forth. The high degree of informality thus restricts the extent to which new technologies diffuse among Peruvian firms, constraining aggregate productivity growth.

**122. Still, even formal sector firms too little in the adoption of new technologies.** Peruvian firms invest, on average, 2.5 percent of their sales in innovation, whereas peers in Chile invest 3.5 percent. Only 7 percent of Peruvian firms have licensed technology from abroad, compared to 14 percent in the LAC region as a whole. Peruvian firms lag in the adoption of new digital technologies as well. For instance, less than 20 percent of formal sector retail firms sell their products online, despite the significant opportunities to enhance their scale and productivity through online trade (Figure 44, left). This is among the lowest online shares for formal retail firms in Latin America—in Mexico, Colombia, and Chile between 50 to 80 percent of all formal sector retailers offer online sales.

Figure 44: Knowledge applicability in its embodied technologies

Few retail firms in Peru sell their products online Peru's composition of exports might limit the potential for technology spillovers



Source: World Bank (2016e) based on World Bank Enterprise Survey data, 2010 (left); Araujo et al. (2015) adapted from Cai and Li (2013) (right). Note: Formal sector retail firms (left). Cai and Li (2013) developed for each exported product a quantitative measure of knowledge applicability (right). The authors use the 2006 patent citation database, provided by U.S. Patent and Trade Office (USPTO), to trace the direction and intensity of knowledge flows within and across technological classes, which allows constructing indices of knowledge applicability for each product class.

<sup>51</sup> Comin and Mestieri (2013), World Bank (2016e).

This measure is aggregated to the country level based on countries' export structure to create industry weights. U.S. firms producing products embedding more applicable technologies are shown to innovate more.

#### Box 4: Sources of growth: a sectoral approach

Mining and non-traditional agriculture will continue to be important sectors determining aggregate growth. Still, services account for almost two-third of GDP and three-quarters of all jobs in Peru. But Peru's service jobs are often low productivity, informal activities in commerce, transport, or domestic services. They are typically held by the new urban middle class, require relatively low skills, and pay relatively little. Sustaining the growth in labor income for the new urban middle class requires better paid, more productive jobs. Which sectors have a high potential to generate inclusive growth? The analysis shows a high potential in tourism, professional and technical services, and retail.<sup>52</sup>

Peru's **tourism** market has been expanding rapidly. In 2014, 3.2 million tourists arrived in Peru spending US\$3.9 billion. Tourism arrivals expanded three-fold since 2002 and foreign tourist expenditure increased almost five-fold, corresponding to an average growth of 12 percent per annum. Tourism is mainly a leisure market (about 60 percent) with an average stay of 10 days. The main source markets are Chile and the United States. The hotels and restaurant sector expanded alongside the foreign tourism. A total of 41 hotel projects were developed in the middle to upper segments from 2010–14, adding 3,200 new rooms, with an associated investment of US\$550 million. Most projects were in the Lima area (10), Cusco (13), Ica (3), and Arequipa (3). In 2014, Peru had higher occupancy rates (66 percent) than the Latin American average, and revenues per available room have grown by 20 percent from 2010–14. Despite recent growth, there are several domestic barriers to expanding the tourism market. Lima is the only major international airport, the prices for air transportation are still high, and the lack of good (rural) roads limits the quality of domestic transportation services. Administrative procedures for tourist activities are also often cumbersome and costly, while the resulting informality in some activities affects culturally protected assets. Advancing the sector's high growth potential also requires a detailed sector diagnostic to develop more tourism destinations and establish a Peru brand.

The **retail** sector has attracted large foreign investments. Peru has been the fastest-growing retailing market in Latin America in recent years. The growth is driven by the rising incomes of the growing, affluent middle class. Clothing, accessories, food and beverages, and home and kitchen appliances remain the fastest growing categories. The sector's growth has been supported by FDI as well-known international brands continue to arrive and open new stores. Modern retail channels, such as chain convenience stores, have gained market share from traditional channels such as bodegas—this even though traditional channels will continue to dominate the Peruvian retail market. But traditional retail channels have started raising their productivity, exploiting economies of scale and putting competitive pressure on modern outlets. Lima has been the center of Peru's retail growth, but new large retail projects in second-tier cities contributed to retail growth in 2014–15. The growth potential continues to be high since formal retail penetration is still low—the sector is estimated to grow, on average, 4 percent per annum from 2010–20.<sup>53</sup> The lack of investments in more productive digital technologies, however, is constraining growth, despite a recent rise in online presence. Less than 20 percent of formal retail firms sold their products online in 2014, which is one of the lowest shares in Latin America (Figure 44, left).

#### 123. The slow technology adoption, in turn, limits the discovery and scale of new export successes. Peruvian firms invest too little in innovation, which also limits the ability to diversify

<sup>52</sup> The analysis is based on trends in domestic and export markets (for which the product space approach is applied to services).

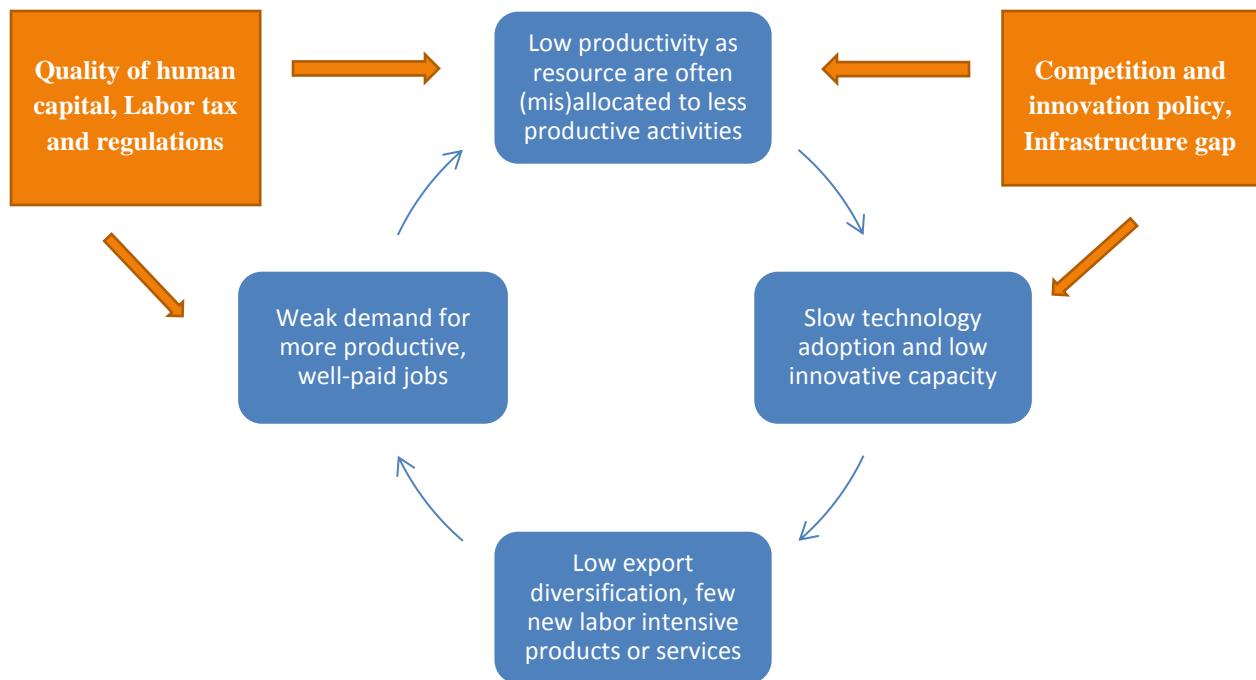
<sup>53</sup> Euromonitor, 2016.

into new export products or markets. The lack of innovation in Peru is, to a certain extent, rooted in the economy's production structure. More specifically, Peru's economy specializes in producing commodities, which typically embed more idiosyncratic technologies that are less applicable in producing other manufactured goods. While this is a common feature in Latin America, Peru's export basket implies lower knowledge applicability in its embodied technologies than other commodity exporters in the LAC region (Figure 44, right). It is thus more difficult for Peruvian firms to use their current technologies and knowledge to develop new export successes.

**124. The lack of new export successes in more labor-intensive manufacturing or service sectors, in turn, constrains the creation of more productive, well-paid jobs.** The mining sector provides very few jobs. And labor-intensive manufacturing (for example, garments or automotive parts) and tradable service sectors (for example, back office services) are still too small and not sufficiently competitive to function as formal sector job vehicles for the majority of low- or middle-skilled workers. Albeit from a small base, the recent export successes in agribusiness and tourism point to potential areas for formal sector job growth (Box 4).

**125. Low productivity (and to some extent, low formalization), slow technology adoption, and lack of export diversification are thus all closely related, describing an equilibrium of weak labor demand for productive, well-paid jobs (Figure 45).** Key policy areas to boost private sector productivity are presented in Section 4. These include enhancing the quality of human capital, reducing labor market rigidities, removing bureaucratic barriers to market entry and competition, and closing Peru's large infrastructure gaps. These policy areas provide entry points to unleash a virtuous cycle of productivity improvements, innovation, diversification, and the creation of better paying jobs.

Figure 45: Equilibrium of weak labor demand for productive, well-paid jobs



## 4. Sustainability

*Addressing three important sustainability risks is vital to achieve shared prosperity in Peru and to maximize the benefits for all Peruvians from micro-structural reforms. Regulating the use of Peru's diverse natural resources and better enforcing environmental laws are both crucial to mitigate the risks facing Peru's diverse resource, and to minimize their potential adverse impacts on health outcomes and human capital. Also, low tax revenues constrain the quality of public and the sustainability of higher infrastructure spending. Finally, and most importantly, current institutional arrangements weaken government coordination, capacity, and law enforcement. Other reforms will not yield the desired results unless institutional reforms improve government efficiency, including its ability to plan, coordinate, and implement policies, and to guarantee the enforcement of laws and access to justice.*

### Peru faces important environmental sustainability risks

*Peru's geographic and demographic characteristics are intertwined with its environmental challenges*

**126. Peru's geographic diversity and the country's economic dependence on its natural resources, create challenges for its environmental sustainability.** Extractive activities—mining, fishing, and hydrocarbons—represented 66 percent of Peru's exports in 2015, and 68 percent when including agriculture (INEI, 2016). Natural resources are thus the bedrock of the Peruvian economy, and need to be managed sustainably if they are to continue as the source of the country's prosperity. Over time, the country has made progress in generating a regulatory and oversight framework that increases sustainability, especially for extractive activities, but many challenges remain. In particular, the effects of illegal mining, logging, and fishing are showing irreversible effects on Peru's fragile forest and marine ecosystems, where pollution and resource depletion situations continue to grow. In addition, unresolved social tensions surrounding large, formal mining operations continue to pose challenges for that sector's sustainability. Finally, while Peru is a water-rich country, growing demands for agriculture and for urban populations, combined with climate change, require a concerted effort to better manage this resource.

**127. Urbanization has increased the pressure on the “brown” and “grey” agendas.** About 80 percent of the Peruvian population is now living in urban areas. As a result, there is growing pressure on natural resources coming from an increased use of motor vehicles, and from insufficient waste and water treatment. Despite some progress to improve the quality of vehicles and promote their conversion to natural gas, low air quality still affects some densely populated urban areas, with documented ill effects on health, especially for children. Moreover, municipal governments still have a very limited capacity to safely manage solid and water waste. Overall, studies estimate the cost of environmental degradation at 3.5 to 5 percent of Peru's GDP per year.

### ***The country is highly exposed to climatic risks and natural hazards***

128. **Peru is characterized by its high vulnerability to natural hazards.** Peru has seven of the nine characteristics established by the Framework Convention of the United Nations on Climate Change (UNFCCC) to qualify as a "particularly vulnerable" country: low coastal areas; arid and semi-arid areas; areas exposed to floods, droughts and desertification; fragile mountain ecosystems; disaster-prone areas; areas with high urban atmospheric pollution; and economies heavily dependent on income generated from the production and use of fossil fuels.<sup>54</sup> This vulnerability is exacerbated by industrial processes prone to cause ecosystem degradation and by pollution from anthropogenic sources. In addition, the country faces high risks from hazards of a hydro-meteorological origin. Of the total emergencies nationwide, close to three-quarters involve droughts, rains, floods, frost, or similar natural occurrences.

129. **Studies reveal that temperatures and rainfall patterns are changing throughout the country.** For instance, the Sierra region is expected to experience a decrease in rainfall of 10–20 percent in coming years. In the northern and central Selva (cloud forest) annual rainfall is expected to decrease by 10 percent. In the Costa region, an increase in precipitation of 10–20 percent is expected in both the north and south.

130. **The retreat of glacier surface in Peru is also altering the country's water sources.** Thus, seven basins in the Sierra (*Cordillera Blanca*) have reached critical stages of retreat, which has reduced water volumes during dry season. Moreover, the frequency of climatic events such as frost, drought, and floods is increasing. These phenomena are exacerbated and their effects amplified due to climate change, including greater difficulties in forecasting cycles and intensities.

131. **Economic losses due to climate change are potentially large.** Studies that estimate the impact of climate change on Peru's economic growth indicate that in a climate change scenario, by 2030, the total real GDP loss could be between 5.7 percent and 6.8 percent of the baseline scenario without climate change; by 2050, the estimated loss would be 20–23 percent of GDP.

132. **The *El Niño* phenomenon causes regular economic losses.** More than a quarter of the Peruvian population is employed in either agriculture or fishing industries, and a large share of the Peruvian economy relies on favorable climatic conditions. In the past, *El Niño* has caused significant economic losses, particularly by reducing exports. The 1982–83 *El Niño* caused widespread flooding in the coastal desert regions, and severe drought in the Andean highlands. This led to food and forage shortages in rural areas, affecting local economies for several years after the shock, and contributing to mass rural–urban migration. The 1997–98 event caused significant damage to public infrastructure such as bridges, roads and highways, and schools and

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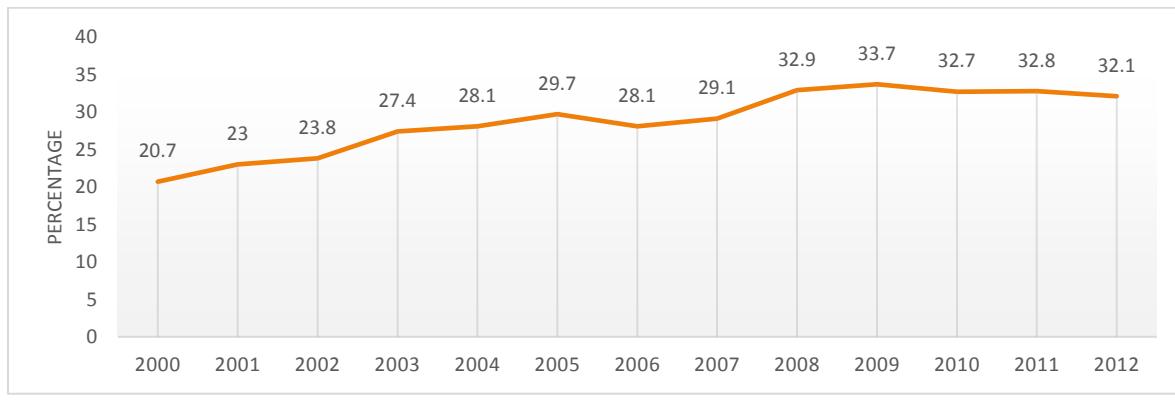
<sup>54</sup> Republica del Peru (2015).

hospitals were severely damaged. The cost of that year's event was estimated at US\$3,500 million (4.5 percent of 1997 GDP).<sup>55</sup> The Peruvian government created the National Council for the Management of the *El Niño* Risks and set aside extraordinary financial resources in 2015 to mitigate the potential economic impact of a projected strong social and economic impact of *El Niño* in 2016. Finally, considering that 76 percent of Peru's population lives in urban areas, the Government is adopting the resilient cities concept to promote reductions in exposure to natural hazards for urban populations.

#### ***Despite some progress, water, soil and air pollution continue to threaten the environment***

133. **Water quality is affected by dumping of industrial solid waste, uncontrolled use of agrochemicals, and improper or nonexistent wastewater treatment.** In 2012, only about a third of wastewater was treated before being sent back to the environment (Figure 46).<sup>56</sup> Also in 2012, there were 35 toxic substances at levels above environmentally established limits in the Pacific source. Among them, metals such as iron, manganese, and aluminum, and thermo-tolerant coliforms were the most common. The majority of these cases were in the Piura and Moquegua departments. In the Atlantic and Titicaca sources, the number of substances above the limits was substantially lower (between 11 and 17 in the Titicaca, and between 2 and 7 in the Atlantic sources).<sup>57</sup> Moreover, the intermittency of the water supply also has negative effects on drinking water quality, posing serious public health risks, and further exacerbating the burden on the poor, who generally have to pay significant amounts from alternative suppliers.

**Figure 46: Only one-third of wastewater is treated**



Source: MINAM (2014).

134. **Air pollution in Peru is of concern in urban areas, but is also an issue in rural areas where it affects especially the poor.** Particulate matter (PM), specifically PM2.5 above 10ug/m<sup>3</sup>

<sup>55</sup> Galarza y Kámiche (2012).

<sup>56</sup> This number is estimated at around 48 percent in 2015.

<sup>57</sup> MINAM, 2014.

and PM10 above 20 $\mu\text{g}/\text{m}^3$ , generate negative effects on health, such as cardiovascular disease, chronic obstructive pulmonary disease (COPD), lung cancer among adults, and acute lower respiratory infections (LRI) among children.<sup>58</sup> In Lima, from 2007–11, there was an average of 42 $\mu\text{g}/\text{m}^3$  PM2.5, more than double the local standard of 20 $\mu\text{g}/\text{m}^3$ . In Arequipa, Trujillo, and Cusco the PM10 concentrations were between 42 and 53 $\mu\text{g}/\text{m}^3$  in recent years. Cities with over 100,000 inhabitants have reported measures of PM2.5 concentration of 26 $\mu\text{g}/\text{m}^3$ . In addition, the use of solid fuels such as straw, shrubs, and herbs generate particulate matter (PM). About a third of the Peruvian population cooks with solid fuels, especially in rural areas (84 percent) and those in the poorest quintiles (97 percent in Q1).<sup>59</sup> In 2012, 23 percent of the deaths from ischemic heart disease, strokes, lung cancer or chronic pulmonary diseases (18+ years) or with acute lower respiratory infections (under five years of age) were attributed to household air pollution.<sup>60</sup> In addition, estimates suggest that even at moderate levels, PM can cause productivity losses by reducing the time allocated to work, especially in families with more vulnerable members, such as small children and elderly adults.<sup>61</sup>

**135. Lead (Pb) contamination is also of concern.** According to clinical studies, for every 1 $\mu\text{g}/\text{dL}$  increase in the concentration of lead in children's blood, there was a decrease of 0.7 points in arithmetic tests, 1 point in reading tests, 0.1 points in nonverbal reasoning, and 0.5 points in short-term memory.<sup>62</sup> Similarly, children with a blood lead level of 5 $\mu\text{g}/\text{dL}$  had lost 3.3 IQ points. In Peru, 58.6 percent of children have a lead concentration level higher than 2 $\mu\text{g}/\text{dL}$ . Children between 1 and 11 years of age in La Oroya, a mine on the outskirts of Cerro de Pasco, had an average level of 15.8 $\mu\text{g}/\text{dL}$  of lead in their blood; and several households had around 2,000 mg/Kg, more than 10 times the national standard for residential areas.<sup>63</sup> Children between 0 and 11 years old in Puerto Nuevo, a human settlement located near the port of Callao, where transfers from deposits to terminals of mineral concentrates is done outdoors, had a level of 25.6 $\mu\text{g}/\text{dL}$  of lead in 1998, and today at least half of them still have a level greater than 10 $\mu\text{g}/\text{dL}$ , according to recent studies.<sup>64</sup> In addition to learning issues, exposure to high levels of lead can also cause increases in blood pressure, cardiovascular disease, chronic kidney disease, anemia and gastrointestinal symptoms.

**136. Over the last 15 years, there has been a trend towards a reduction of pollutants in both Lima and Callao.** The promotion of higher-quality motor vehicles, together with a stronger

<sup>58</sup> PM2.5 and PM10 particles are air pollutants 25 to 100 times thinner than a human hair. Generally come from activities that burn fossil fuels, such as combustion in motor vehicles, smelting, and metal processing.

<sup>59</sup> INEI (2012).

<sup>60</sup> The World Health Organization (2015).

<sup>61</sup> Aragón, Miranda and Oliva (2016).

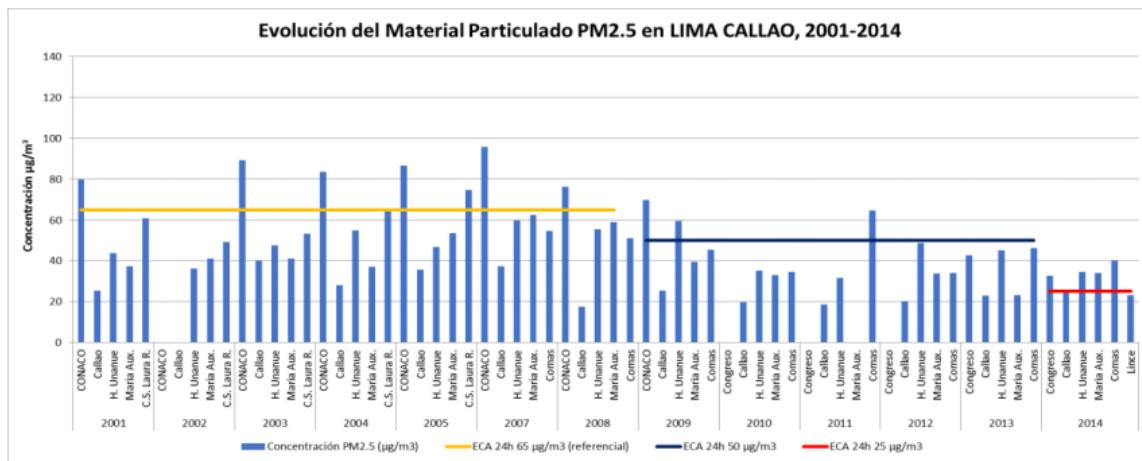
<sup>62</sup> Lanphear, Dietrich, Auinger and Cox (2000).

<sup>63</sup> Minsa, 2005 and El Comercio (2015b) (<http://elcomercio.pe/sociedad/junin/oroya-contaminacion-plomo-continua-afectando-ninos-noticia-1809791>)

<sup>64</sup> (Gobierno Regional del Callao, 2016) ;(Espinoza et al, 2003)

inspection system and incentives to switch to natural gas, has improved air quality over the last decade. The concentrations of sulfur dioxide ( $\text{SO}_2$ ) and nitrogen dioxide ( $\text{NO}_2$ ) have diminished by 72.8 percent and 81.9 percent, respectively, over the 2000–14 period. Although still at a high level, exposure to PM2.5 and PM10 in Lima and Callao decreased by 41.2 percent and 32.5 percent, respectively in the period 2001–12 (Figure 47), but they remain above the environmental quality standard (ECA) in Lima.<sup>65</sup> The decreased usage of gasoline-powered vehicles further helped reduce lead exposure and contamination throughout the country. Peru counts with regional “Air Quality Monitoring Programs” that aim to control the amount of pollutants in the air.

Figure 47: Evolution of PM2.5 concentration in Lima, 2001–14



Source: MINAM (2014).

### *Peru's land and marine biodiversity are being threatened*

137. **Around 1,500 square kilometers of Peru's forests are lost annually in the Selva region.** While most of the deforestation in Peru is caused by land use pressure (mainly agriculture and cattle raising from small and large holders), illegal extraction of timber creates additional risks for biodiversity. The minimal state presence in these Regions (Loreto, San Martin, Huánuco, Ucayali and Madre de Dios) encourages the expansion of these activities. According to the Center for International Forestry Research (CIFOR), in Ucayali and Loreto 78 to 88 percent of the timber is extracted illegally. By another estimate, 15 percent of the total national production of wood is illegal.<sup>66</sup> The value of illegal logging is estimated at US\$72 million per year.<sup>67</sup> Informal loggers often resort to administrative fraud, also known as “*blanqueo de madera*,” where officials sign

<sup>65</sup> Informe Nacional de Calidad del Aire 2013 – 2014 (MINAM).

<sup>66</sup> A report by INRENA and the Comisión Multisectorial de Lucha contra la Tala Ilegal estimated this number for 2005, and listed the most frequently extracted species that appear in the initiated administrative sanctions: Cumala, Tornillo, Capinuri, Lupuna, among others. See (Rivadeneyra, Utero.pe, 2014).

<sup>67</sup> Consorcio Camara Nacional Forestal (2004).

fraudulent permits.<sup>68</sup> Moreover, illegal logging has caused conflicts with native communities. For instance, it has been calculated that 50 to 60 percent of the isolated Nahua tribe in Madre de Dios died from diseases due to a first contact with illegal loggers.<sup>69</sup>

**138. Moreover, increasing pressure on the water supply is creating risks for biological diversity and local livelihoods in the Selva region.** For instance, the planned construction of dams on some of Peru's main rivers<sup>70</sup> is likely to reduce not only the diversity of fish species, but also their volume. If not correctly designed, dams interrupt the normal migratory flow of numerous species of fish towards their mating area, threatening their reproduction. The decline in certain key fish species could have important adverse effects for other species on the food chain, and for local communities for whom river fish are an important source of livelihood.

**139. Climate change further increases risks for fish stocks in the Selva.** The complete depletion of the Andean glaciers could alter the water supply to the Amazon basin, reducing the amount of available fish for local communities. The meltdown of major glaciers has been projected to start showing potentially significant impacts on water supply to the Amazon as early as 2020.

**140. Both industrial and small-scale fishing in the Pacific Ocean have put pressure on the Peru's marine biodiversity.** Until the mid-2000s, a historically open-access policy led to an unsustainable fishing level (World Bank, 2007). The introduction of individual vessel quotas (IVQ) and fishing restrictions reversed the trend, prevented stock depletion, and improved the sector's economic and environmental sustainability (Larsen, Magne, & Strukova, 2013). More recently, there is evidence that illegal fishing is on the rise, which could again threaten the sector's environmental and commercial sustainability. In the last decade, biodiversity has been reduced and many species have disappeared.<sup>71</sup> A report by Macroconsult (2014) finds that, between 2003–14, there was an accumulated difference of 1.4 million metric tons between the production reports collected by the Ministry of Production (*Ministerio de la Producción*; PRODUCE) and export reports collected by SUNAT, which Macroconsult attributes to illegal fishing.

**141. While anchovy fishing controls have proven successful, fishing of other species is still unregulated.** Laws regulating the industrial anchovy fishery have been generally effective, but other fisheries' practices have not been adequately addressed by policymakers. The Marine Institute of Peru (*Instituto del Mar del Perú*; IMARPE) conducts intensive biannual stock assessments of anchovy, but there is little information about the condition of other stocks, fishing effort, management, or performance. A recent baseline analysis of about 150 target species revealed that for 73 percent of finfish species and for 45 percent of invertebrate species, limited

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<sup>68</sup> Rivadeneyra, (2014); Pautrat & Lucich, (2006).

<sup>69</sup> Lissie Wahl (1990).

<sup>70</sup> [http://www.minem.gob.pe/\\_detallenoticia.php?idSector=9&idTitular=7550](http://www.minem.gob.pe/_detallenoticia.php?idSector=9&idTitular=7550)

<sup>71</sup> Including snappers, several species of grouper, sea bass, green parrots and even large stripes. The seahorse population has also decreased dramatically. Peru is one of the countries with the highest seahorse's exports, even if illegal (SPDA Actualidad Ambiental, 2016).

information is available to build sound management practices. Of the most important commercial species, 35 percent are not subject to any management regulations, while an additional 35 percent are subject to only minimum catch size regulations. Just seven species have comprehensive management and regulatory frameworks, but even for species that have management measures in place, regulations are outdated and in need of revision (Galarza and Kámiche, 2015). In the case of horse mackerel, overexploitation is the norm, in spite of an established global quota. According to Peruvian law, only 30 percent of juvenile fish are permitted to be discarded at sea as incidental, but the International Consortium of Investigative Journalists obtained internal IMARPE documents showing that almost 60 percent of the 2009 horse mackerel catch corresponded to juvenile discards at sea.<sup>72</sup>

#### ***Mining and hydrocarbons sectors impact the environment adversely and lead to social tensions***

**142. Mining and hydrocarbon extraction are crucial activities for Peru’s economy, but are also prone to generate both environmental and social tensions.** The mining sector is Peru’s main export sector, and played a vital role in the extraordinary growth of the last decade (Section 3). It accounted for 39 percent of exports and around 15 percent of Peru’s GDP in 2015 (INEI, 2016), and generated approximately 200,000 jobs (MINEM, 2015), many of which contributed directly or indirectly to the significant poverty reduction in the country. At the same time, extractive industries are widely perceived as a source of environmental degradation and of potential social conflict. If not properly managed, these industries can pollute the water, air, and soil of the surrounding areas, threatening the environmental balance and causing irreversible damage to the landscape and the local communities. Furthermore, extractive operations have historically generated tensions among a number of local actors, which are examined below.

**143. Peru has one of the world’s strictest legal frameworks for environmental protection from extractive activities.** Peru has adopted among the strictest environmental quality standards (ECAs) for extractives in order to promote sustainability.<sup>73</sup> Formal extractive activities have to comply with several environmental regulations, including the certification of mining operations, and obtain permits to use land surface and water. They are also regularly monitored by the government oversight agency (OEFA), and most large formal extractive operations have a good compliance record.

**144. However, there are a large number of extractive pollution legacies, including from oil spills.** The exact extent of environmental legacies left by mining, oil and gas extractive activities

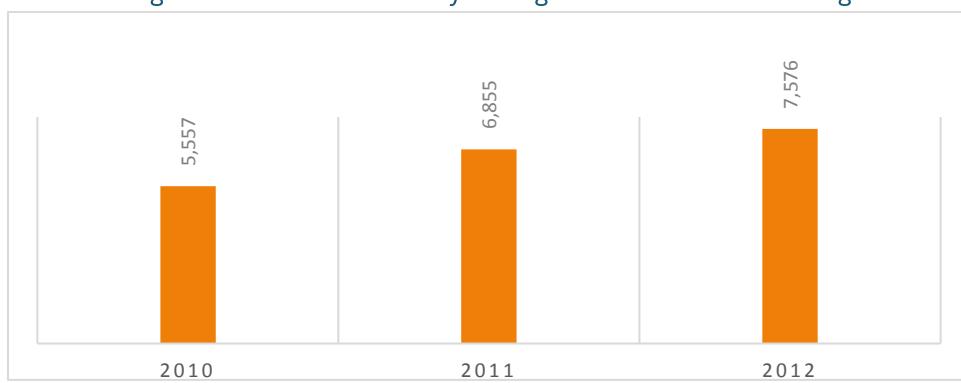
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<sup>72</sup> World Bank policy note (2016). See also, for example: “La pesca descontrolada del jurel en el Perú” Link: <https://idl-reporteros.pe/la-pesca-descontrolada-del-jurel-en-el-peru/>

<sup>73</sup> (Terrazas, Rivas , & Hurtado, 2014).

is currently unknown.<sup>74</sup> But since 2010, the Ministry of Energy and Mining (MINEM) is undertaking a process of environmental legacy monitoring and management to ensure that these legacies do not create further environmental risks. From about 5,500 legacies in 2010, the number has increased to about 7,500 in 2012 (Figure 48). About 40 percent of these are concentrated in three Regions (Ancash, Cajamarca, and Huancavelica), whereas there are only 22 in Madre de Dios (and none in Loreto or Ucayali), which suggests that most legacies are related to mineral mining, rather than oil and gas extractive activities. However, on January 25 and February 3, 2016, oil spills occurred in Chiriaco (Amazonas) and Morona (Loreto), and led to an investigation and a possible fine of S/.79 million for the public oil company, Petroperú, for violating environmental safety measures and causing damage to the health and lives of people.<sup>75</sup>

**Figure 48: Pollution cases by mining and extractives are rising**



Source: MINAM (2014).

**145. Moreover, weak monitoring and enforcement of standards for small-scale mining has led to the proliferation of informal (illegal) mining, with abysmal environmental and social consequences.** Illegal mining has transformed large forest areas into desert-like landscapes, and has released large amounts of mercury into the environment, causing health risks. Similarly, illegal mining has caused deforestation in the Selva region, with more than 6,700 square kilometers (277,333 hectares in San Martin, 219,671 hectares in Loreto and 177,630 hectares in Ucayali) lost between 2000–11.<sup>76</sup> According to MINEM, almost all gold production in Madre de Dios is illegal, and many people in the Region have tested positive for high mercury blood levels.<sup>77</sup> Artisanal, small-scale gold mining (ASGM) is characterized by poor occupational safety and health care,

<sup>74</sup> According to the Ministry of the Environment (MINAM), an environmental “passive” is defined as a polluted site (soil, water, or a combination) where hazardous chemicals have not been properly handled and disposed of, creating environmental risks for the population and the ecosystem. These “passives” usually refer to pollution cases related to mining, oil and gas extractive activities. (MINAM, 2014)

<sup>75</sup> [http://elcomercio.pe/peru/pais/multarian-petro-peru-s79-mlls-derrames-crudo-noticia-1885531?ref=flujo\\_tags\\_110347&ft=nota\\_2&e=titulo](http://elcomercio.pe/peru/pais/multarian-petro-peru-s79-mlls-derrames-crudo-noticia-1885531?ref=flujo_tags_110347&ft=nota_2&e=titulo)

<sup>76</sup> (MINAM, 2014)

<sup>77</sup> In other regions as well. For example, in Ucayali a majority of inhabitants of the community of Santa Rosa de Serjali present extremely high levels of mercury in their blood. See <http://elcomercio.pe/peru/ucayali/63-afectados-mercurio-comunidad-nativa-son-ninos-noticia-1885825>. Mercury causes neurological, cardiac, motor, reproductive, genetic, renal and immunological disorders (Zahir, Shamim, Soghra, & Rizwan, 2005). See also (MACROCONSULT, 2012) and (Langeland, 2015).

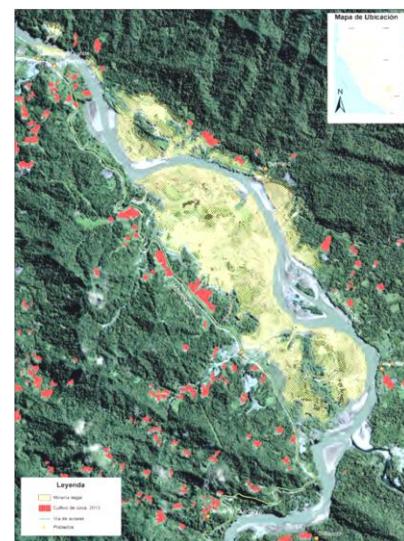
inefficiency in gold recovery, exploitation of small deposits, lack of long-term planning, and poor environmental management. There is currently limited government control on informal mining, and the avenues for formalization are not obvious, as most of it is conducted without land concessions. Currently, the Government is exploring options to advance the dialogue with mining associations in Madre de Dios to develop a roadmap towards formalization. The challenge is compounded by the fact that (at least during the commodity price boom years) the illegal gold mining industry produced even higher revenues than drug trafficking (Figure 49 and Figure 50), which in addition to environmental destruction, undermined institutions and the rule of law.

**Figure 49: Illegal gold mining surpasses drug trafficking**



Source: Authors, adapted from Macroconsult (2012).

**Figure 50: Aerial view of illegal mining & coca fields in San Gabán, Puno**



Source: UNODC (2015).

**146. The lack of historical engagement by mining companies with local communities has generated an enduring climate of mistrust, leading to many situations of social tension.** As of August 2016, there were 208 social conflicts in Peru, of which 147 (71 percent) were socio-environmental conflicts; of these, nearly 4 in 5 were related to mining or hydrocarbons extraction.<sup>78</sup> In the past, mining firms had little direct contact with the local communities, but the firms' presence in an area inevitably altered the social and economic relations with localities, generating a perception of high costs and few benefits. Moreover, the cultural and religious beliefs of peasant and indigenous communities that give special importance to the natural world was rarely considered important, further undermining a mutual understanding.

<sup>78</sup> Defensoría del Pueblo (2016): Reporte de Conflictos Sociales N 150 (<http://www.defensoria.gob.pe/modules/Downloads/conflictos/2016/Reporte-Mensual-de-Conflictos-Sociales-N-150---Agosto-2016.pdf>)

**147. Efforts to promote a productive dialogue between mining companies and communities face many challenges.** In 2012, the Government enacted the “Public Consultation Law,” giving indigenous populations the right to be consulted as to legislative and administrative measures that affect them, including mining operation concessions (Box 5). While this instrument is a pioneer in the LAC region, the challenges in generating expeditious agreements between mining companies and local communities are many. For example, mining activities generate only a few local high-wage jobs, which alters the community’s income distribution and increases inequality, and in many cases damages the its social fabric. At the same time, the substantial volume of rents produced by mining creates incentives to maintain the climate of conflict and permanent negotiation, benefiting only some interest groups or lobbyists. At the government level, the Canon distribution system further enhances inequality between the mining districts and adjacent districts, the latter of which might also be affected by the activity but do not receive any transfers.<sup>79</sup>

#### **Box 5: Mining, social conflict, and the Public Consultation Law**

Social conflicts linked to mining sector have sharply increased since 2007. In August 2015, 20 out of 39 social conflicts registered by the National Office of Dialogue were related to mining (16) or informal mining (4). As a consequence, the Public Consultations Law (PCL) was approved in 2012 as a tool to channel community concerns.

Historically, the government has had a reactive approach to conflict, which leads to shortsighted interpretations and limited implementation of the legal remedies available. The PCL offers an option for early engagement with local communities. However, several areas need to be defined for it to become a standardized practice in the country. Sector roles and obligations are unclear; the capacity of the Ministry of Culture to enforce or facilitate its implementation is limited; there is no funding for the consultation processes; there is no clarity regarding who and when to consult; and there are no guidelines on the enforcement or monitoring of agreements reached.

Important issues such as resettlement and land acquisition processes are poorly regulated, and there are no protocols for the government to prevent conflict. The Cerro de Pasco resettlement case, though incredibly complex, is an example where overlapping institutions, incomplete legal frameworks, and vested interests make the development of a coherent resettlement strategy impossible.

The lack of strong and well-articulated IP organizations complicates the dialogue and negotiations around extractive industries with local communities, often leaving conflict as the only means for local communities to voice their concerns and aspirations. The broad case study of conflicts associated with mining showed that conflict in Peru is often preceded by a lengthy and exhausting period during which local communities unsuccessfully try to have their voices heard before resorting to conflict.

Community engagement strategies are most successful when the context is conducive to establishing a level playing field for engagement and negotiation. This is particularly challenging in an operating context where there are considerable power asymmetries in terms of knowledge, education (sometimes including literacy), advisory support, and economic and political leverage, to mention a few factors. Capacity building is critically important in

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<sup>79</sup> The Mining Canon is a distribution system of the rents obtained by the State from the mining companies in their extractive activities. The local governments of those districts where the mining activity takes place receives 50% of the income tax received by the Government from the mining companies in their Region as a compensation for their loss of the natural resources.

helping local communities and nationwide organizations form and articulate a common vision of their hopes and ambitions during dialogue and consultation processes.

Mining companies do not follow a unified strategy for community engagement and, often, develop their own social responsibility policies, without clearly understanding the surrounding context. Lack of coordination or common standards on the social and environmental responsibilities of mining produce cumulative impacts and legacies that often surpass the capacity of one single operation. It is necessary to mainstream monitoring and evaluation mechanisms to allow mining companies and the government to respond to communities' concerns, aspirations, and complaints in a timely and effective manner.

## Maintaining fiscal sustainability could become difficult

### *Low tax revenues constrain the quality of public services*

148. **In contrast to many other countries in the LAC region, Peru's sound macroeconomic management has ensured low fiscal sustainability risk.** Throughout the period of high growth, Peru saved the commodities' windfall. The Fiscal Stabilization Fund's resources increased from US\$100 million in December 2000 to US\$9.1 billion in December 2014 (4.5 percent of GDP). Fiscal policy has enforced the Fiscal Responsibility and Transparency Law<sup>80</sup> and kept government debt well below the debt limit of 30 percent of GDP. Though subnational indebtedness has increased significantly in recent years, the subnational debt stock remains modest and does not yet represent a source of macroeconomic risk. The total subnational debt stock amounted to only 0.42 percent in 2016.<sup>81</sup> The fiscal deficit is projected to peak at 3.2 percent of GDP in 2016 due to a revenue shortfall from lower domestic demand, lifting public debt to 26.3 percent of GDP. A gradual fiscal consolidation will be necessary in the coming years as export prices are expected to stabilize at a lower level.

149. **The current system of mining revenue transfers adds to the volatility of local public finances.** Resource-revenue transfers to regional and local governments increased from 0.4 percent of GDP in 2002 to almost 2 percent in 2012, then fell to 1.5 percent in 2014. While this substantially improved subnational government finances, it also increased fiscal risks. Resource-revenue transfers represent almost 10 percent of total regional revenues and more than 30 percent of local government revenues. The increasing dependence of subnational governments on an inherently volatile revenue source, their limited capacity to mitigate revenue shocks and the absence of national-level stabilization mechanisms leave subnational governments highly exposed to commodity-price volatility.

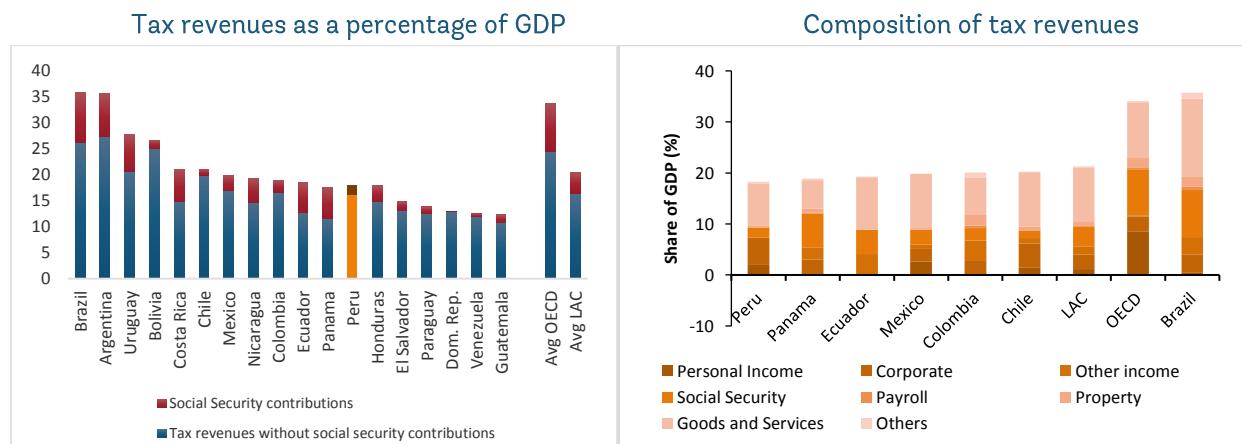
<sup>80</sup> The guidance also includes the following elements: (1) the non-financial level of spending must be consistent with the structural balance target; and (2) the growth rate of wage and pensions spending cannot exceed the nominal growth rate of potential GDP.

<sup>81</sup> While subnational indebtedness does not appear to be a source of systemic risk overall, certain regional and municipal governments have become highly indebted. In some cases, debt levels exceed 100 percent of the annual revenues of regional and municipal governments and these governments may need to adopt fiscal adjustment programs to ensure long-term debt sustainability.

**150. Peru's relatively small government has helped keep fiscal spending at sustainable levels, but it has also constrained the quality of public services delivery and the ability of the Government to reduce the large spatial gaps.** Peru has a relatively small government by several standards, compared to upper-middle income and OECD countries. For instance, Peru collects a much lower share of GDP in taxes than OECD countries.<sup>82</sup> It also employs a smaller share of the workforce than most LAC countries.<sup>83</sup> On average, Peru spent only 9 percent on all social expenditures (including pensions and social assistance programs), less than in most peer countries. An important challenge ahead is to combine greater coverage in social spending without sacrificing quality.

**151. Peru's tax revenues are low compared to its peers.** Low spending is explained by limited tax collection, which is low for the country's level of development. Tax collection in Peru has been around 17 percent of GDP in the past decade. This is low for Peru's level of income, and much lower than tax collection in OECD countries (Figure 51). While tax revenues represented 18.3 percent of GDP in 2013, the average share for LAC and OECD was 21.3 and 34.1 percent, respectively. Tax income was also lower than benchmark countries.

Figure 51: Peru's tax revenues are low compared to its peers



Source: OECD/ECLAC/CIAT/IADB (2015). Revenue statistics in Latin America and the Caribbean, OECD Publishing, Paris. Note: 2013.

**152. The size of the Government in Peru is limited by the country's high labor informality, reducing the revenues collected from progressive direct taxes.** Indirect taxes represent the largest proportion of tax collection in Peru, accounting for 45 percent of total tax collection. In theory, indirect taxes impose a larger burden on poorer households, as the share of consumption is

<sup>82</sup> According to OECD (2015), the tax revenue in 2013 in Peru was 18.3 percent of GDP, compared to 21.3 percent for LAC on average and 34.1 percent for the OECD.

<sup>83</sup> In 2013, the share of workers employed in Public firms in Peru was 8.6 percent, compared to 11.4 percent in LAC on average. Source: SEDLAC.

larger for them, but in practice, these taxes are collected mostly from non-poor households. As a result, indirect taxes are poverty-neutral in Peru once informality is accounted for.<sup>84</sup> In contrast, direct taxes are progressive as they affect mostly the income in the richest deciles. But direct tax collection, especially personal income taxes, is low, accounting for only 11 percent of the total compared to 25 percent among OECD countries (Figure 51). Informality, especially labor informality, thus significantly limits the scope to increase tax revenues to finance higher social and infrastructure spending. Moreover, the rate of income tax evasion in 2014 is estimated to be above 30 percent. Reducing tax evasion could increase tax collection by S/.25 billion per year, equivalent to 4 percent of GDP.<sup>85</sup>

**153. Tax collection rates vary significantly across municipalities pointing to large untapped own revenue resources for local governments.** In Lima, per capita local tax revenue is 100 times the national average, while Lima's income per capita is only around 40 percent above average. About 95 percent of the property tax revenue is collected by about 10 percent of all large municipalities, though together these municipalities represent about two-thirds of Peru's total population. Overall, property tax revenue in 2014 represented just 0.215 percent of Peru's GDP, well below the Latin American average of 0.42 percent, the global developing country average of 0.6 percent, and the OECD average of 2.1 percent. However, total property tax revenue in Peru has increased in recent years, likely due to the MEF's Municipal Improvement Incentive Plan (*Plano de Incentivos a la Mejora de la Gestión y Modernización Municipal*, PIMGMM). The property tax collection by local governments also is very low and severely constrained by the lack of cadasters (see Section 5). Instead, lump-sum property tax payments are negotiated between municipalities and property owners.

#### *The unfinished decentralization process has generated service delivery challenges*

**154. The incomplete and asymmetric decentralization system in Peru undermines government accountability.** The *Ley Orgánica de Municipalidades*, updated in 2003, granted autonomy to regional and local governments to carry out essential functions such as land use planning, economic development, service provision, and investment planning, in coordination with other government actors (Box 6). However, despite the empowering of local governments, problems related to capacity, overlapping mandates, and lack of finance continue to affect service delivery. Central government line ministries retain direct control over all budgetary decisions, while their regional directorates were gradually incorporated into regional governments. But the regional governments have very limited control over the directorates, which typically remain under the effective authority of the line ministries, and are financed through opaque annually determined allocations of Ordinary Resources (*Recursos Ordinarios*) from the central government budget.

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<sup>84</sup> See (Jaramillo, 2014)

<sup>85</sup> See (Gestión, 2014)

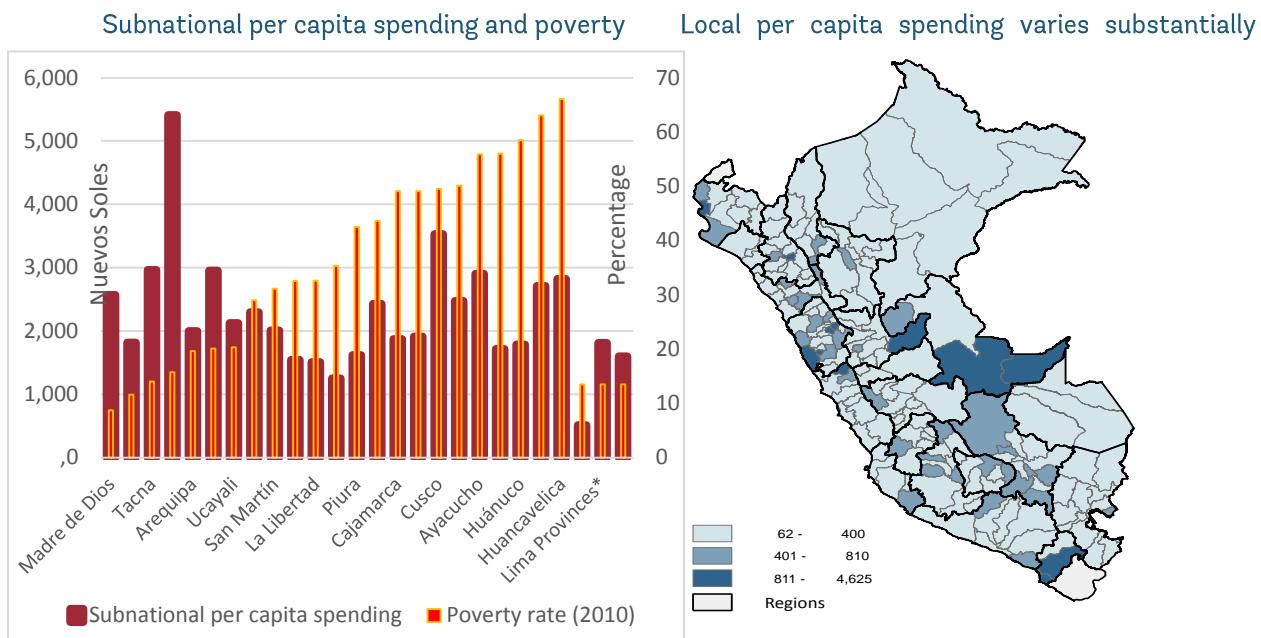
**155. The decentralization of functions without decision-making, especially in the social sectors, undermines the access to and quality of service delivery.** The failed attempt to consolidate the number of regions in the 2000s halted the fiscal decentralization process in several important ways. First, it left the regional, intermediate level of government only half-built. Second, it delayed the decentralization of fiscal revenues, as the revenue sharing mechanism was conditioned to the formation of macro-regions. Third, it delayed the decentralization of functions, as regional governments were viewed merely as transitory entities without capacity to fully assume certain spending responsibilities. This led the system to settle into a de-concentration model of intergovernmental relations, with heavy influence of sector ministries, rather than a true decentralization model. In turn, this has negatively affected accountability and efficiency in service delivery at the subnational level. For instance, overlapping administrative and fiscal responsibilities in education often delay the hiring of teachers, the distribution of learning materials, and the construction of school infrastructure, compounding the disparities in the quality of education (Section 5).

**156. The intergovernmental fiscal transfer system has had little impact on reducing the large interregional disparities.** Most of the existing transfers to regional and local governments are based on equalization criteria. However, the absence of fiscal-capacity criteria in the formulas for practically all other intergovernmental transfers,<sup>86</sup> and the increasing importance of mining revenue transfers (Canons), undermine the effectiveness of the transfer system in reducing interregional disparities. Because the location of mining activities determines the Canon transfers, there is no correlation between regional governments' per capita spending and local poverty rates (Figure 52). The less-populated regions, where most mining activities are located, tend to have modest poverty rates, but their per capita expenditures are among the highest in the country.

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<sup>86</sup> The exception is FONCOR, which explicitly accounts for fiscal capacity. However, FONCOR's resource pool is small and remains constant over time.

Figure 52: Public spending varies substantially and has little impact on reducing interregional disparities

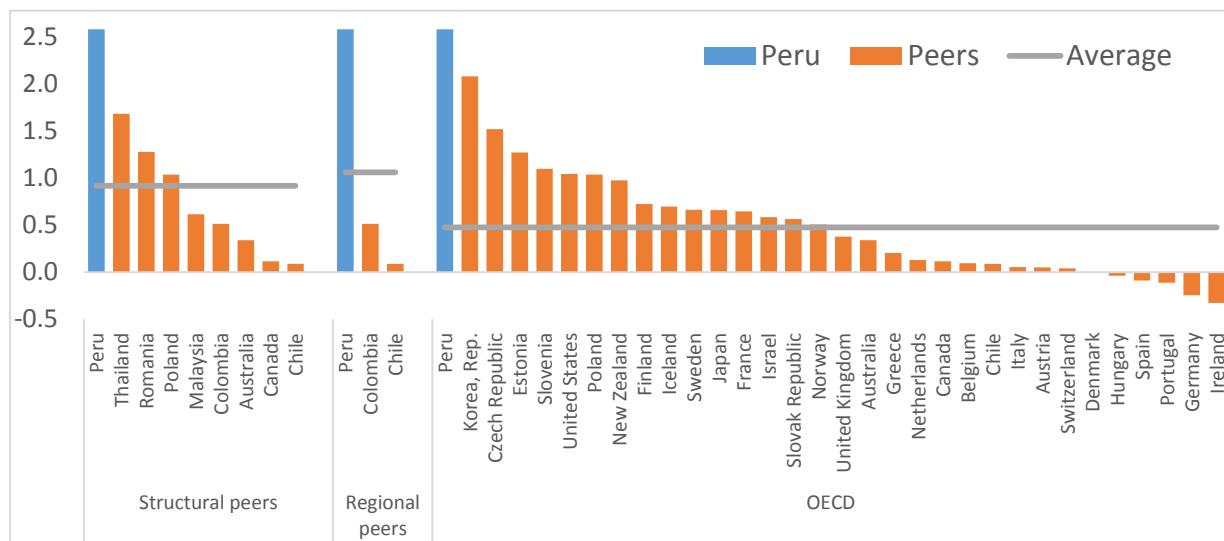


Source: MEF and INEI. Note: Subnational government per capita spending in constant 2014 (left axis) and regional poverty rates in 2010 (right axis). Lima provinces includes Lima and Callao (left); per capita spending by municipalities, 2014 (in S/. constant 2007) (right).

**157. Large gaps in connecting infrastructure also persist due to an inefficient fragmentation of investments resulting from misaligned incentives in the fiscal decentralization system.** Municipalities conducted seventy percent of public infrastructure spending in 2014 due to the way mining revenues are distributed and earmarked for public investment.<sup>87</sup> Local governments' substantial responsibility for public investment in Peru is unique by international comparisons (Figure 53). It exceeds the local investment shares in several decentralized OECD countries with higher local capacities.

<sup>87</sup> The current system of decentralization did help secure the local property rights of large mining investments and reduce the potential resurfacing of social and ethnic tensions in the beginning of the 2000s by ensuring that the local population benefits from the mining boom. But it also led to a centralization of key economic decision-making while, at the same time, several government functions and resources became more decentralized, contributing to a lack of government coordination and planning.

Figure 53: Public Investment by local governments as a share of GDP



Source: World Bank staff. Note: Public investment by local governments as a share of GDP, Peru and selected comparators, 2012.

**158. The transfer of public investment responsibilities to the smallest government tier discourages investments in larger, cross-jurisdiction infrastructure projects with higher social returns, such as roads connecting cities.<sup>88</sup>** And, many municipalities are small—50 percent have less than 10,000 inhabitants and Lima is divided into 40 municipalities—which limits the scale of investments and administrative capacities. Further, mining revenues are primarily distributed to the few municipalities hosting the mines—only 4 of the 1,842 municipalities receive more than 50 percent of the total Canon transfers to local governments. This creates an abundance of resources in some places and severe shortages in others, further undermining public spending efficiency and increasing the risk of corruption in the public administration. Regional governments lack the capacity to proactively support collaborative efforts between municipalities, which would encourage projects with positive regional spillover effects. The fragmentation of investment decisions has resulted in chronically low execution rates and a large number of micro projects—the number of investment projects at the local level increased from 2,100 in 2004 to more than 15,000 in 2014, with an average cost per project of less than US\$300,000.<sup>89</sup>

**159. The distribution of mining revenue transfers (Canons) is a serious obstacle to achieving the objectives of fiscal decentralization.** The main rationale for distributing resource revenues to areas where mining activities are located is to compensate local communities for the negative externalities generated by the exploitation of natural resources.

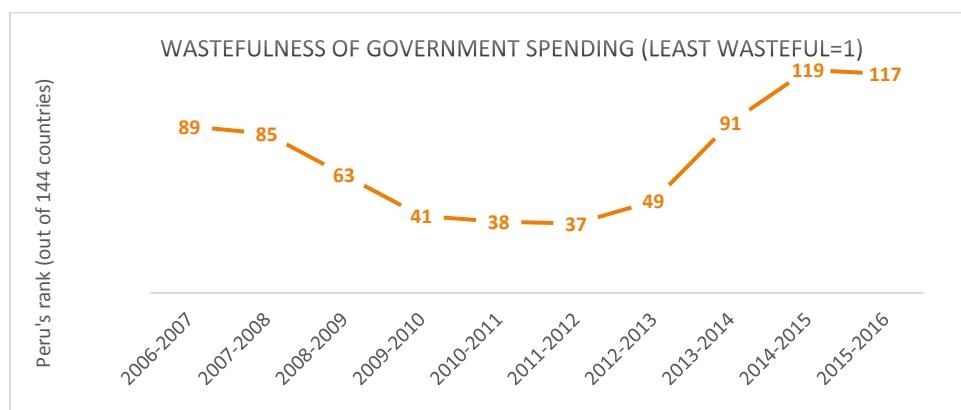
<sup>88</sup> The largest public investment projects with a value exceeding S/.10 million fall under the jurisdiction of the central government. Reportedly, however, local governments have limited the size of the projects keep them in their jurisdiction.

<sup>89</sup> World Bank (2016a).

**160. The use of ordinary resources for intergovernmental transfers is unique to Peru and fosters public spending inefficiencies.** As ordinary resource allocations are based on historical or inertial criteria, such as existing expenditure needs, regional governments have weak incentives to use these resources efficiently (Box 6). As a result, ordinary resource transfers tend to undermine the quality of public financial management and the efficiency of public spending at the regional level. This system also introduces perverse incentives to expand public staff and facilities, as great expenditure needs likely will imply greater future revenue transfers. Ordinary resource transfers recently increased to compensate for the decline in mining revenues.

**161. As a result, Peru falls behind in public spending efficiency.** The efficiency of public sector investment is lower than predicted by Peru's income level and varies substantially across the country. A report from the *Universidad del Pacífico* finds large gaps across Regions in public expenditure efficiency. For instance, in the energy and transport sectors, Amazonas, Huánuco, and Cajamarca reveal low efficiency levels and large coverage gaps. In the water sector, critical inefficiency levels were found in Loreto, Ucayali, Pasco, and Puno. Likewise, Ucayali and Amazonas have low efficiencies and big gaps to close in education.<sup>90</sup> According to the Global Competitiveness Report of the World Economic Forum (Figure 54) the perception that the Government spends its revenues inefficiently increased significantly between 2012–13, and it has continued on that trend ever since. In this indicator, Peru improved at first, going from 89th of 144 countries in 2006–07, to 37th in 2011–12, and then back to 91st in 2013–14, and then 117th in 2015–16. This data suggests that there is a strong perception that the revenue increases generated during the high growth years were not spent adequately to increase development standards.<sup>91</sup>

Figure 54: Peru falls behind in perceived public spending efficiency



Source: WEF. Note: Peru's rank (out of 144 countries).

<sup>90</sup> (*Universidad del Pacífico*, 2010)

<sup>91</sup> (World Economic Forum, From 2010-11 to 2015-16)

#### Box 6: A decade of fiscal decentralization

The 2002 Constitutional Reform launched a fiscal decentralization process transferring political power to subnational jurisdictions through the establishment of regional governments based on the existing jurisdictions known as departments. A third layer of government is composed of two types of local governments: provincial and district municipalities. As a result, Peru's political structure includes three levels of government: a national government, an intermediate level comprising 26 regional governments (including the constitutional province of Callao and the metropolitan municipality of Lima), and the local level encompassing 1,845 municipalities, of which 195 are provincial municipalities and the rest are district municipalities.

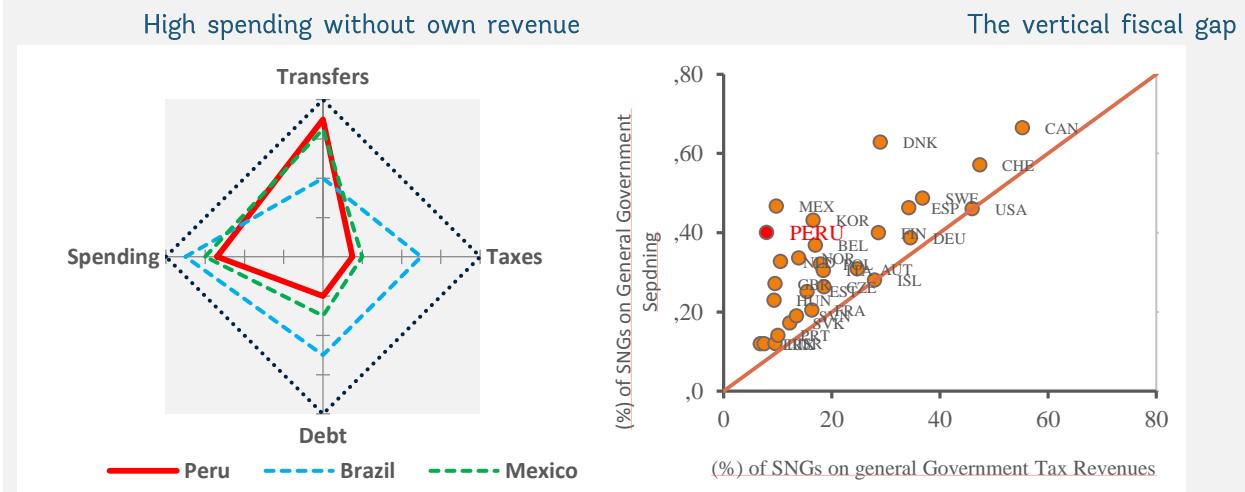
Peru's decentralization design envisaged a gradual approach and is still incomplete. The agenda was based on a path for the gradual transfer of fiscal resources to macroregional governments which had yet to be created. This included first the transfer of resources from the central to regional governments through block grants, which are a function of the transferred spending responsibilities. Second, a more permanent tax revenue-sharing mechanism by which regional governments would have received 50 percent of the national income and value added taxes collected in their territories was to be introduced once new macroregions had been established from the amalgamation of regional governments. But up to this date, the creation of macroregions has not been realized (Figure 55, left).<sup>92</sup>

As a result, the profound asymmetry between revenue and expenditure decentralization and regional and municipal finances heavily rely on a set of intergovernmental transfers (Figure 55, right). The current fiscal decentralization framework provides very low revenue autonomy to subnational governments. Moreover, a distinguishing characteristic of Peru's fiscal decentralization arrangements is that the intermediate, regional level of government entirely lacks its own tax base to raise revenues. The tax base for municipal governments is also limited to property taxes for district municipalities and vehicle lottery taxes for provincial municipalities. Property tax policy such as rates and structures are still defined at the national level and are uniform across the country. Spending in Peru is thus far more decentralized than taxation; subnational governments face tight borrowing restrictions, leaving them heavily dependent on intergovernmental transfers (Figure 55, left). Regional governments receive a block grant, which covers around 70 percent of their spending, and resources from the Regional Compensation Fund (FONCOR). Municipal governments receive transfers from the Municipal Compensation Fund (FONCOMUN), established in 1994. The funds are unconditional, distributed to all municipalities according to an equalization criteria, and financed by a surtax rate of 2 percent on top of the national value added tax. Other conditional transfer mechanisms exist but are typically only relatively small shares of local government revenues.<sup>93</sup>

<sup>92</sup> In 2005, a referendum rejected the merger of 16 regional governments (departments) into five macro-regions. A second referendum for the creation of macro-regions scheduled for December 2009 was postponed indefinitely.

<sup>93</sup> Other revenues' transfers mechanisms to subnational governments include the Fund for the Promotion of Regional and Local Public Investment (FONIPREL) established in 2007, which provides matching grants for investment projects directed to reduce infrastructure and social service delivery gaps; the Socioeconomic Development Fund of the Camisea Project (FOCAM) created in 2004 that finances basic social infrastructure investments in areas affected by the Camisea project; and the conditional cash transfer for the modernization of municipalities established in 2009.

Figure 55: Asymmetries in decentralization of revenues and spending



Source: OECD and World Bank.

The incomplete decentralization process also suffers from inadequate institutional arrangements, as reflected in the strong fragmentation at the municipal level and the half-built intermediate level of government. Lack of clarity in spending responsibilities of subnational governments and problems with low revenue mobilization by subnational entities are preventing improvements in the efficiency and regional equity of public service delivery that fiscal decentralization is expected to deliver.

As an unintended consequence of the fiscal decentralization (canon) system, municipal governments became the main responsible entities for the overall government public investment decisions. With the boom in commodity prices, the proceeds from canons and royalties increased from 0.4 percent of GDP in 2004 to 2 percent of GDP in 2014, and became the most decisive factor influencing the distribution of revenues and spending of local governments. Subnational governments, in particular municipal governments, receive about half of the mining revenues (royalties and canons—half of corporate taxes on mining firms) which are earmarked to public investment in infrastructure and maintenance. The canons are distributed to subnational governments hosting the mining activities. The increasing weight of royalties and canons made regional and local budgets highly volatile and more vulnerable to external shocks. Moreover, they created a bias towards capital spending as canons were earmarked. As a result, the share of subnational governments in total public investment spending surged from 44 percent in 2004 to 70 percent in 2014. The allocation in the general government budget to municipal governments increased from 30 to 65 percent alone. Another unintended consequence has been horizontal disparities in fiscal revenues and capacity across subnational governments, as the canons benefit only a limited number of regional and local governments hosting the mines, exacerbating the ability of the government to address the large spatial disparities in public services.

## Institutional weaknesses lead to a low level of government coordination in services delivery

**162. Governments, in particular local governments, face important institutional challenges to improve service delivery, from financing to coordination arrangements.** Peru's decentralized model of government relies on the capacity of local (district) governments to assess their needs, plan and prioritize investments, and implement them under quality standards that are

relatively uniform across regions.<sup>94</sup> This requires not only well-trained local politicians and officials, but also good coordination with other local governments (to implement larger projects that benefit more than one district) and with line ministries, when financing depends on specific programs administered by each sector. In practice, most local governments lack the capacity and the degree of coordination with ministries, and in many cases end up implementing small projects with marginal social returns, while larger projects with social externalities are often abandoned or postponed.

**163. In many cases, inefficiencies in service delivery link back to a lack of government coordination among or within Peru’s institutions.** The policy coordination failures surface in different facets. The examples range from social and infrastructure sectors to Peru’s science, technology, and innovation (STI) system and business environment. Illustrative failures include a lack of policy coordination among different line ministries that have legislative or implementing power; lack of coordination between a line ministry and local or regional governments implementing or executing government programs or projects; and a lack of coordination between line ministries and regulatory government bodies or state-owned enterprises. For many reform areas, the lack of coordination involves all, or a combination of several different of these actors. In the water and sanitation sector, for instance, the current system requires coordination in policy, financing, and execution among regional and local governments, six different line ministries responsible for water and sanitation, agriculture, health, environment, social inclusion and finance, the large number of public enterprises (SEDAPAL and EPSs), and independent government bodies regulating water and sanitation, scarce natural resources, access to services in rural areas, and the government investment bank (PROINVERSION).<sup>95</sup>

**164. Inefficiencies in water and sanitation originate from misaligned incentives between the national and subnational governments, undermining accountability.** There are a number of institutional and governance constraints to efficient and sustainable service delivery in the water sector, including ill-defined mandates, misaligned policies, lack of clarity on roles and responsibilities, incoherent financing frameworks, poor regulation and law enforcement, and a lack of accountability. The different incentives of the national and subnational governments are not aligned. Municipalities and regional governments effectively perceive, for instance, that they can not only avoid penalties if they fail to deliver services and overrun budgets, but that they instead receive additional subsidies and transfers. This produces perverse behavior, which in the end is more costly to society as a whole. It is important to break this structure of perverse incentives that has led to inefficient outcomes. Policy coordination was to some extent more effective in the rural

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<sup>94</sup> The standards are typically lower for smaller value projects, but they are still set up at the central level by the Finance Ministry (MEF).

<sup>95</sup> Some of these reforms might also require legislation changes, for instance to improve the financial sustainability of certain utilities.

electrification program, which also involved coordination of the public enterprise, regional governments, and line ministries (Box 7).

**165. Transport projects often bear high coordination costs among municipalities and central government bodies.** In Lima and Callao alone, there were until recently ten entities that were jointly responsible for transport expenditures. The Lima municipality, for example, is responsible for developing the bus system while the Ministry of Transport is responsible for the metro system; this situation led to investment redundancies and inefficiencies in the past.<sup>96</sup> The situation is very different from Bogota, for example, where the municipality of Bogota has well defined governance structures and full autonomy to develop its urban transport infrastructure. Recently, however, the municipalities of Lima and Callao agreed to create a technical, joint transport authority, facilitating the coordination among both municipalities and reducing the political influence on investment decisions. This improvement of the governance of the local transport sector is expected to reduce bureaucratic and political costs and can have a significant impact given the very high traffic costs and air pollution in the Lima-Callao area.

**166. In the health sector, a complex and fragmentary system of financing and spending responsibilities weakens service delivery.** Decentralization of health services took place between 2005 and 2009, and regional governments are officially owners of the public health facilities in their territories. At the same time, the budgetary rules and flows do not foster or even permit regional autonomy in the planning and execution of budgets towards health goals. While the Regions are the owners of the health facilities, they do not coordinate the budgets used to finance the various components of the health production function. Goods are acquired and assigned by the Ministry of Health (*Ministerio de Salud, MINSA*) and bought by budget units directly from funds assigned by Treasury or by SIS. Human resources and services are contracted at the regional level with resources assigned by Treasury or by the Comprehensive Health Insurance Scheme (*Sistema Integral de Salud, SIS*). Investments are carried out by MINSA or by the regional government (Figure 56). In other words, the different inputs used for a particular health service are the responsibility of different entities and levels of government, and there is no strategy to ensure that all inputs will be available to provide those services. For example, salaries can be paid by the Region to deliver vaccination services, while inputs are provided by MINSA and the SIS finances incidentals. However, there is no established way of coordinating these entities so that providers can receive a complete set of inputs. The fiscal decentralization system adds to the complexity, undermining an effective planning and execution of budgets. The health sector has attempted to move away from historical budgets towards mechanisms that provide some incentives for more effective allocation of funds, such as through Results-Based Budgeting (*Presupuesto por Resultados, PpR*) and the SIS, but these attempts have been only partial. About half of the health budget is still assigned using historical budgets, and the different financing mechanisms (the

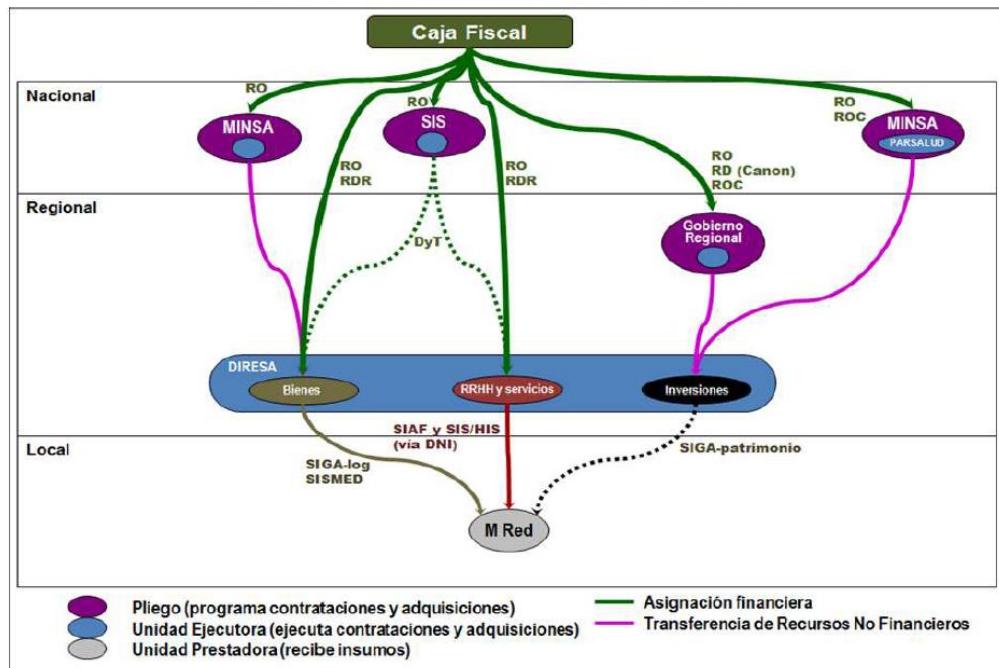
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<sup>96</sup> <http://miquiosco.com/ver/164462-hacia-direccion-correcta-angus-laurie-noticia-1930894>

historical budget, PpR, and SIS) compete with each other in that they provide contradictory incentives that do not permit efficient assignment and execution of funds.

Figure 56: Peru's complex and fragmented system of health financing and spending responsibilities

Figura N° 4 - Flujo financiero y de recursos en el sector salud, según tipo de financiamiento y de recursos, respectivamente



Source: Ricse Cataño, Carlos (2016).

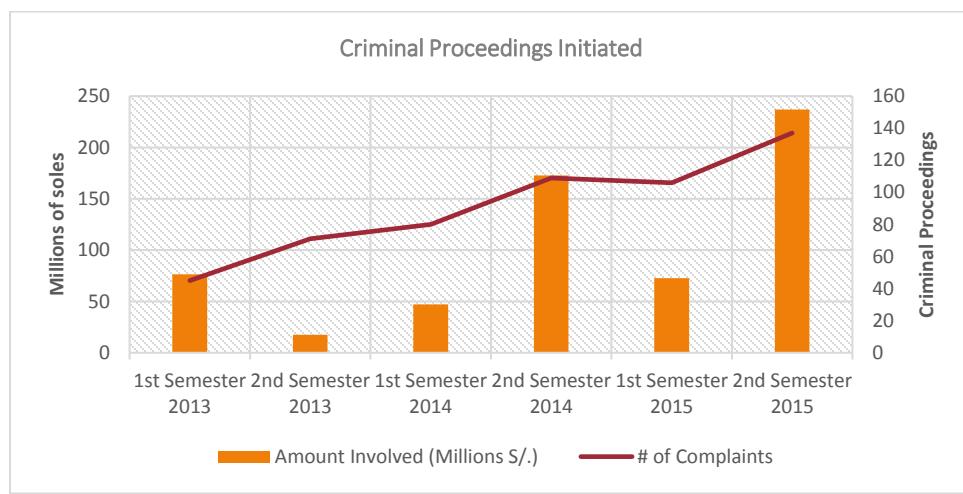
**167. Some of the public sector's inefficiency can be attributed to a lack of incentives and the low capacity of civil servants.** As in most other countries in the LAC region, the civil servants' regime provides high levels of job security and relatively few merit-based incentives. In Peru, 82 percent of public servants belong to the standard civil servants' regime, where wage increases depend mostly on seniority, and administrative processes to dismiss workers are extremely cumbersome. The 2013 Civil Service Law (SERVIR) seeks to bring more merit-based compensation and to provide more attractive career paths to professionals. However, it only applies to central government entities (not to local governments where human capital deficits are much larger). And while temporary service contracts have become increasingly popular and have improved the capacity in some sectors, the recent ruling by the Supreme Court that all public sector entities have to adhere to SERVIR may limit the ability of sectors to hire temporary workers, and also create risks that highly technical institutions like the BCRP will lose many of their highly qualified workers.

**168. A civil service reform strengthening meritocratic principles at all levels of government can help increase the public sector capacity and thus raise the public sector**

**efficiency.** Such a reform will need to take into account the significant differences in capacity within government bodies. The strengthening of meritocratic principles in the civil service would have the largest impact on public sector efficiency if it is combined with improvements in inter- and intra-sectoral coordination across government bodies.

**169. An excess of zeal in necessary control processes limits public servants' ability to work effectively.** There is a fine line between the need to have some control and accountability processes within the bureaucracy and the burden that these may impose for the public sector to act in a flexible, timely manner to bring services and resolve problems. For instance, investigations by the Comptroller's Office of the Republic (*Contraloría General de la República*) from 2013-15 led to more than 500 criminal proceedings on collusion, inconsistent negotiation, and embezzlement (Figure 57).<sup>97</sup> At the same time, there are reports that excessive controls have made public workers overly formalistic, leading to inaction, and a lack of initiative within the public administration.<sup>98</sup>

Figure 57: Higher control has detected more irregularities



Source: Comptroller's Office

**170. The low representation of national parties in local governments weakens checks and balances at the local level.** A distractive feature of Peruvian politics is the large political fragmentation at the national level and especially at the local level. There are over 15 national parties represented in Congress. However, not many of these parties have elected officials in regional, provincial, or district governments (Table 2), which are instead held by small regional political movements. This divorce between the organization of politics at the national and local levels undermines civil society's ability to hold these local movements accountable for their actions, and provides few incentives for national governments to push for a larger presence in local politics, reinforcing a sense of low transparency and accountability in the political system.

<sup>97</sup> (La Contraloría General De La República, 2013-2015)

<sup>98</sup> (Abusada, Cusato, & Pastor, 2008).

Table 2: There is little presence of national parties in local governments

NATIONAL PARTIES	REGIONAL GOVERNMENT	PROVINCIAL GOVERNMENT	DISTRICT GOVERNMENT
ACCIÓN POPULAR		4	54
SOLIDARIDAD NACIONAL		2	25
ALIANZA PARA EL PROGRESO	2	18 + 6 (Alliances)	113 + 57 (Alliances)
ALIANZA POPULAR		3	42 + 20 (Alliances)
DEMOCRACIA DIRECTA			14
FRENTE AMPLIO			2
FUERZA POPULAR	3	4	74
PARTIDO HUMANISTA		1	9
PARTIDO NACIONALISTA		4	36
ORDEN			
PERUANOS POR EL KAMBIO			
PERÚ PATRIA SEGURA			4
PERÚ POSIBLE		1	13
PROGRESO Y OBRAS			
SIEMPRE UNIDOS		3	19
TODOS POR EL PERÚ			
<b>TOTAL</b>	<b>5</b>	<b>46</b>	<b>482</b>
# OF LOCAL GOVERNMENTS	25	196	1,853

171. A recent public-private sector initiative, the *mesas técnicas*, provides a positive example that bringing together all stakeholders can help address failures in government coordination. The *mesas técnicas* are simple roundtables that bring together private sector and central and subnational government representatives. They have helped to resolve some simple policy coordination issues that, for instance, have held back investments in the agricultural and logistics sectors. As an example, this simple exchange of information between private sector and municipal government representatives has helped cut the long waiting times for trucks to access Peru's main port in Callao; the discussions revealed that the excessive road traffic had been partly caused by the lack of coordinated traffic lights on the major roads leading to the port. So far, the policy coordination failures that these roundtables have helped resolve are *low hanging fruits*. However, the initiative might serve as a good example to solve also more serious government coordination failures and to better align the incentives of all stakeholders. Another positive example of more effective coordination among public enterprises, regional governments, and line ministries is the rural electrification program (Box 7).

#### Box 7: The rural electrification program experience

The rural electrification program has had important impacts in improving service delivery in remote rural areas. By the end of the FONER II project it will have benefited more than 580,000 people and supported more than 20,000 SMEs to increase their productivity by using electricity in their value chains. Ultimately, this helps the rural electrification systems (SERs) become more financially viable and distribution companies increase consumption and load management.

The FONER Project provides a subsidy towards the initial investment costs and then the distribution companies compete for that subsidy. Those companies that require less subsidies and have a better economic performance

receive the benefits. The first project (FONER I) was closed in 2013; the second project is currently underway and should be completed by February 2017.

Overall, the project has been successful with many lessons learned, including the crucial role of coordination across several institutions: the Ministry of Energy and Mining (MEM), the distribution companies (DISTRILUZ and ADINELSA), the National Fund for Financing Government Enterprise Activity (FONAFE), the Ministry of Economy and Finance's National System for Public Investment (SNIP), and coordination with the provincial and municipal governments. The Project has invested in more than 90 SERs, both for grid extension and PV systems, all of which have received SNIP approval in order to be able to bid out the projects.

Although during FONER I the economic approval process took considerable time (approximately ten to twelve months), with FONER II this process on average takes four months. An important issue that delays the SNIP approval process is the duplication of SERs that occur. Given the time to prepare the SER's technical profile and review it by SNIP, often local governments use their own funds to move forward with implementing the SERs (local governments do not require SNIP approval for projects under US\$5 million and have their own financing due to resources mostly coming from the *canon minero*). Some lessons learned include: (i) involving SNIP from the beginning of the identification process to ensure they are familiar with the project and understand the local government's urgency to deliver to their constituents; (ii) a close coordination between the Project Implementation Unit (PIU), the distribution company, and SNIP sector officer to ensure any input from SNIP is dealt with in a timely fashion; (iii) the PIU having a constant dialogue with the local government to manage the timing expectations of the local government (and whenever possible include site visits with SNIP sector officers to help them understand the expectations and urgency of completing the review process); and (iii) using real-time GIS platforms to help verify user information and duplication of PV systems in a very short time frame, and without needing to visit the field for verification purposes.

An interesting work being developed by the regulator (Organismo Supervisor de la Inversión en Energía y Minería; OSINERGMIN) in coordination with the MEM is a GIS-based management rural electrification planning tool. The MAPA ENERGETICO consolidates all information regarding the SER, helps identify the vulnerable population with respect to energy gaps, and helps establish the technical, social, and geographical viability of the SER. This tool will consolidate all the information from existing SERs, and any forthcoming SER will be required to send the information to the MAPA ENERGETICO, which in turn will assess its viability to avoid duplication and overlap. This is interesting proposal could be replicated in other sectors that face a similar situation.

### ***Enforcement of laws is weak, and leads to lack of transparency and trust***

172. **Despite some progress in recent years, the institutional capacity to generate trust and strengthen the rule of law remains weak.** Overall, citizens' perceptions of transparency and efficiency in the Government are among the most pessimistic in LAC. Compared to other countries in Latin America, Peruvians have the lowest trust in their judicial system, the national congress, and municipal governments (LAPOP, 2014).<sup>99</sup> Moreover, the increase in criminal activity, and the mixed results of the government's policies to reduce it, has put crime, corruption, and unemployment at the top of Peruvians' main concerns (Latinobarómetro, 2015). The weakness of central government institutions to enforce the law in an efficient and equitable manner, combined with the low coordination and planning with local governments, leads to increasing public

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<sup>99</sup> Brazil, Chile, Colombia, Costa Rica, Ecuador, Mexico and Panama.

frustration over the quality of services provided by the Government and its lack of transparency (especially at the local level).

**173. Peru's enforcement of regulations and the rule of law ranks below the LAC regional average.** The 2015 World Justice Project Survey shows that the enforcement of regulation is still lagging in Peru (Figure 58). In particular, enforcement of the rule of law is only about the average across all countries in Latin America.

Figure 58: Peru's enforcement of regulations and the rule of law ranks below the regional average



Source: World Justice Project Survey, 2015.

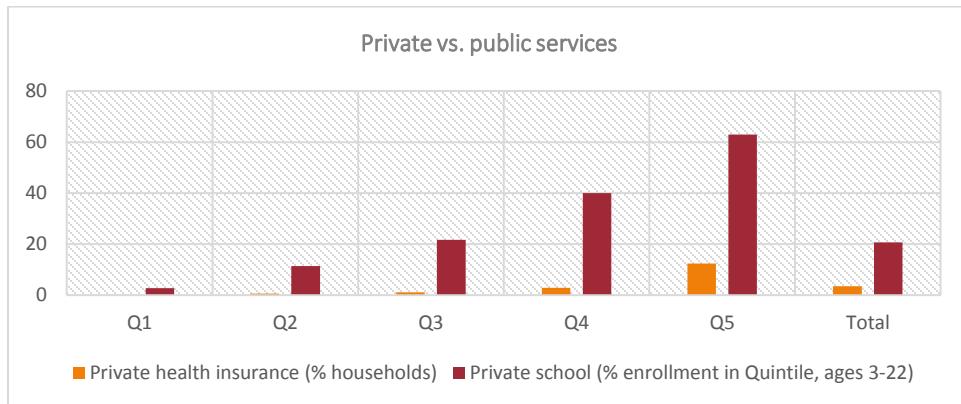
**174. Enforcement of the regulatory framework to control corruption is weak in many of Peru's Regions.** The implementation gap between regulatory frameworks to control corruption and the implementation of the corresponding regulations is large in many of Peru's Regions. Peru's implementation gap is about the same as the average for all Latin American countries for which data is available.<sup>100</sup> But Peru's national average conceals large variations across subnational jurisdictions, where in many cases enforcement of the regulatory framework to control corruption appears to be lagging.

**175. The social contract in Peru is relatively weak.** As discussed previously, tax revenue collection and social spending in Peru are lower than in most other LAC countries, and well below OECD standards. Even where social spending is generally progressive—on social programs, in particular—and make a large difference in the well-being of their beneficiaries, their aggregate effects on overall poverty tend to be limited. As to other services such as infrastructure, public transportation, and so forth, the low quality of the services generates few incentives for people to pay for them. Moreover, the large informal sector contributes to the widespread perception of a divide between those who pay and those who benefit.

<sup>100</sup> The Global Integrity Indicators (2012) measure the implementation gap between the legal, regulatory framework to control corruption and the implementation of the corresponding regulations.

176. **However, as in other middle-income economies, the population expects more from the State.** The improvements in connectivity and education, and the increasing amount of information on the quality of public services (for instance, reflected in students' test scores) have contributed to a public that is more vocal about their concerns and aspirations. Also, as economies become more complex, they rely on better infrastructure, property rights, and law enforcement to be able to function. The risk when the state cannot provide quality services to the people is a growing desire to opt out of public services, and to leave public services for those who cannot afford private ones (whatever their quality), which further undermines incentives to contribute to the state by paying taxes (Figure 59).

**Figure 59: As incomes increase, households opt out of public services**



Source: ENAHO.

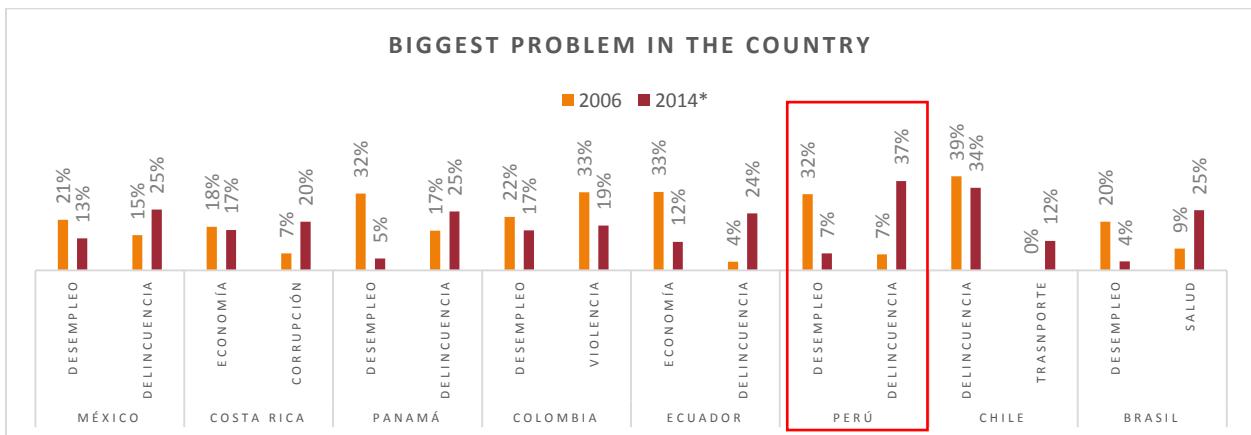
*Issues related to security and illegal activities are on the rise, and despite some progress, further strengthening of the judiciary system to address these is needed*

177. **Citizen security has worsened significantly, making it the main concern for Peruvians.** As crime incidence has increased in recent years, people's concerns have shifted dramatically from unemployment towards the lack of security (Figure 60). Peruvian authorities have also become more concerned about the country's increasing crime rate, and have implemented drastic measures, including states of emergency in certain high-crime Regions such as Callao and certain provinces in Ancash. Nevertheless, reports of crimes continue to rise, including widespread extortion from construction companies, local businesses, and even private schools.

178. **Coca production continues to be an important part of the economy in many Regions.** Despite decades of eradication efforts, Peru's illegal drug industry is still large, especially in the central and southern Selva regions. Peru is the second largest producer of coca leaves and other coca products, after Colombia. According to the UNODC's Report on Coca Monitoring, the extension of coca growing fields decreased from about 50,000 hectares in 2005 to about 43,000

hectares in 2014 (Figure 61). But overall, the change from the early 2000s is small. Most of the production is directed toward Brazilian and European markets, earning Peru's network of organized crime well over US\$1 billion annually (Figure 62). Brazil, the world's second-biggest market, absorbs much of Peru's drug production. This suggests that coca eradication policies have not delivered expected results, and that the dynamics of the drug trade have changed.

Figure 60: Security, not unemployment, became the main concern



Source: LAPOP Americas Barometer, Vanderbilt University (2006-2014). Note: Data for Chile and Ecuador correspond to 2008 and 2012.

Figure 61: Coca cultivated surface, 2000-14

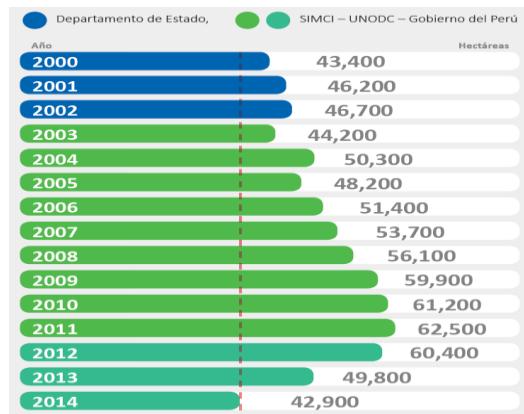
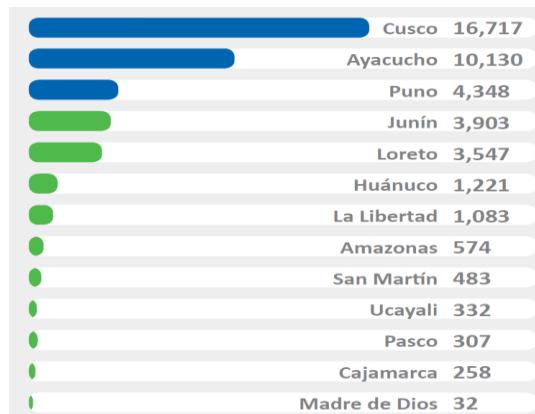


Figure 62: Coca cultivated surface by region, 2014

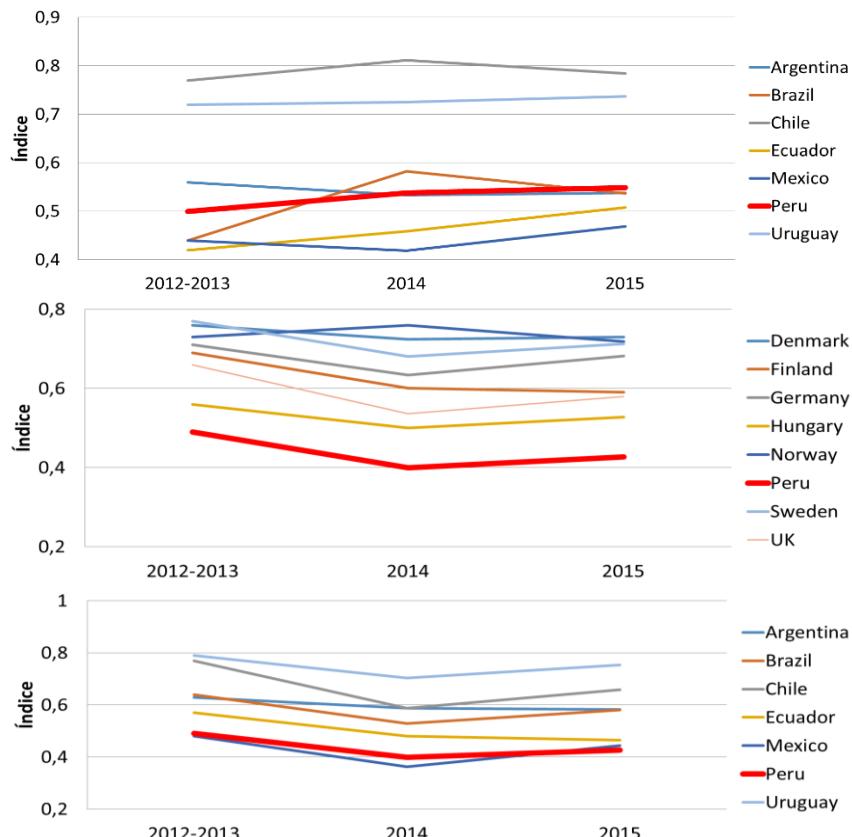


Source: UNODC (2015).

179. At the same time, the judiciary's response to illegal activities is perceived as insufficient, inequitable, and ineffective. The perception that organized crime is growing rapidly and engulfing even elected officials, the police, and other public servants in the process continues to grow (Figure 63). For instance, past and current administrations have been able to prosecute only a fraction of known drug traffickers, and hundreds have been pardoned. This perception of inefficiency is reflected in the low evaluation of criminal activity control, from the presence of the police force—there are only 124,000 police officers nationwide—one for every 240 inhabitants—to the work of the judiciary. The Public Ministry has a budget shortfall of S/.500 million

(approximately US\$156 million) to investigate organized crime—in particular extortion rings, which are proliferating in urban areas.<sup>101</sup>

**Figure 63: Crime control is not perceived to be effective, affordable, or accessible**



Source: Rule of Law Index. Note: Percentage of population that agrees crime is controlled effectively (first graph), affordable (second graph), and accessible (third graph).

180. **Another source of criticism is the slow response of the judiciary to public sector corruption.** According to the former Comptroller of the Republic, the time elapsed between acts of corruption committed by public officials and their sentencing is excessive—over 8 years—and this is one of the main factors behind the endemic corruption in the public sector.<sup>102</sup> One of the biggest problems with the current anticorruption system is that it is not meant to be preventive, but to sanction wrongdoing. Therefore, it does not anticipate possible crimes, or attempt to counteract them by identifying loopholes and institutional flaws. Thus, the negative perception of the judicial

<sup>101</sup> See <http://elcomercio.pe/peru/pais/se-necesitan-s500-millones-combatir-crimen-organizado-noticia-1889979>  
[http://elcomercio.pe/politica/justicia/pablo-sanchez-no-contamos-presupuesto-que-requerimos-noticia-1846407?ref=flujo\\_tags\\_516648&ft=nota\\_3&e=titulo?ref=nota\\_politica&ft=mod\\_leatambien&e=titulo](http://elcomercio.pe/politica/justicia/pablo-sanchez-no-contamos-presupuesto-que-requerimos-noticia-1846407?ref=flujo_tags_516648&ft=nota_3&e=titulo?ref=nota_politica&ft=mod_leatambien&e=titulo)

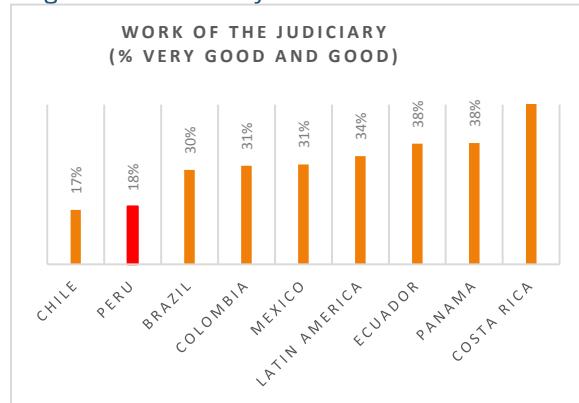
<sup>102</sup> [http://elcomercio.pe/politica/actualidad/contraloria-siempre-aqui-y-china-va-llegar-tarde-noticia-1901817?ref=flujo\\_tags\\_23469&ft=nota\\_1&e=titulo#comentarios](http://elcomercio.pe/politica/actualidad/contraloria-siempre-aqui-y-china-va-llegar-tarde-noticia-1901817?ref=flujo_tags_23469&ft=nota_1&e=titulo#comentarios)

system's effectiveness is widespread among the population. Only 21 percent of citizens trust the system (Figure 64) and just 18 percent view it as effective (Figure 65).<sup>103</sup>

**Figure 64: Confidence in judicial system is low**



**Figure 65: Judicial system is seen as ineffective**



Source: Latinobarómetro, 2015.

**181. While much remains to be done to improve the judiciary, there are some noticeable improvements.** Since 2006, when the new criminal procedure code enacted in 2004 came into implementation, there has been progress in the Government's ability to fight crimes and to provide expeditious justice services. As a result of the 2004 reforms, the Public Ministry's prosecutor's office is now responsible for overseeing the investigation of alleged crimes and prosecuting them. The judiciary has improved its processes of selection and performance evaluation of judiciary staff by focusing on merit-based selection and regular evaluations. The judiciary's anticorruption office was strengthened, and an anticorruption unit was created within the Public Ministry. Additionally, several initiatives to increase access to judicial services have been implemented, including providing free legal aid in different Regions, and promoting the strengthening of regional courts. Judicial processes also have been simplified and shortened. However, nearly a decade after enactment, the new criminal procedure code's implementation is pending in the major districts of Lima and Callao, which account for about 40 percent of the population and an estimated 60 to 70 percent of total justice demands in the country.

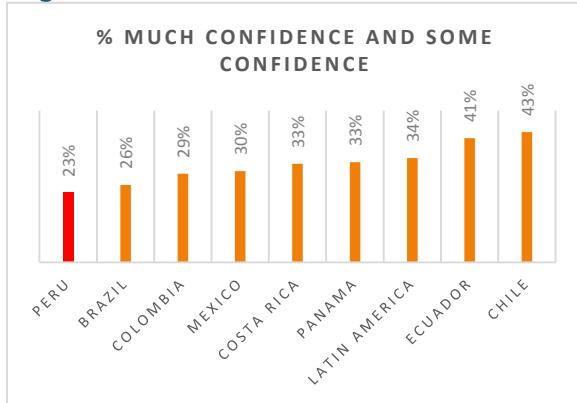
#### *Citizens express low levels of trust in their government*

**182. In part because weaknesses in the political and judicial systems, the Government receives a low level of trust from its citizens.** A complex combination of forces, including difficult historical chapters, such as the economic meltdown and the terrorist movements of the 1980s and 1990s, combined with persistent institutional weaknesses such as those described above, have debilitated the country's social fabric. As a result, Peruvians today have a low level of trust in their government (Figure 66, Figure 67) and do not believe it conducts its business with

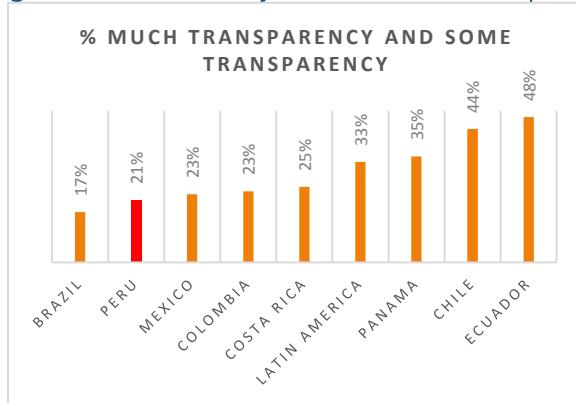
<sup>103</sup> Latinobarómetro, (2015)

transparency (Figure 67). This explains in part why, despite a period of high and sustained growth by all standards, the popularity of outgoing administrations has been consistently low in the 21st century.

**Figure 66: Peruvians have low trust in the state**



**Figure 67: Peruvians say the state is not transparent**



Source: Latinobarómetro, 2015.

**183. Trust in democratic institutions also is low.** At the national and local levels people have low trust in their elected officials. Their trust levels in Congress (Figure 68), and municipal governments (Figure 69), have fallen since 2006 to the lowest level of eight LAC countries. Moreover, among citizens served in regional governments for regular procedures, 80 percent believe that officials lack integrity, and 52 percent of citizens who were asked for a bribe agreed to pay it.<sup>104</sup> This is not surprising, as corruption investigations in local governments abound. In 2016, there are at least 10 Regions where one or more regional presidents are under investigation.

**184. Another manifestation of the low trust between the citizens and the State is the permanent social conflict surrounding extractive projects.** The lack of state presence in many rural areas creates frustration and generates unrealistic expectations in relation to extractive activities. In addition, the design of the Canon transfers, which benefit extractive districts disproportionately, creates large inequities compared with districts that are not within the extractive areas, but that may be affected by the environmental consequences of the activity. To add to the social tensions, the inequities in income that extractives generate create a deep sense of frustration, often ending in social conflicts that seek to block extractive projects, although some progress has been made in managing these conflicts (Box 5).

<sup>104</sup> Among those surveyed, 5 percent reported being asked for a bribe. CAD (2013).

Figure 68: Trust in national Congress

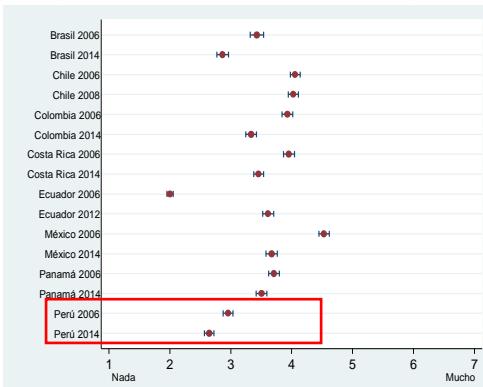
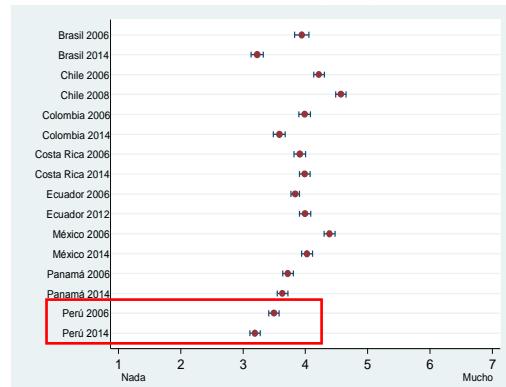


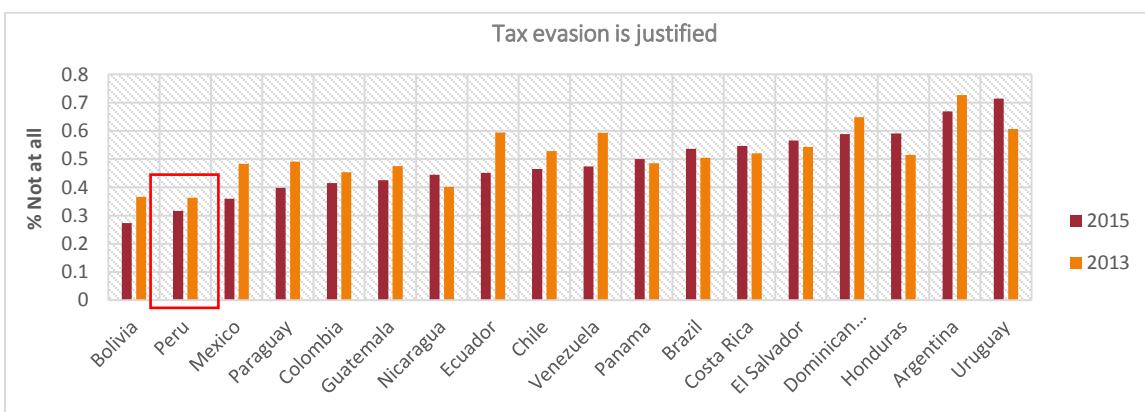
Figure 69: Trust in municipal government



Source: LAPOP, Vanderbilt University, Americas Barometer (2006-14).

185. **Finally, as a result of the low trust in the State, citizens' compliance weakens.** As the state is increasingly perceived as ineffective in equitably providing basic services, which is at the core of its mandate, people also distance themselves from their own responsibilities as citizens. For instance, they may believe that violating certain regulations is justified when they see neither their benefit, nor the consequence, of such violations. This attitude is captured in what is known as tax morale—the belief that paying taxes is a duty of all citizens. In Peru, the low percentage of people who believe that tax evasion is unjustified—the lowest in LAC after Bolivia—reflects a low tax morale among Peruvians (Figure 70).

Figure 70: Few people think that tax evasion is never justified



Source: Latinobarometro.

## 5. Defining Priority Areas for Action

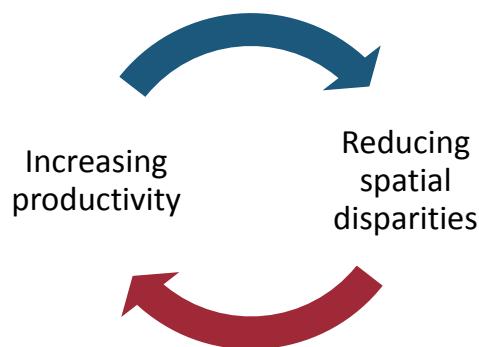
*This section proposes a process to identify and prioritize the key constraints to achieving the two main goals for further poverty reduction and shared prosperity: to reduce spatial disparities and to raise productivity. Through this prioritization exercise, the SCD identifies a number of micro-structural constraints, which include raising human capital, increasing infrastructure and the quality of public services, and reducing market rigidities. At the same time, the SCD finds it crucial to ensure that supporting conditions are met to ensure the sustainability of the growth model, by strengthening environmental risk management, government coordination and the rule of law, and ensuring fiscal space to increase government spending.*

**186. After a decade of important social progress, new conditions, and new challenges have emerged for Peru.** As Sections 2 and 3 discuss, a strong growth performance sustained by macroeconomic reforms and favorable exogenous conditions, particularly high commodity prices, translated into a remarkable decade of social progress. During this time, historically excluded populations, mostly in rural areas, were reached by the State with basic services, infrastructure, and social programs for the poorest and most vulnerable. At the same time, a dynamic—though mostly informal—labor market generated better job opportunities for the bottom 40 percent, and thus a quarter of the Peruvian population left poverty as the result of higher incomes and assets. However, current conditions are different: lower commodity prices, higher volatility in global financial markets, and fewer high-return investment opportunities reduce the investment outlook and thereby the economic growth prospects. At the same time, for unskilled labor the wage gap between agriculture and other sectors, such as construction, transport, and commerce has almost disappeared, which implies that income gains from labor reallocation between sectors are no longer possible.

**187. In this new environment, continued poverty reduction and improvements in shared prosperity are constrained by high spatial disparities in development and the low productivity of the private sector.** The analysis presented so far strongly suggests that poverty reduction and shared prosperity rely to a large extent—though not exclusively—on growing labor incomes. In this sense, disparities in human development exclude certain population groups, in particular the rural population, but also indigenous and Afro-Peruvians, from access to better income opportunities that can eventually support their transition out of poverty and vulnerability and towards the middle class. Moreover, disparities in access to basic services and infrastructure, in particular connectivity, reinforce the exclusion factor by isolating communities and reducing their access to labor opportunities and markets. At the same time, a low overall productivity in the formal sector hinders growth opportunities for firms, in turn reducing their potential to generate jobs.

188. **Improving one of these key outcomes is likely to generate progress in the other outcome as well.** This is illustrated in Figure 71. For instance, raising the quality of education and closing existing gaps, will increase the ability of the future labor force to perform higher skilled jobs, which in turn improves the overall productivity of firms. Likewise, increasing overall productivity—for instance, by fostering competition at the local level—increases firm growth and job creation, widening the range of opportunities for workers.

Figure 71: Progress in one key outcome reinforces the other



189. **However, improving these outcomes through sector reforms may not be sustainable in the long term if additional, cross cutting constraints are not addressed.** As Section 4 argues, the Peruvian economy's high dependence on natural resources implies that to ensure the sustainability of growth, natural resources need to be better managed to avoid harmful environmental costs, in particular related to extractive and agricultural activities, and a growing “grey” agenda related to urbanization needs to be addressed. At the same time, inefficient institutional arrangements, an unfinished decentralization process, and low capacity in many government institutions, have undermined the Government’s ability to design and implement policies in a coordinated and efficient manner, and have misaligned incentives to cooperate across levels of government. Moreover, the rule of law has been debilitated by a weak and inefficient judiciary, and low levels of law enforcement. As a result, trust in government institutions is remarkably low, despite the recent economic and social progress. Finally, public spending inefficiencies and the current tax structure pose serious challenges to ensure that spending levels can increase according to the needs for improving both the coverage and the quality of services in the future.

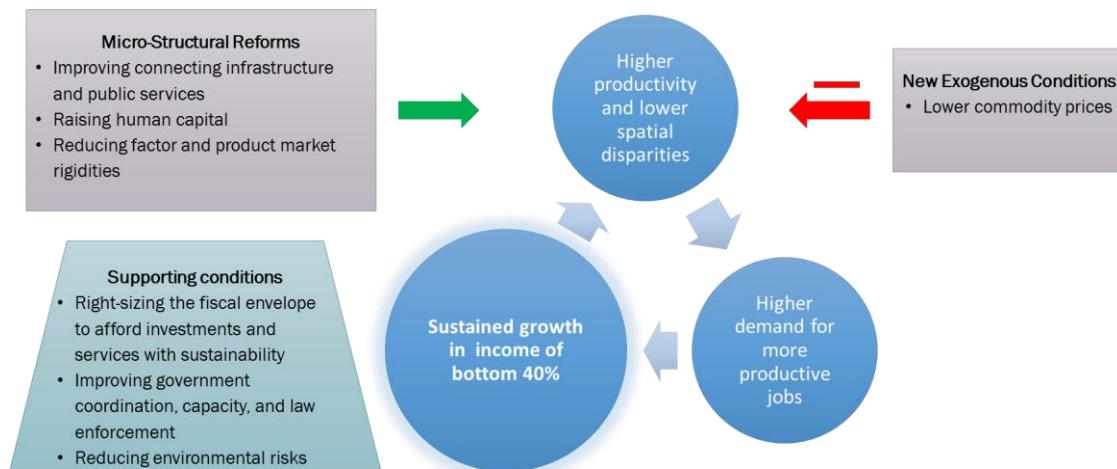
## Applying prioritization criteria

190. **One of the goals of the SCD is to identify the priority constraints that will allow progress in these key outcomes.** This Section conducts an in-depth analysis of the key policy and operational constraints that constitute bottlenecks to reduce spatial disparities and increase productivity. To identify these key constraints, the SCD conducted a careful analysis of the different policy challenges that Peru faces, and applied three basic criteria to determine whether a particular constraint could be defined as “priority”:

- first, resolving a priority constraint should significantly improve one or both key outcomes;
- second, resolving a priority constraint should present synergies to achieve both key outcomes; and
- third, resolving a priority constraint should support the sustainability of both key outcomes.

**These selection criteria were then applied in several countrywide team sessions to analyze and converge towards a set of policy challenges that met at least one criterion.** As Figure 3 illustrates, through this process, the SCD identifies three priority areas where reforms could directly reduce disparities in development and increase productivity and three additional areas where reforms would support the sustainability of any improvements to the key outcomes. All together, these six key areas constitute the priority areas for reform. Each one of these areas, in turn, presents particular constraints, that are analyzed in further detail in terms of how they fit the selection criteria for prioritization.

Figure 3: A new generation of structural reforms to address Peru’s specific structural challenges



191. **Most priority areas are closely connected.** Raising human capital, improving connecting infrastructure and public service provision, and reducing factor and product market rigidities has a joint effect on both key outcomes, albeit to different extents (Figure 3). This confirms the fact that improvements in both outcomes reinforce each other, and that these priority areas present important synergies. At the same time, the supporting conditions are crucial to ensure the sustainability of progress in both outcomes. Among these conditions, one stands out: the need to improve government coordination, capacity, and law enforcement. Indeed, this is a crucial crosscutting area that has both direct and indirect impacts on the key outcomes and on their sustainability, and is crucial for all other reforms to achieve any results. The following subsections describe in detail the particular bottlenecks identified in each priority area, and how they are related to the prioritization criteria.

**Table 3: Priority areas and key bottlenecks according to prioritization criteria**

Priority Areas	Key Bottlenecks	Prioritization criteria			
		Reduces disparities	Increases productivity	P resent synergies to achieve outcomes	Support the sustainability of outcomes
Improving connecting infrastructure and public services	Large gaps in access to <b>water and sanitation</b>	✓		✓	✓
	Lack of urban planning and <b>cadastral</b>	✓		✓	✓
	Large gaps in connecting <b>infrastructure</b>	✓	✓	✓	
Raising human capital	Fragmented coverage and quality of services in <b>health</b>	✓	✓	✓	
	Low quality of services in <b>education</b>	✓	✓	✓	
	Inefficiencies across <b>social services</b>	✓	✓		
Reducing factor and product market rigidities	Labor and tax regulations that hamper productivity and <b>formalization</b>	✓	✓		
	Regulatory barriers to competition (at the subnational level) that hamper productivity and <b>formalization</b>		✓	✓	
Right-sizing the fiscal envelope	Low <b>efficiency of public spending</b>			✓	✓
	Low <b>tax revenues</b>			✓	✓
	Unfinished <b>decentralization process</b>			✓	✓
Improving government coordination, capacity, and law enforcement	Weak enforcement of the rule of law in the <b>justice</b> system			✓	✓
	Weak <b>enforcement of regulations</b>			✓	✓
	Low level of government coordination and <b>red tape</b>	✓	✓	✓	✓
	Low levels of trust and social capital ( <b>citizen-government</b> )			✓	✓
Reducing environmental risks	High exposure to <b>climatic risks and natural hazards</b>			✓	✓
	Reactive and loosely coordinated <b>natural resources management</b>			✓	✓

## Improving connecting infrastructure and public services

### *Large gaps in access to water and sanitation increase spatial disparities in development*

**192. Peru is a water-abundant country as a whole, but its Pacific region is under increasing water stress.** Peru ranks amongst the 17 best-endowed countries with water resources, which account for about 4.7 percent of the world's annual renewable water resources. However, it is currently also among the top 30 countries that suffer from chronic water stress and scarcity. Nationally, the average water volume per person is 20,072 cubic meters per year, almost twice the world average (10,800 cubic meters per year). But on the Pacific side, where most people live, it is only 2,027 cubic meters per year. This is also where the main economic activities with high use of water are located, and it is the most irrigated area in Peru.<sup>105</sup> Moreover, in the last 35 years, Peruvian glacier surface fell by 22 percent and it is estimated that by 2020 all the glacier surface under 5,000 meters will disappear.

**193. Despite high public investment in water and sanitation infrastructure, coordination and management challenges cause Peru to lag behind in coverage.** Public investment in water and sanitation has almost tripled over the last 10 years, and it has averaged 0.8 percent of GDP per year in the last five years (Figure 72). This is a much higher share than in other LAC countries. Still, Peru is behind regional and structural peers in coverage of both improved water and improved sanitation, even in urban areas.<sup>106</sup> The lack of coordinated planning and management in the sector results in excessive investment rather than maintenance spending, little consideration for the financial sustainability of operations, a focus on large urban municipalities with higher capacity, and a fragmentation of investments. As a result, water provision enterprises (EPS) incur important water losses of about 40 percent, much higher than in developed countries—estimated at 15 to 20 percent—and below the level attained in the best-performing utilities in developing countries—estimated at 20 to 25 percent (Section 4.3).

**194. Agricultural irrigation contributes to the large water losses.** Agriculture consumes about 88 percent of Peru's total water, but it has a low efficiency of 35 percent (that is, it loses 65 percent of the water it consumes). This is because most irrigation is done by inundation, which is subject to substantial evaporation. In addition, on the Costa (where 70 percent of the irrigation infrastructure is located) many crops are very water-intensive (such as rice, sugar cane, asparagus, etc.). A negative effect of the low efficiency in water use is the increase in waterlogging and salinization due to poor maintenance of drainage networks and irrigation management.<sup>107</sup> This affects a third of the irrigated area (300,000 ha), and it reaches 40 percent on the Costa. As a result, agricultural productivity is reduced, and the sustainability of agriculture is at risk. The Sierra

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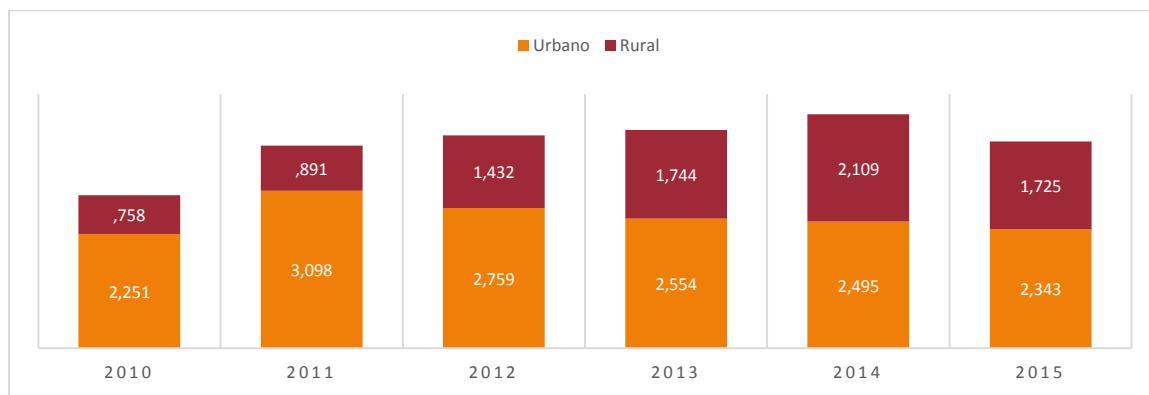
<sup>105</sup> Main economic activities with high use of water: Agriculture, Mining, Fishing and Industries in general

<sup>106</sup> World Bank (2016, forthcoming) Public Expenditure Review.

<sup>107</sup> (Larsen, Magne, & Strukova, 2013).

region has about 400,000 cultivated hectares, and around 30 percent have irrigation systems with reduced extension, no regulation and rudimentary structures, which further reduce efficiency. Overall, it is estimated that if the soil degradation that is taking place today continues at the same rate, by 2100, almost two-thirds of the Peruvian territory (essentially the Costa and Sierra) will be affected by soil degradation and desertification.

**Figure 72: Annual investment in water and sanitation by urban and rural**



Source: World Bank (2016). Note: in millions of Soles.

### ***Lack of urban planning and cadasters limit services and property rights***

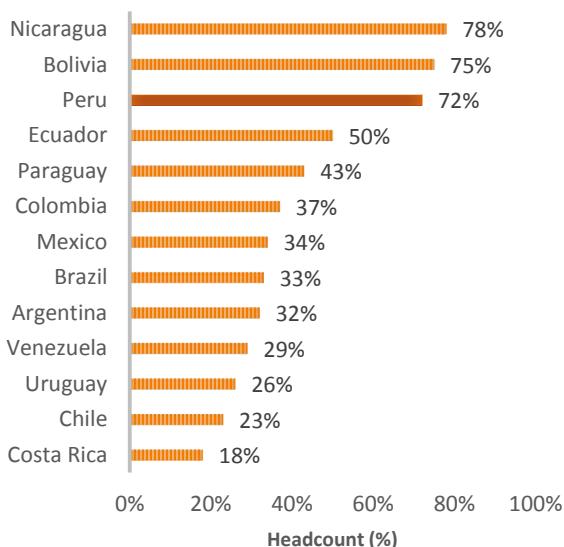
195. **Planning is another essential instrument for local service provision but capacity for urban and land use planning is often weak, even in large cities.** Less than 20 percent of municipalities have updated planning instruments and, as a consequence, local authorities have very little influence over urban expansion (World Bank, 2016a). The main reasons for this include lack of awareness about the importance of planning, lack of funding to update planning instruments, and vulnerability to political cycles (the duration of planning policies and even licenses and permits are highly dependent on elected officials).

196. **Despite their importance for investments, tax collection, urban planning, and services, only 8 of more than 1,800 municipalities hold comprehensive and up-to-date cadasters.** The other municipalities have either few or non-existing cadastral information and low capacity to manage them. To guarantee property rights, prices and information on land use and ownership must be signaled transparently and consistently. Without reliable information on key property aspects such as ownership, tenure, boundaries and use, policymakers and private investors are left to take decisions under substantial uncertainty, reducing the scope for productive investments. In most OECD countries, this information is regularly collected and maintained through strong cadaster systems. In Peru, urban cadasters are decentralized: according to the municipal law, cadasters are an exclusive competence of municipalities. Cusco is a good example for establishing local capacity for a well-functioning cadaster; it has equipment, tools, and qualified staff but also still lacks a quality assurance system, which provides a mechanism to keep

political cycles from affecting the maintenance and updating of cadasters. Other cities like Chiclayo and Piura, despite large populations, still have very limited capabilities and missing links between their cadastral and registration or tax systems.

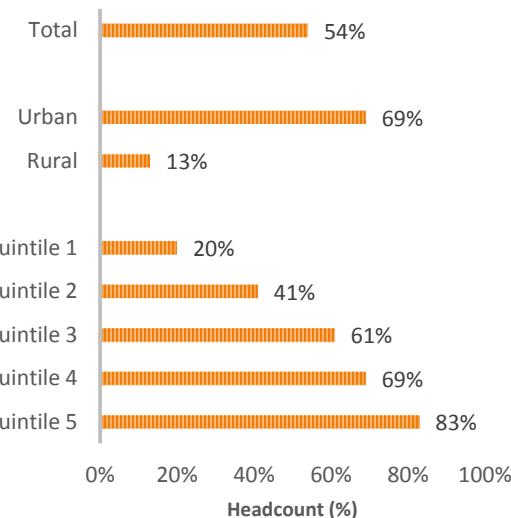
**197. The unplanned, rapid urbanization has generated a large housing deficit.** The growth of cities in the second half of the 20<sup>th</sup> century was not met with a proactive State response of urban planning to manage the flow of newcomers and provide services for them. The paucity of affordable housing for low-income segments contributed to the housing deficit: 45 percent of households cannot afford a formal housing unit. As a result, migrants established informal settlements, procured basic services on their own account, and cities grew haphazardly, putting pressure on land and water resources, and expanding the cities' areas disproportionately. State service delivery often came as an acknowledgement that these settlements were already well established and would not disappear. The lack of a proactive approach to urban planning is reflected, for instance, in the absence of cadasters and other urban planning instruments. As a result, 72 percent of households live in precarious dwellings (Figure 73) and only half of them have a property title (Figure 74). The current demand for new housing is 1.3 million units.<sup>108</sup> A lack of financial instruments to determine the credit risk prevents many households from obtaining mortgage loans. More affordable housing requires stronger government coordination between urban planning, land management, service provision, and infrastructure investments.

Figure 73: Households with no or precarious housing



Source: IDB (2012)

Figure 74: Households with property title, 2015

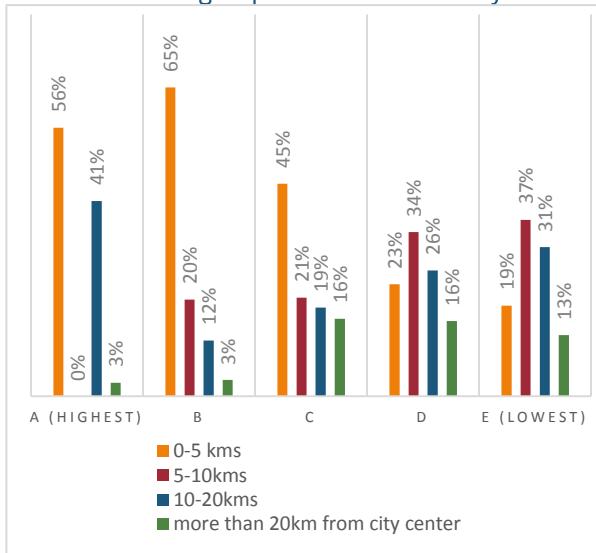


Source: INEI (2009) Quintiles; INEI (2014), total, urban/rural

<sup>108</sup> World Bank (2016).

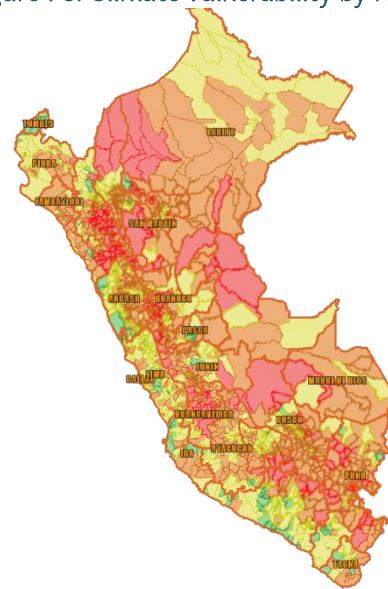
198. **The erratic housing distribution falls more heavily on the poor.** Dwellings among the population at the bottom of the income distribution are more prone to having deficiencies. Likewise, the poor population is located, on average, further away from city centers, with all the higher transportation costs this entails both for their personal life and their businesses (Figure 75). Lower access to security and justice are two more problems affecting the poor. For instance, crimes are more concentrated among poor districts in Lima. Moreover, vulnerability to natural hazards such as earthquakes or climate change is also higher among the poor (Figure 76). The most significant example are the “*friajes*” in the Sierra regions, in which poor housing conditions together with abrupt decreases in temperature have led to more than 450 deaths in 2015, where more than half were children under 5 years.

**Figure 75: Population distribution by socioeconomic group and distance to city center**



Source: World Bank (2016d)

**Figure 76: Climate vulnerability by region**



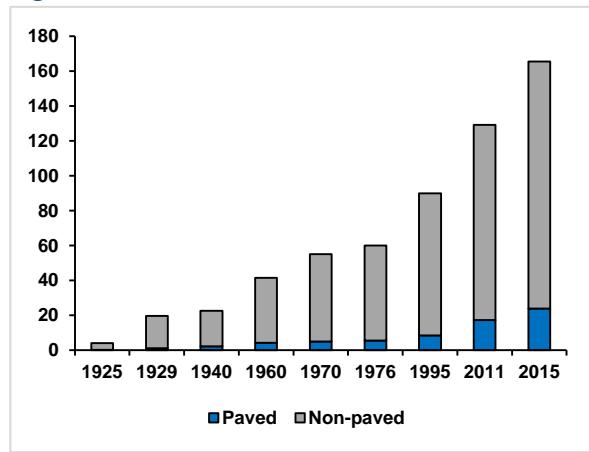
Source: INEI

#### ***Gaps in connecting infrastructure remain, constraining access to services and markets***

199. **In the past 15 years there has been a remarkable increase in rural connectivity, primarily as a result of a substantial increase in public investment.** Since 1994, rural districts started to have some important connectors with urban areas. First, the coverage and quality of roads improved substantially since 1995. The national road network increased from 90 thousand km to 165 thousand km in only 20 years, at the same time that a larger proportion of roads were paved, reaching 14 percent in 2015 compared to the 1925-1995 average of 8 percent (Figure 77). This increase in the road network has been a generalized phenomenon, allowing Regions with strong road deficits such as Huancavelica, Cusco and Apurimac to develop their connections (Table 4). Between 1999 and 2016, road infrastructure spending grew by 715 percent, going from

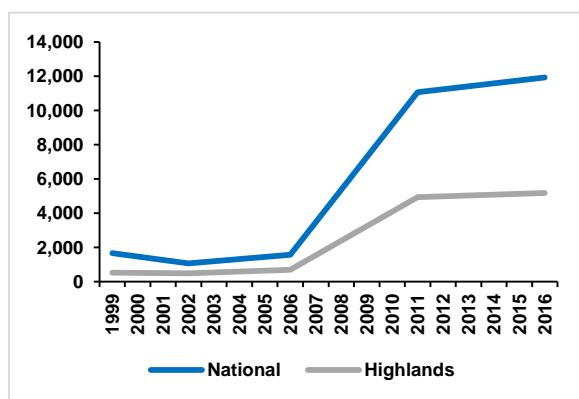
S/.1.6 billion to S/.12 billion. In addition, several programs were created to invest in rural infrastructure, including FONCODES, PROVIAS, PRONAMACHCS, and Caminos Rurales. Fiscal decentralization starting in 2001 further boosted investments in rural roads through local governments (Figure 78). As a result, the average time required to travel from a rural area district to a city has been reduced by half.<sup>122</sup>

Figure 77: Road network in Peru, 1925-2011



Source: Webb (2013)

Figure 78: Road infrastructure spending, 1999-2011



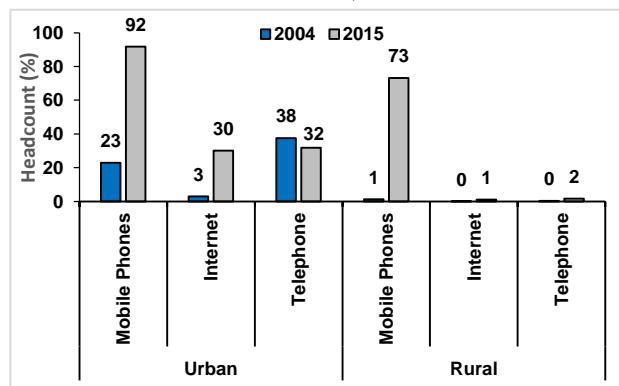
Source: Webb (2013).

Table 4: Regions with higher increase in road network (in km)

Region	2004	2014	Change (%)
Huancavelica	411	1,410	243%
Ayacucho	596	1,722	189%
Cusco	836	1,818	117%
Apurímac	559	1,157	107%
Piura	857	1,610	88%
Junín	874	1,537	76%
Huanuco	691	1,213	76%
Puno	1,258	2,017	60%

Source: Ministry of Transports and Communications.

Figure 79: Share of households with access to basic telecommunications services, 2004-2015



Source: Staff calculations based on National Household Survey.

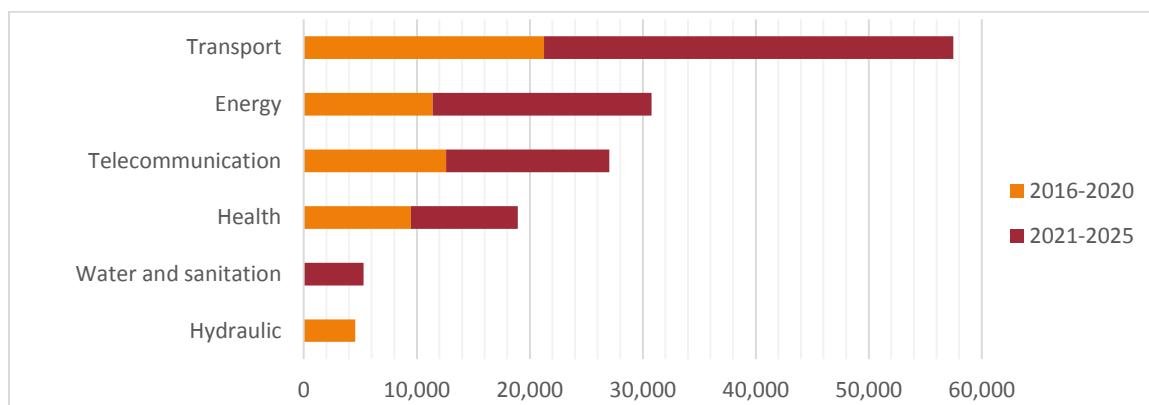
200. **The expansion of telecommunications, especially mobile phones, also increased the connectivity of rural areas.** Until 2005, only 450 out of 1,800 districts had mobile telephone coverage. Almost no rural household had access to the internet, mobile phones or telephones, compared to higher but still small urban shares of 3 percent, 23 percent and 38 percent, respectively (Figure 79). After 2005, an active government policy to expand coverage consisted of introducing clear regulations on pricing, both between carriers and from public payphones to mobile phones.

The effective reduction in charges triggered the entry of more operators and the expansion of coverage to rural areas.<sup>109</sup> The access to basic telecommunications increased dramatically through 2015 when more than 7 out of 10 rural households owned a mobile phone.

**201. This substantial increase in connectivity has significantly improving the quality of life in the rural areas.** It contributed to the growth of agricultural production—which grew 4.5 percent annually from 1994-2014—and agricultural income—which grew 6.5 percent annually compared to only 2.5 percent between 1900 and 1994.<sup>110</sup> The latter helped boosting rural incomes, which grew 7.2 percent annually in the last 15 years, significantly higher than the 1.4 percent growth between 1900 and 1994.

**202. But unleashing Peru’s full inclusive growth potential requires closing especially the still large gaps in connecting infrastructure.** The infrastructure gap has been estimated to amount to about US\$16 billion per year or 8 percent of GDP over the next 10 years (Figure 80). The largest gap has been identified in transport infrastructure, accounting for 36 percent of the total gap (3 percent of GDP), while the water and sanitation infrastructure gap is the smallest (0.6 percent of GDP).<sup>111</sup> Transport costs are high in Peru and differ greatly across cities and markets, preventing the emergence of scale economies, dividing domestic markets and services, and aggravating access to foreign markets. Higher transport costs not only hamper the profitability of exporters but also of producers and service providers for the domestic market. They lead to local market segmentation reducing economies of scale and local competition.

Figure 80: Peru's large gap in connecting infrastructure



Source: National Plan of Infrastructure 2016-2025. Note: million USD\$, 2015 exchange rate.

<sup>109</sup> See Ghezzi and Gallardo (2013).

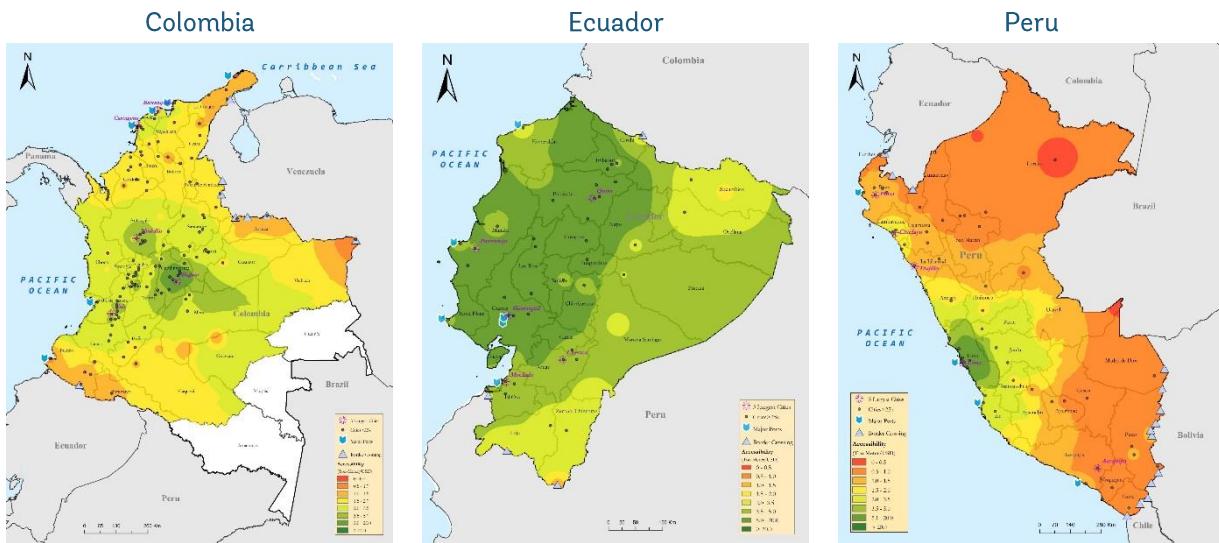
<sup>110</sup> See Webb (2013).

<sup>111</sup> Source: National Plan of Infrastructure 2016-2025. Asociación para el Fomento de la Infraestructura Nacional – Universidad del Pacífico y AFIN. October 2015. The infrastructure need for 2016-20 is based on the estimated investments required to reach the average development level of the Pacific Alliance countries in 2020.

**203. Peru is lagging in accessibility, affordability, and duration of transportation.** Transport infrastructure follows, to a certain extent, the population and urban footprint—accessibility is highest in the area with the largest population density, metropolitan Lima (Figure 81, green color). Large mines are typically also relatively well connected to ports. But markets towards the interior, south and north of the country have low accessibility (Figure 81, red color). These areas, however, have a comparative advantage in promising export sectors, such as agribusiness and tourism. And, they host several large cities so that the lack of connecting transport infrastructure segments domestic markets, undermining competition and economies of scale. Many larger cities face a connectivity cost mark-up of 50 percent relative to Lima. Cities in the *Sierra* face cost mark-ups of up to 65 to 70 percent relative to Lima for commercial or social exchanges. While Peru's complex geography raises the cost of connecting infrastructure, markets are better connected in Colombia and Ecuador, which also have a complex geography but only small areas with low accessibility. Moreover, there is significant geographic disparity in the access to the nearest larger domestic market in Peru (Figure 82).

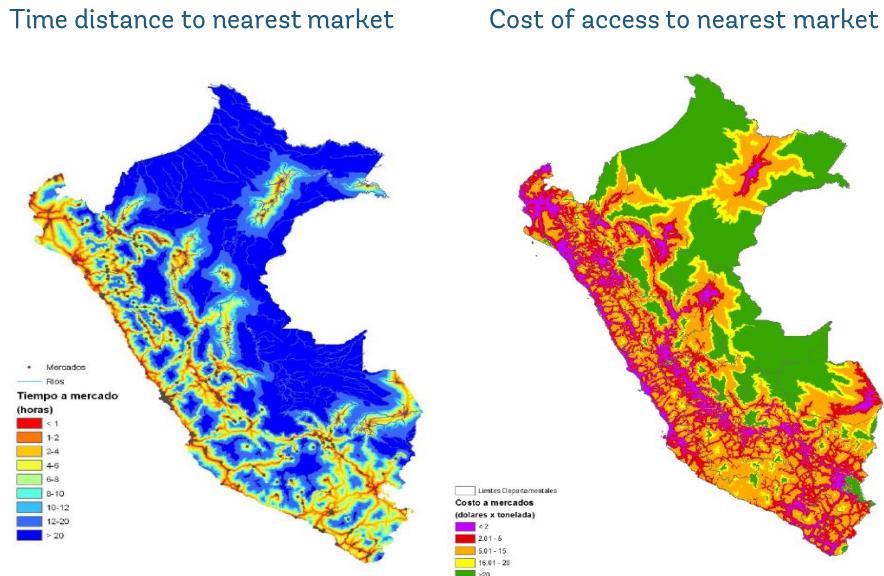
**204. A new legal framework for public private partnerships (PPPs) is expected to increase private sector participation to help address the large infrastructure needs.** The Government has established a legislative framework for PPPs and has developed contract structures that will gradually transfer risks to the private sector. The legal framework for PPPs improved significantly, however, implementation has been lagging—Peru is still lacking an infrastructure plan and procedures capable of generating a pipeline of mature projects. In addition, the institutional capacity for developing projects is often low and there is some risk of political interference. A successful implementation requires also that governments invest heavily in high quality pre-construction studies and surveys, that they structure contracts carefully to achieve an appropriate distribution of risks and expected rewards, and that the mix of private-public investment and involvement be adapted to specific circumstances.

Figure 81: Peru is falling behind in accessibility, affordability, and duration of transportation



Source: Briceño-Garmendia, C.; H. Moroz y J. Rozenberg (2015). Note: Accessibility of transport infrastructure in Peru relative to Colombia and Ecuador. The greener the area the more connected it is to ports, other cities, and trade outlets. Connectivity of a country is defined as the easiness to mobilize goods, people, and services among strategic social, service, and economic poles. Strategic locations are defined as Peru's main ports, airports, border crossings, and cities with populations over 25,000 people. The connectivity index is measured as the amount of vehicles or goods that a dollar-equivalent of transport can mobilize over a road kilometer.

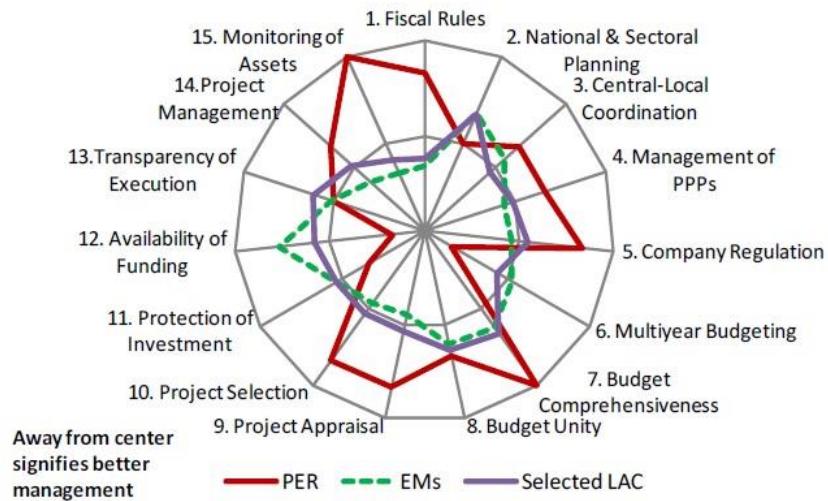
Figure 82: There is significant geographic disparity in the access to the nearest larger domestic market



Source: IFPRI. Note: Larger domestic market are cities with at least 25,000 inhabitants.

205. **Shortcomings public investment management and decentralization arrangements undermine public infrastructure spending efficiency.** Peru placed 112th out of 140 countries for quality of overall infrastructure by the World Economic Forum data. The low efficiency of public spending is related to deficiencies in public investment management such as the absence of multiyear budgeting or insufficient national or sectoral planning (Figure 83). Peru also scores low on central-local government coordination in infrastructure pointing to shortcomings in decentralization arrangements (Section 4.2). Peru uses standard methodology for project selection and appraisal but it does not publish projections of capital spending beyond the current budget year. As a result, there are no multiyear targets or ceilings on capital expenditure by ministry or program. Also, there is no official record regarding commitments in future years from signed public investment contracts.<sup>112</sup> The high administrative costs associated with public investment management are to some extent the consequence of the decentralized system with small, potentially weak capacity municipalities accounting for the majority of public investments. As a response to the potential low local capacity, the central government put in place several procedures and control mechanisms to enforce quality standards. For instance, it created 110 investment committees in all three levels of government to ensure prioritization of strategic projects and modernization of procurement procedures. Thus, instead of adjusting current fiscal decentralization arrangements, the Government has followed a second-best solution strategy to impose several administrative quality control mechanisms that, however, also increase the administrative and coordination costs for public investments.

Figure 83: Shortcomings in public investment management undermine public investment efficiency



Source: IMF (2016). Note: IMF calculations based on desk surveys of Latin American countries (Argentina, The Bahamas, Belize, Bolivia, Brazil, Chile, Colombia, Costa Rica, Dominican Republic, Ecuador, Grenada, Guatemala, Honduras, Jamaica, Mexico, Panama, Paraguay, Peru, and St. Lucia) and 12 emerging countries from other regions.

<sup>112</sup> Vtyurina and Leal (2016).

206. **Logistic costs are high.** Peru's logistics costs—about 32 percent of product value—are among the highest in Latin America, well above Colombia's (23 percent), Chile's (18 percent), Brazil's (26 percent), and Argentina's (27 percent). The OECD average is only 9 percent of product value. Peru ranked 71<sup>st</sup> in the world in terms of logistic costs in 2014, substantially worse than comparator countries such as Malaysia (25), Thailand (35), and Chile (42).<sup>113</sup> Briceño (2015), for instance, analyzed five export-oriented agricultural products, and found that costs related to logistics were between 20 and 50 percent of the production costs, against an average for OECD countries of 12 percent for perishable goods (Figure 84, left).<sup>114</sup> The effective transport distance is by far not the only item affecting the overall cost of logistics. Cost disaggregation show that 10 to 20 percent of the total costs of logistics are related to losses during transport due to poor handling, storage, and transport and delays that lead goods to perish. Costs related to storage and switching carriers make up 20 to 30 percent of the total costs. Such high costs reflect a fragmentation of producers and transport services. For instance, the market structure for freight transport services is highly fragmented, with obsolete vehicle fleets and excessive informality of services—there were 56,504 freight service enterprises registered in the National Freight Transport Registry in 2010. Hidden costs, such as putting security measures to avoid theft, administrative costs to seek permits and licenses, and opportunity costs of having financial investments locked in due to delays, can be as high as 15 to 30 percent of the total cost of logistics.

207. **Inefficient customs procedures add to the high logistic costs, reducing Peru's export competitiveness.**<sup>115</sup> Peru's ranking on the efficiency of customs administration in the World Bank's Logistics Performance Index declined markedly between 2007 and 2014 when Peru dropped from the rank of 49 to 96 among countries (Figure 84, right).<sup>116</sup> The effective implementation of the recent legislative reforms in 2014-15 aiming to streamline customs procedures can thus help improving export competitiveness. It includes the Authorized Economic Operators regime, under which financially solvent firms with a good track-record can apply for advanced customs clearance, and a more targeted system of fines.

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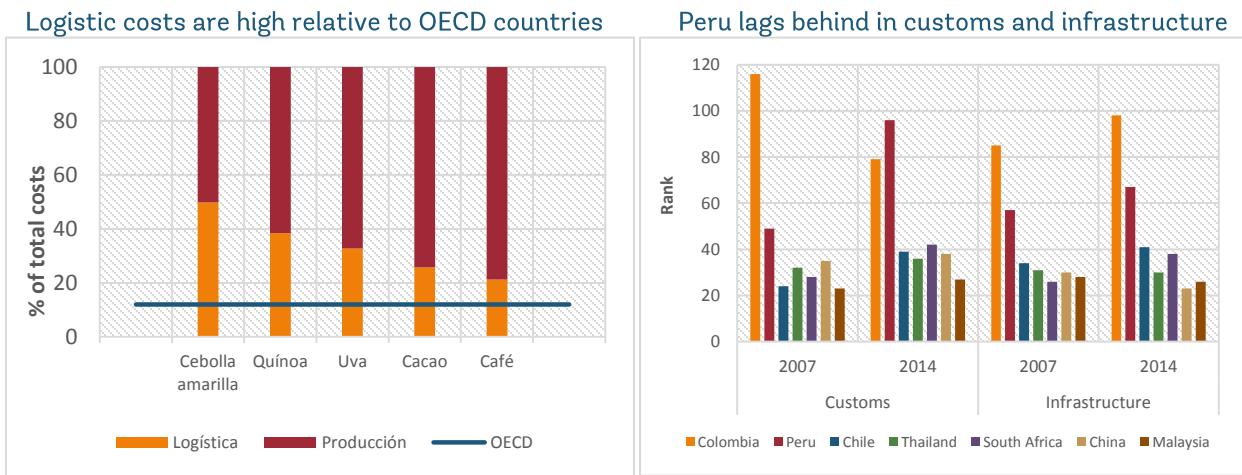
<sup>113</sup> The World Bank's Logistics Performance Index (LPI) rates the transport and logistics environment in 160 countries. LPI rates countries on six factors: customs clearance; infrastructure; international shipping; logistics services; tracking and tracing; and timeliness and reliability.

<sup>114</sup> Briceño-Garmendia, C. y L. Guasch (2015).

<sup>115</sup> Briceño-Garmendia (2016).

<sup>116</sup> The World Bank's Logistics Performance Index (LPI) rates the transport and logistics environment in 160 countries. LPI rates countries on six factors: customs clearance; infrastructure; international shipping; logistics services; tracking and tracing; and timeliness and reliability.

Figure 84: Logistic costs are high especially for customs and infrastructure



Source: left: Briceño (2015); right: World Bank Logistic Performance Index. Note: Logistic costs versus costs of production for major agribusiness export products.

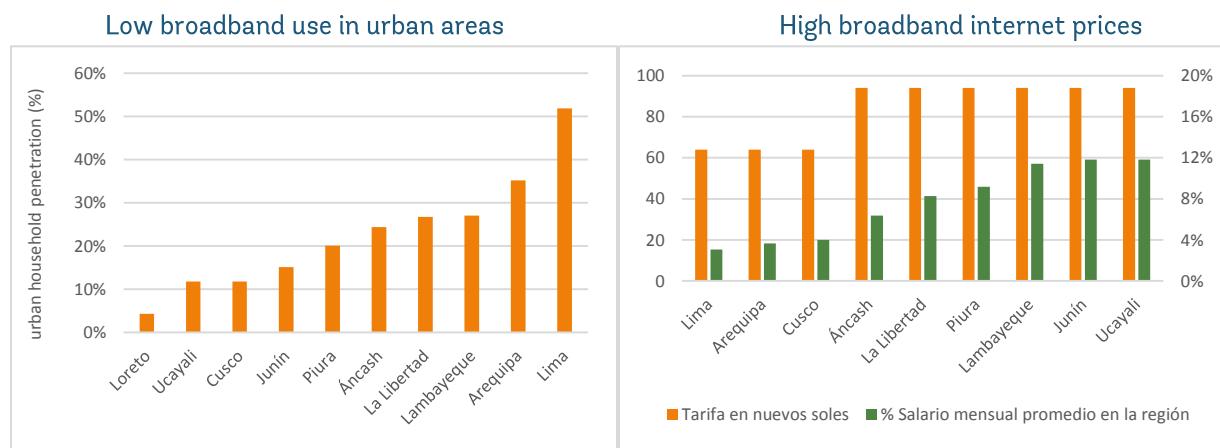
**208. The poor quality of Peru's transport infrastructure further undermines trade competitiveness.** In many cases, the average speed of transporting long distance merchandise has not been reduced due to lack of proper road maintenance leading to high levels of congestion in major urban areas, further increasing travel times. Port infrastructure also impedes trade: the efficiency of Peruvian ports lags far behind peers like Mexico, Thailand, Chile and Malaysia. The poor quality of secondary and tertiary roads also leads to large agricultural export losses—e.g. mango production in Sullana and Piura, pineapple in Junín, or palm oil in Tingo María. The economic implications of high transport costs are exemplified by the economic benefits from past road infrastructure investments which led to a significant increase in firms' average annual export growth (6.4 percent) and subsequently employment (5.1 percent; Volpe Martincus et al., 2014).

**209. Subnational regulatory barriers in the sector further raise transport costs, segmenting domestic markets and competition.** Bus transport, for instance, is the only available long-distance ground transportation. In 2012, poor interstate bus transport services affected 72.5 million passengers including migrant workers, small- and medium-size firms, and numerous tourists. The 2012 Survey on Foreign Tourist Satisfaction found bus transport to be one of the most unsatisfactory services. Yet, the Transport Ministry effectively closed the market for further entry on 50 different interstate bus routes in 2013 and 2014. The decision shields incumbent bus operators from competition from market entrants, which reduces the quality of services and maintains high prices (Rosa, Goodwin, Licetti and Villaran, 2015).

**210. Poor connection of high-speed internet further divides domestic markets.** Peru lags behind other countries in the region in broadband internet penetration even in urban areas, especially outside of Lima (Figure 85, left). One reason is the relatively high price for internet

services outside of Lima (Figure 85, right).<sup>117</sup> Access to affordable high-speed internet can help firms and households gain access to information and knowledge, and reach new customers or services in domestic or foreign markets, even if they are located in remote areas. Broadband internet, for instance, has substantially increased firms' ability to reach foreign markets and export in China, raising productivity growth of firms located in coastal areas (World Bank, 2016). The ongoing expansion of the fiber-optic network in Peru is expected to improve high-speed internet access and affordability outside of Lima. But if unaddressed, local regulatory barriers may impede reaping its full potential. And expanding internet access also depends on ensuring access to good quality electricity services.

Figure 85: Broadband internet penetration is low



Source: World Bank (2016a)

**211. These spatial divisions in connectivity protect unproductive local firms from competition and creative destruction.** As a result, less productive firms—many of which operate informally outside of Lima coexist with more productive firms in Lima and a few other places. High transport costs potentially prevent more productive Lima-based firms, especially in services, to expand their businesses to the rest of the country which would spur competition and productivity convergence across regions. Addressing these constraints and regional divisions would boost aggregate productivity and citizens' access to regional quality services hubs.

<sup>117</sup> According to the International Telecommunication Union's Broadband Commission, broadband service is affordable if priced at approximately 5 percent of income per capita—the price of a 2Mbps connection is below the 5 percent threshold in only 3 regions.

## Raising human capital

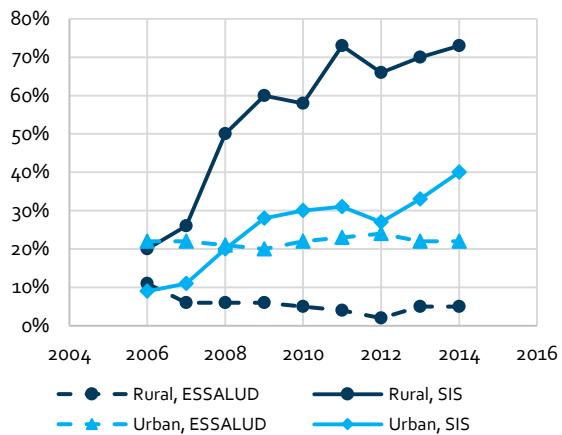
### *Gaps in coverage and quality of health services remain*

212. **Developing a productive and inclusive society requires continuous investment in the individual over the life cycle, with a focus on the vulnerable.** At the start of life, ensuring proper nutrition and stimulation is imperative to build the cognitive and socio-emotional foundations that will be the basis for developing skills later in life. Then, a good quality basic education, and opportunities for training and higher education that are relevant for the job market are crucial services that should be provided universally, so that all individuals, regardless of their initial conditions, can become productive adults. Meanwhile, vulnerable groups, such as disabled people, should be protected from falling in poverty or being systematically excluded from opportunity, and older adults should have a source of income for the stage of life where they can no longer support themselves through work. In Peru, many of these pieces have been built and strengthened over time, addressing the needs of particular groups. However, in many instances, investment has been insufficient, and the design and implementation of these programs have left gaps in populations served.

213. **In the last 20 years, Peru has gradually expanded the coverage of health insurance.** In 2015, enrollment in health insurance reached 71 percent of the population, a remarkable increase of 34 percentage points from its level of 37 percent in 2004. Among the poor, the expansion in coverage started with the Free School Insurance (*Seguro Escolar Gratuito*), the Maternal and Infant Insurance (*Seguro Materno Infantil*) in the second half of the 1990s, and was consolidated with the creation of the SIS in 2002. Importantly, the increase in enrollment was most pronounced for the extreme and moderate poor (187 percent and 160 percent, respectively between 2004 and 2014). With the expansion of SIS, health insurance coverage in rural areas is nearly 80 percent, almost 20 percentage points higher than in urban areas (Figure 86). Services to SIS affiliates are provided mostly through the public sector providers. Among formal wage workers, EsSalud provides contributory health insurance and services through its own network of providers.

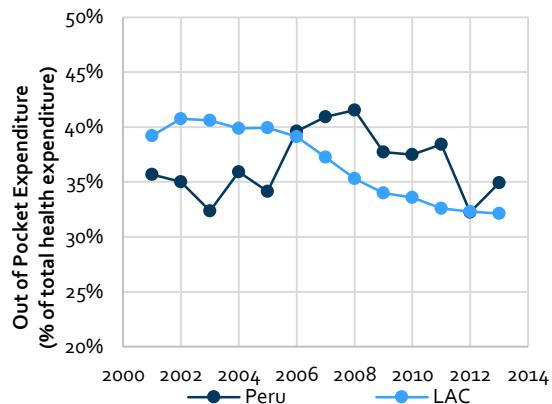
214. **Still, there are important gaps in health coverage that need to be addressed.** A “missing middle” of nearly 30 percent of the population remains uninsured, concentrated among those working informally. In addition, despite the expansion in health insurance enrollment and per capita spending in the public sector, out-of-pocket payments at the point of service account for 35 percent of total health expenditure, with no clearly decreasing tendency (Figure 87). Further, service delivery continues to be highly fragmented between the EsSalud and public sub-systems. Services at EsSalud are widely believed to be of better quality than services from the public sector, thereby creating two different systems for the poor and the non-poor. Despite efforts to promote the interchange of services between EsSalud and the public system, the costs of a substantial amount of medical attention provided by public sector to EsSalud affiliates are not recovered.

Figure 86: Share of population with health insurance by area, 2004-2015



Source: World Bank (2016j, forthcoming)

Figure 87: Out Of Pocket Expenditure, 2000-2014



Source: World Bank (2016j, forthcoming)

**215. Despite an increase in coverage of public services to the poorest Regions, regional gaps in both availability and quality remain.** For instance, while the poorest Regions have some of the highest health insurance rates due to SIS, they are also the Regions with the highest number of inhabitants per doctor. The poor and vulnerable continue to face challenges in gaining effective access. They are less likely to use health services when they need them and more likely to pay for them when they do. According to 2014 ENAHO data, 65 percent of the non-vulnerable population that had an illness or accident in the four weeks preceding the survey received medical attention without paying out-of-pocket. For the poor population, the corresponding figure was only 37 percent.

**216. In addition, the quality of service provision does not match the needs and expectations of the population.** The two major complaints of the population are long waiting times and lack of medicines.<sup>118</sup> Public primary care services do not have the capacity to respond to the increasing needs for prevention, diagnosis and treatment of non-communicable diseases such as hypertension, diabetes and cancer. As a result, patients tend to bypass primary care providers and seek care directly from hospitals. But hospitals also have an incentive to provide primary level care because this triggers a fee-for-service revenue from SIS. As a result, public hospitals tend to be saturated as they provide primary care and low-complexity services instead of focusing on high complexity cases. Finally, purchasing and distribution of covered medicines is still done through public procurement and government-organized distribution logistics, which leads to frequent stock-outs and grey markets for government-purchased medicines. This contrasts with the usual approach in OECD countries, in which covered medicines are distributed through pharmacies and reimbursed by the health insurance systems.

<sup>118</sup> SUSALUD (2014) and Raffo (2016), cited in Vermeersch et al. (2016).

**217. The infrastructure for health service delivery is an impediment to adequate service delivery.** Infrastructure is highly fragmented between the different sub-sectors (public sector, social security, private sector, and the specific systems for army, police, and navy). This generates duplication and inefficiencies at the local level. At the same time, investment in new infrastructure has been historically low and has not kept up with the increase in demand or changes in the needs of the population. The public sector is slowly working on expanding mid-tier hospitals in secondary and tertiary cities through “prioritized” investment. However, this expansion has been slow and fraught with bureaucratic difficulties and bottlenecks as well as a lack of analysis and clarity on how to prioritize investments. In Lima, many tertiary level hospitals are housed in historic buildings that do not conform to current standards of care and are vulnerable to natural disasters.

***Large regional disparities and low quality thwart better education outcomes***

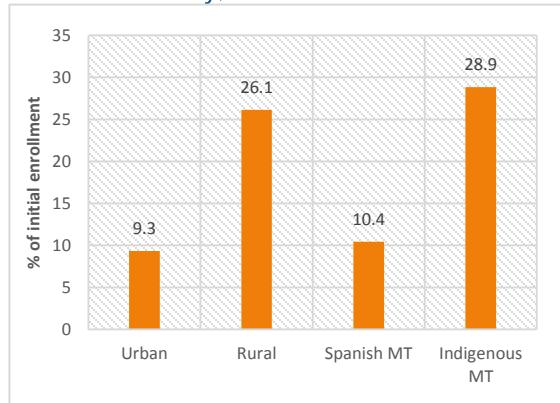
**218. Similar progress has been made in the education outcomes but the still large disparities across Regions and socio-demographic groups call for differentiated approaches.** Net enrollment in secondary for extreme poor students is 67.4 percent, 20 percentage points lower than enrollment for non-poor students. Likewise, the proportion of above-age students in primary and secondary is higher among rural and indigenous population (Figure 88). Regarding performance, the proportion of second-graders who reached a satisfactory level in the national Mathematics and reading tests was around 31 percent and 61 percent in Lima and Callao, respectively, while in remote communities they were at 11.5 percent and 16.8 percent (Figure 89), and both were much lower among poor and extreme poor students.

**219. School infrastructure shows important regional differences.** More than half of schools, especially in rural areas, do not meet the basic conditions regarding maintenance and access to basic services (with minimum quality) such as water, sanitation, electricity and telecommunications. In addition, three out of four school buildings need to be substituted, reinforced or intervened contingently to be able to meet seismic code requirements. The Ministry of Education does not have a central information system to manage infrastructure needs and, at the same time, lacks minimum quality standards in terms of construction, maintenance and even funding. This situation has led to a somewhat disorganized and vulnerable expansion of public education infrastructure over the years. The cost of closing this gap, both in terms of improving physical infrastructure and its management, is estimated at slightly more than S/.100 billion (at 2015 prices).<sup>119</sup>

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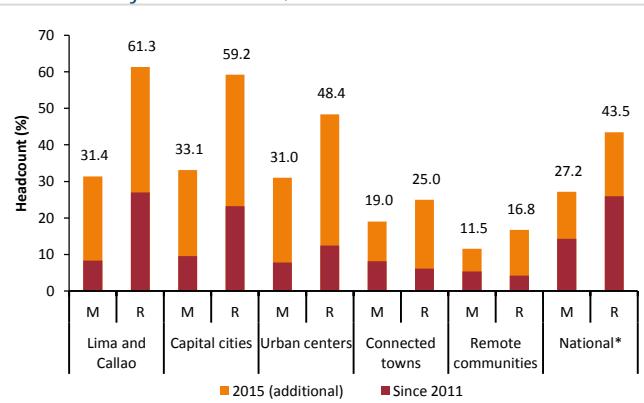
<sup>119</sup> World Bank (2016l).

Figure 88: Share of above-age students in Peru in secondary, 2015



Source: MINEDU (2015).

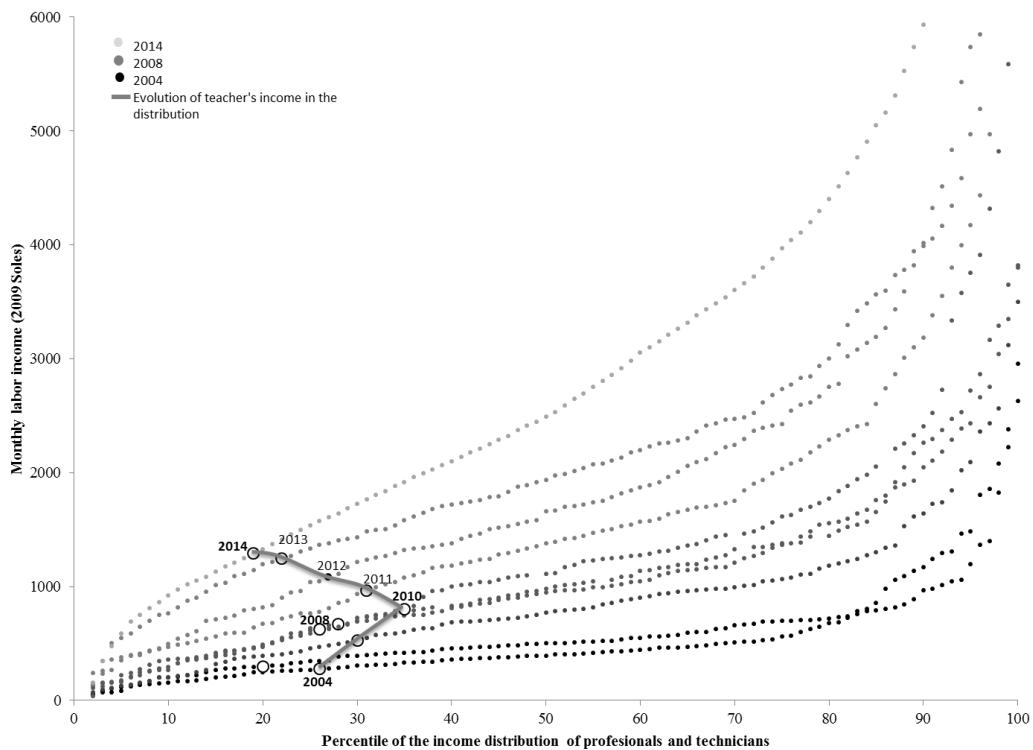
Figure 89: Share of students that reached a satisfactory level in ECE, 2011-2015



Source: Kudo & Szekely (2015)

Note: \* National results are taken from MINEDU. M is the share in mathematics and R the share in reading.

Figure 90: Teachers' income relative to other professionals', 2004-14



Source: Nopo (2016)

**220. The lack of qualified human resources poses another crucial obstacle to improve education quality.** Low teacher wages imply low incentives for entering the profession. Even though teacher wages have increased over the last decade, they have not kept up with the average wage increase rates. In fact, the teacher wage gap has worsened in the last decade (Figure 90).

Between 2004 and 2014, the share of professionals and technicians who earned more than teachers increased from 70 percent to 80 percent.<sup>120</sup>

**221. The low average quality of education is paired with substantial spatial differences in learning outcomes.** Peru had one of the largest PISA score socioeconomic differences in student learning outcomes among the participating countries.<sup>121</sup> In remote schools, only one in three teachers is accepted in the teaching career, compared to 4 in 5 in large and intermediate cities.<sup>122</sup> Going forward, efforts to strengthen technical and pedagogical higher education institutes across the country to meet regional needs will be crucial to improve the quality of basic education. Another main impediment is low nutritional levels among school children in disadvantaged areas, where up to half of the students enrolled in primary education suffer from anemia. Addressing these geographic disparities depends not only on the Ministry of Education, but also on regional and local management units reporting to regional governments. The shared responsibility entails complex administrative processes and budget allocation mechanisms that often delay the hiring process and distribution of materials to schools.

**222. Education spending is still low, but it has been increasing lately.** Public expenditure on education is low in Peru according to international standards. Education spending reached 4 percent of GDP in 2015, below the predicted level for its current GDP per capita. However, education spending per student as percentage of GDP per capita has been increasing in the last decade for all levels of education, but notably for pre-primary education.

**223. The recent reforms in the education sector go in the right direction.** The policies put in place by the Ministry of Education in recent years have addressed four fronts: student learning, teachers, infrastructure, and management. For raising student learning, key policies include increasing access to preschool education; providing pedagogical support to classroom teachers; extending the school day in secondary schools; boosting intercultural bilingual education; investing increasingly in educational material; and adopting a new school curriculum, approved in 2016. Second, the implementation of a meritocratic career with more opportunities for professional development was introduced in 2012, and already over 300 thousand teachers have been evaluated for access to and promotion within the career, as well as for appointment to leadership and management positions. There are also initiatives to increase incentives to go into the teaching career, such as *Beca Vocación Maestro* (BVM) or *Beca Hijos de Docentes*, a university scholarship targeting children of public school teachers. Third, there has been a substantial increase in school infrastructure investments, and the first national infrastructure census, carried out between 2013

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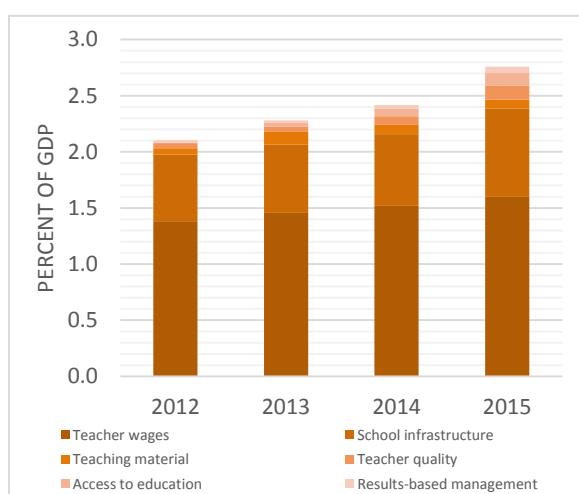
<sup>120</sup> Ñopo, Hugo, 2016. The figure does not suffer from biases due to salary differences between rural and urban positions for the same profession. Rural teachers have represented between 7 and 13 percent of total teachers in the past decade, whereas rural professionals have accounted for 4 to 5 percent of total professionals in the same period. This implies that the national wage distribution is very similar to that of urban areas.

<sup>121</sup> OECD, 2014.

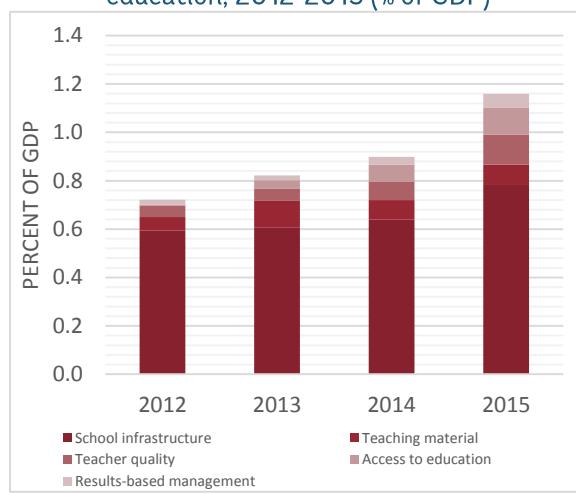
<sup>122</sup> Kudo and Székely, 2015.

and 2104, has been the basis for preparing a national ten-year plan to improve educational infrastructure. Fourth, the strengthening of the Results-Based Budget and the introduction of performance-based, ear-marked transfers to local and regional management offices (*Compromisos de Desempeño*), as well as new school monitoring tools such as *Semáforo Escuela*, have facilitated a better allocation of resources and bolstered intergovernmental alignment (Figure 91 and Figure 92). However, further strengthening of monitoring and accountability systems will be fundamental to ensure that all people are getting quality services in a timely manner.

**Figure 91: Budget allocation, 2012-2015 (% of GDP)**



**Figure 92: Non-wage budget by purpose in basic education, 2012-2015 (% of GDP)**



Source: Kudo and Ñopo, forthcoming.

**224. The coverage of training is small, and contents are not in line with employers' needs.** Technological Superior Institutions (IEST), which belong to the higher education system, provide three to four years of formal education. They are either part of the National Services of Sectorial Formation (NSSF)—which include SENATI for manufacturing, SENCICO for construction, CENFOTUR for tourism, and INICTEL for telecommunications—and cover a minority of students, or private institutions, whose quality and pertinence is heterogeneous but represent the largest share of continuous training (30 percent in 2011). Recent analyses show that there are high returns to investment in continuous training, both in terms of higher incomes and productivity, especially for wage employees (in contrast to self-employed) and for university courses in the workplace. However, there is still ambiguity regarding the cost-effectiveness of these programs.<sup>123</sup> Furthermore, there are suboptimal investments in training, and a large heterogeneity in the quality

<sup>123</sup> Lavado et al. (2015), ZEW Project: *Vocational Continuous Training, Income and Self-Employment* (<http://www.zew.de/en/forschung/vocational-continuous-training-income-and-self-employment/>), Hoeckel (2008) in developed countries, CEDEFOP (2011), among others.

of training institutions, with many of them delivering training of poor quality that is disconnected with the needs of the private sector.<sup>124</sup>

**225. Peru also invests too little in higher education.** The level of both public and private investment in higher education in aggregate and in per capita terms is below the level corresponding to Peru's income.<sup>125</sup> Peru has a small group of prestigious higher education institutions of relatively good quality, but there is substantial variation in the program quality and relevance among all institutions.<sup>126</sup> As a result, an estimated 60 percent of higher education graduates are not employed in their line of specialization. The recent University Law is an important step to address some of these weaknesses for university education, but a similar reform is needed for the non-university higher education sector, along with strategic investments for strengthening the quality of public institutions.

#### *Social assistance programs are well targeted but coverage remains low*

**226. The implementation of the CCT program, *Juntos*, in 2005 started to change the social assistance landscape in Peru, which had been historically disperse and low.** Since the 1990s there were a myriad of small, uncoordinated programs run by many different ministries. This led to significant duplication, fragmentation, and low impact of most programs. During the 2000s, an effort was made by at least two different administrations to reorganize the sector under a coherent approach, but the lack of an adequate institutional structure led to more fragmentation. It was not until 2005 that social protection started to change with the implementation of *Juntos*-- the first program that required inter-sectoral articulation (health, education, and cash transfers), and that forced the Government to ensure the provision of services, including financial services (for the payments) in the poorest districts. Finally, the creation of the Ministry of Social Development and Inclusion (*Ministerio de Desarrollo e Inclusión Social*, MIDIS) in 2011 marked an important milestone for the sector's reorganization. MIDIS assumed the role of articulating interventions across sectors, delimiting the strategy *Incluir para Crecer* ("Include to Grow") to promote the active participation of regional and municipal governments, including the use of financial instruments to promote the participation of sub-national governments, like the performance-based fund *Fondo de Estímulo al Desempeño* (FED), and *Sello Municipal*, a quality distinction award for municipal governments.

**227. Social assistance spending is well targeted.** Although there are no official indicators directly measuring the quality of the targeting of social programs, there are several studies pointing to Peru as one of the LAC countries with the highest performance in targeting. For instance, Peru

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<sup>124</sup> Lavado et al. (2015).

<sup>125</sup> Botero (2015) citing World Bank. 2007. *World Development Report 2007: Development and the next generation*. Washington DC: The World Bank.

<sup>126</sup> Castro, Juan F., Gustavo Yamada, and Omar Arias. 2010. "Analysis of School Trajectories, Career Choice, and Insertion into the Peruvian Labor Market". World Bank, mimeo.

has been found to have, on average, one of the lowest leakage errors in their social programs in the region—30 percent in Peru relative to a regional average of 40. Peru’s good performance also stems from its geographical targeting of poverty in that most social programs focus on high poverty districts. The targeting of social programs in Peru also started to take into account changes in life conditions by applying proxy means tests to verify household poverty. Further, there is little evidence that beneficiaries of social programs continue to benefit from social assistance even after they no longer classify as eligible for these programs. In contrast, the available evidence points to households making a productive use of transfers to generate a higher income potential in the future.<sup>127</sup> In addition, most social programs are be construction temporary in nature since access to these programs depends the age of the beneficiaries or their children (i.e., Juntos, Cuna Más, Qali Warma, Beca 18, Pension 65). Nevertheless, moving forward authorities should adopt the latest monitoring tools to prevent abuse of social assistance programs.

**228. But coverage is low.** At US\$376 per person in 2013, social protection spending per capita in Peru was among the lowest in LAC, just above Bolivia and Paraguay, slightly over half the spending in Colombia and slightly more than one-third of Mexico’s (Figure 93). As a result, coverage of social protection programs tends to be also lower than in other LAC countries.<sup>128</sup> Despite a significant increase in coverage in the last decade, social protection programs are still falling short of reaching all eligible people. The program *Juntos*, for instance, has grown significantly since 2005 (with over 715 thousand households enrolled in 2013) but it has not reached all poor households in the Regions where it operates, because the program is limited only to districts with more than 40 percent of poverty incidence. If targeting of social programs were redefined to cover all eligible households, regardless of location, spending would have to expand significantly.<sup>129</sup> *Juntos* is especially well targeted and very effective in reducing inequality and poverty in rural areas.<sup>130</sup> However, as its coverage is limited, its aggregate effect over poverty and inequality is small.<sup>131</sup>

**229. In a context where productivity gains are needed to boost labor income, social efforts to increase productivity among the poor can have positive effects.** In a context of limited mobility across sectors, and of overall low productivity, especially in the primary and services sectors, productive inclusion programs such as *Jóvenes Productivos*, *Ventanilla Única de Empleo* and *Haku Wiñay* can be instrumental to increase productivity and reduce poverty. These programs

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<sup>127</sup> Zegarra (2015).

<sup>128</sup> Grosh, Margaret, Maurizio Bussolo, and Samuel Freije, eds. (2014). *Understanding the Poverty Impact of the Global Financial Crisis in Latin America and the Caribbean*. Directions in Development. Washington, DC: World Bank.

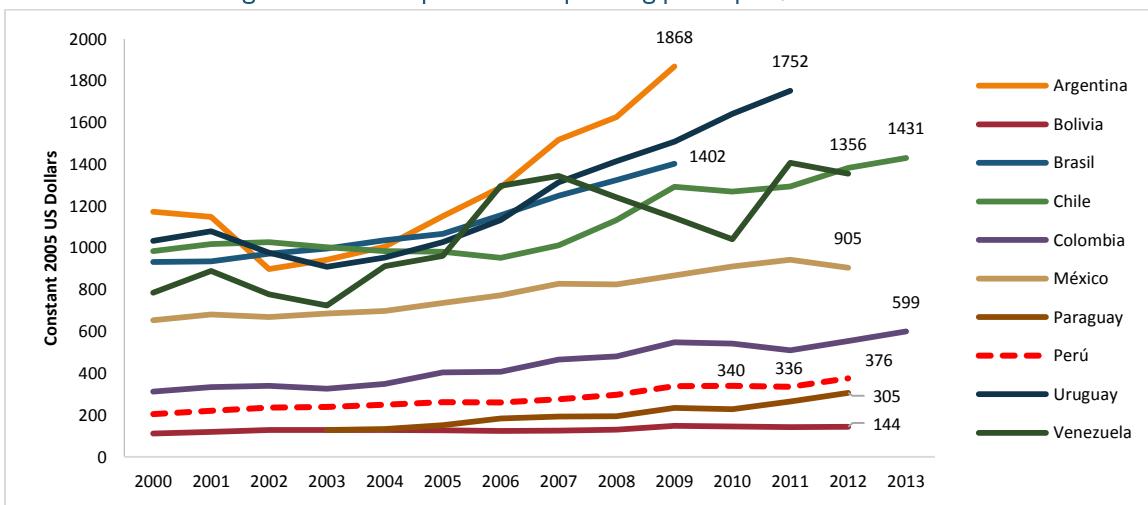
<sup>129</sup> Trivelli, Carolina, “Articular, unica opcion para movernos de programas sociales aislados a una estrategia de Desarrollo e Inclusion Social que enfrente la pobreza”, 2014

<sup>130</sup> The consolidation of a comprehensive targeting system like SISFOH, has contributed to enhance the performance of the Social Protection system, reducing inclusion errors. The main social programs use the Padrón General de Hogares (General Registry of Households), administered and updated by SISFOH, to delimit target population of the interventions.

<sup>131</sup> See (Jaramillo, 2014)

facilitate labor integration of young, vulnerable populations, leading to higher and sustainable incomes. For instance, *Haku Wiñay* has had a positive impact on its beneficiaries both in terms of income, and of other living standards such as food security, and the adoption of healthy practices in the household, among others.<sup>132</sup> The expansion of similar programs is a key factor for boosting productivity and reducing poverty, especially among urban poor and vulnerable populations due to their limited participation in the current social agenda.

Figure 93: Social protection spending per capita, Peru vs. LAC



Source: CEPAL and Trivelli (2014).

### ***Spending on basic services is low and poorly coordinated***

230. **Peru spends significantly less than comparator countries on basic services such as education, health, infrastructure, and security.** On average, Peru spent only 9 percent on all social expenditures (including pensions and social assistance programs), less than most peer countries. The lower spending also constrains the quality of public services delivery and the Government's ability to reduce the large spatial gaps. The size of the Government in Peru is also limited by the country's high informality, which limits its scope to increase tax revenues to finance higher social and infrastructure spending. An important challenge ahead is to combine greater coverage in social spending without sacrificing quality.

231. **Another challenge ahead is to improve vertical articulation and to coordinate multi-sectoral interventions to tackle poverty and close gaps.** Regarding social protection, the launch of MIDIS was an important milestone towards the consolidation of an articulated system. However, there is evidence that coordinated interventions at the province or district level, in particular between social programs (including health and education) and infrastructure services provision, have been the exception rather than the norm. For example, a study on the National

<sup>132</sup> Escobal (2016).

Rural Development Strategy (ENDER) found that the strategy was never properly implemented for lack of clear objectives and coordination at the technical level. As a result, the different sectoral programs were implemented in rural provinces with no clear sense of complementarity or prioritization.<sup>133</sup> Likewise, there are few incentives for sectoral coordination at the local level (between the local representatives of each sector), since most of the monitoring and decision making process take place centrally within the sector. There are some initiatives, like the *Sello Municipal* and investment funds such as FONIE (for infrastructure investment in priority districts), but these are still relatively small compared to the total investment spending, and they cannot entirely resolve the coordination challenges. Addressing an enhanced territorial articulation would permit a better planning of interventions and optimizing the time devoted by local sectoral staff of to provide better support to the population.

**232. The recent, disorganized decentralization process started in the past decade has not helped to resolve coordination issues.** The role of Regions in health, for instance, is defined by the *Ley Organica de Municipalidades*, updated in 2003, in the sense that Regions are the owners of the public health facilities in their jurisdictions, and responsible for service delivery. But the financing and accountability instruments are not well aligned with this role: (a) financing is not based on the expected workload associated with the population that the Region has to attend, (b) Regions play only a minor role in assigning financing to its executive units, as funding decisions bypass them and funds go directly from the national level to executive units, and (c) there is no clear mechanism for holding Regions accountable for health results and linking funding to performance.

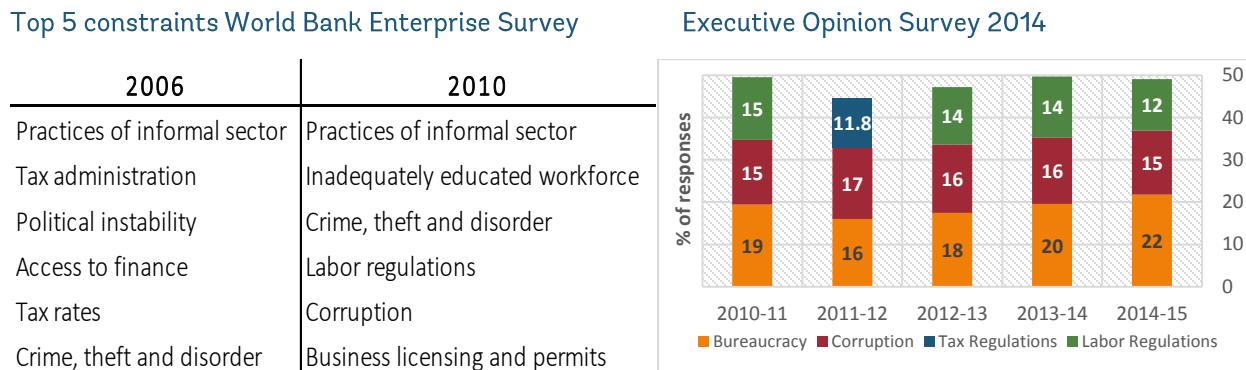
### Reducing factor and product market rigidities

**233. Labor rigidities, lack of skills, and bureaucratic barriers to operate and compete are among the top five constraints perceived by formal sector firms.** Restrictive labor regulations, along with corruption and regulatory and bureaucratic barriers, have been consistently ranked as priority constraints to growth by managers of formal firms in available surveys (Figure 94, left). Enterprise Surveys further show that practices of the informal sector are perceived as managers' top constraint (Figure 94, right). Skills of the workforce, business licenses, and crime complete the list of the top five constraints to growth perceived by managers. Security costs (related to crime) are reported to account, on average, for 1.4 percent of annual sales for formal sector firms, which is slightly below the average for Latin American countries (1.5 percent) and the average worldwide (1.6 percent).

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<sup>133</sup> See Fort, Remy and Paredes (2015).

**Figure 94: Labor rigidities, skills, and bureaucratic barriers to competition (licenses and permits) are among the top five constraints perceived by managers**



Source: left: World Bank Enterprise Surveys; right: Executive Opinion Survey 2014, World Economic Forum. Note 2010 is the most recent available World Bank Enterprise Survey for Peru.

### ***Inequitable and badly enforced labor market regulations***

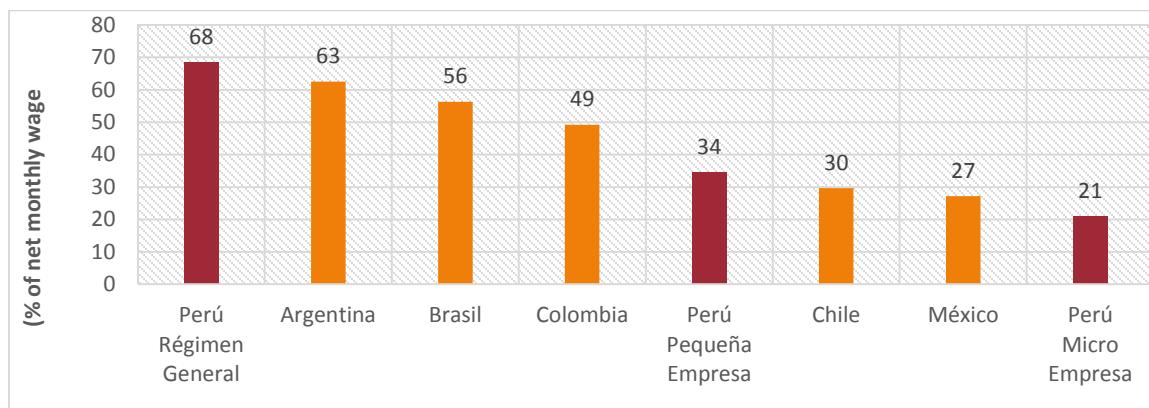
**234. Non-wage labor costs are high in Peru, undermining private sector competitiveness.** During the 2000s real wages grew faster than productivity, primarily due to high nonwage costs. At over 35 percent, the difference between the labor costs to the employer and the take home pay of the employee is among the highest in the LAC region, further reducing incentives to hire. That is, the nonwage labor cost under the General Labor Regime—applying to large firms with more than 100 employees—account for 68 percent of the basic wage, the highest in the LAC region. Corresponding figures are below 30 percent in Chile and Mexico and 56 percent in Brazil (Figure 95).

**235. Peru applies different labor cost regulations to different types of firms, generating higher costs for larger firms.** Special regimes for small and micro firms and a high degree of informality imply that only few large firms actually pay all the nonwage costs. The higher labor costs for large firms discourages more productive firms from investing in labor and capital in order to grow and become large, contributing to the inefficient allocation of production factors. The reliance on special regimes also raises information and administration costs. In spite of these special regimes, the majority of smaller firms still remain informal.

**236. Restrictive labor regulations, especially firing restrictions, distort the allocation of resources among firms.** Labor regulations are more restrictive in Peru than in most other Latin American countries: only 3 out of 15 Latin American countries have more rigid regimes to hire new or fire current employees; in particular, restrictions to lay off workers are prohibitive and severely limit dismissals for economic reasons as they require authorization from third parties (Ministry of Labor or Judges). Dismissal outside of economic reasons must be through negotiated compensation. A more effective management of human resources would require that firms be

allowed to dismiss workers in response to business needs. The high firing costs prevent firms from hiring new employees through longer-term formal employment contracts.

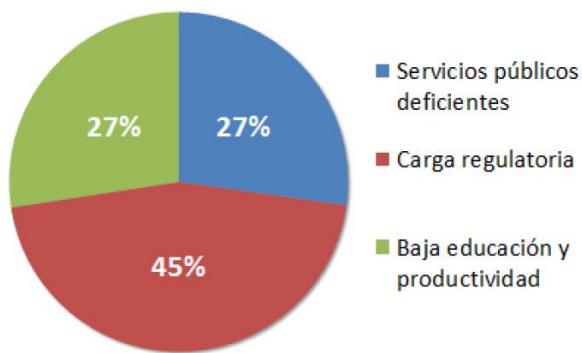
**Figure 95: Non-wage labor costs across different regimes**



Source: World Bank staff calculations. Note: percent of net monthly wage; it is assumed that the salary in the general regime is equivalent to US\$1,000, US\$600 for the small firms' regime, and US\$300 for the micro firms' regime. Profit sharing is assumed to ascend to one monthly wage. The option "with firing" includes a provision for severance pay.

**237. Recent analysis suggests that regulatory constraints could explain up to half of the difference in labor informality between Peru and Chile.** Regulatory constraints include labor market rigidities such as Peru's high firing costs as well tax policy raising non-wage labor costs. They are estimated to account for almost half of the large difference in labor informality between Peru and Chile (Figure 96).<sup>134</sup> The other half is explained in equal parts by the other two major constraints to labor formalization, namely inadequate quality public services and low levels of education and labor productivity of the workforce.

**Figure 96: Regulatory constraints are the most important factor explaining the large difference in labor informality between Peru and Chile**



Source: Loayza (2016).

<sup>134</sup> Loayza (2016).

238. **Moreover, the direct link between formal labor and social security implies that only a minority of workers benefit from adequate health and old age protection.** Like access to the EsSalud health system discussed earlier, the pension system in Peru is also divided between two types of contributory systems and a social pension for the poor (Table 5). The contributory systems (the public fund *Oficina de Normalización Previsional* - ONP, and the privately funded *Administradoras Privadas de Fondos de Pensiones* - AFPs) have low coverage, as only about 40 percent of workers are affiliated to a pension, much below the LAC average of 63 percent (for 2013). Furthermore, these systems are not well integrated, which in essence makes them inequitable. The public fund provides much lower pensions (about half of the AFP) and has had to disburse a considerable amount for those workers who migrated from the public to the private schemes.<sup>135</sup> Employers do not contribute to the public fund, reducing the incentives for workers to join the system. At the other end, there is a social pension for the elderly in extreme poverty (Pension 65).

**Table 5: Pension schemes by worker types**

Type of pension scheme	Population group	Financing	Type of benefits
<b>National pension fund (ONP)</b>	Formal sector workers	Worker contributions (13%)	Pay-as-you-go
<b>Private pension funds (AFP)</b>	Formal sector workers	Worker contributions (10%), premium (1.06%) and fees (1.95%)	Individual accounts
<b>Social pension system (not implemented)</b>	Micro-enterprise workers or those who have never been in the system	Matched contributions from worker (4% of minimum wage) and State	Subsidized individual accounts
<b>Pensión 65</b>	Extreme poor	General budget	Non-contributory

Source: ILO (2016)

239. **Taken together, low productivity, high non-wage and firing costs, and erratic enforcement generate few incentives for hiring formal labor.** Moreover, by many accounts, regulatory enforcement both by SUNAT and SUNAFIL (the labor inspections office) focuses on formal firms, instead of the large majority of small, informal firms.<sup>136</sup> These factors explain why so many micro and small entrepreneurs are reluctant to become formal, even in the presence of incentives to do so: they see only costs and few or no benefits.<sup>137</sup> Reducing these costs and barriers may generate important incentives to increase formal hiring, as the example of the special regime for non-traditional agricultural exports suggests (Box 8).

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<sup>135</sup> Recently, a reform of the private pension system (AFP) has enabled fresh retirees to withdraw up to 95.5 percent of funds from individual accounts to buy houses, or to cope with catastrophic illness; which generates serious doubts on the future sustainability of the individual account scheme.

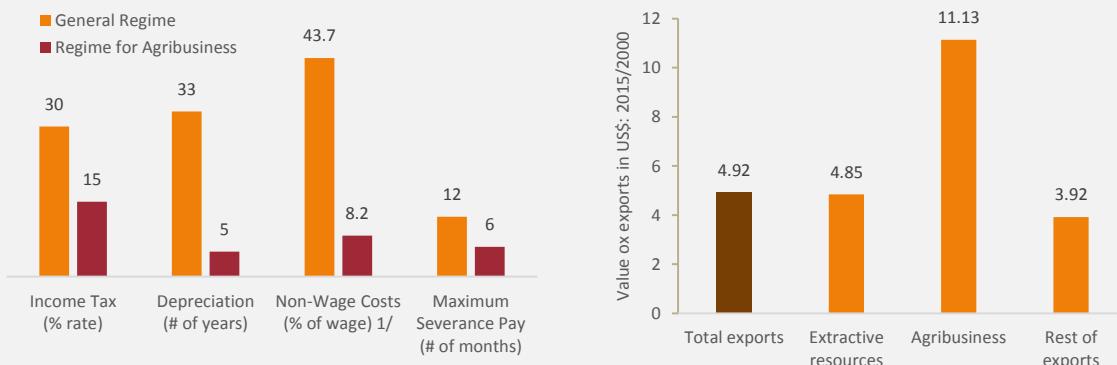
<sup>136</sup> Conversations with large corporation representatives in Peru.

<sup>137</sup> Alcazar and Jaramillo (2012).

#### Box 8: Government promotion of agribusiness and sector performance

Tax and labor regulations in Peru favor agriculture. The government introduced a special regime for agriculture in 2000. The new regime granted a lower tax rate of 15 instead of the regular 30 percent (in force until 2014),<sup>138</sup> an accelerated depreciation of only 5 years instead of 33 for water and irrigation infrastructure, and the recovery of VAT for the purchases of capital goods, construction contracts, and other inputs. It also established a special labor regime for workers, including less vacation days (15 instead of 30), lower health insurance payments (4 instead of 9 percent of the salary), and lower severance pay (6 instead of 12 months of salary), and defining a fixed daily wage to avoid bonus, unemployment insurance, and other additional payments considered under general labor regime. As a result, the non-wage labor cost of hiring an agricultural worker is only 8 percent of the wage compared to 44 percent under the general regime. Initially, these benefits were intended to remain in effect until 2010, but most of the sector privileges were extended until 2021.

**Figure 97: Government promotion of agriculture and export performance**



Source: Law 27360, BCRP. Note: 1/ Non-wage labor costs do not include pension contributions.

The performance of agribusiness exports since 2000 has been outstanding. Agribusiness exports increased eleven-fold compared to 5-fold increase in total and mining exports. Notably, the surge in agribusiness exports was driven by higher export volumes as opposed to higher prices as in mining.<sup>139</sup> The surge in exports was especially strong for non-traditional, coastal area crops such as fruits and cereals, but also for cacao. Labor formality in agriculture also increased, albeit from a very low level—from 1.5 to 2.6 percent between 2007 and 2012 (INEI definition). Using a less stringent definition of formal labor, the number of workers with health insurance provided by an employer, formality in agriculture increased from 8.8 to 13.5 percent in the same period. But labor formality also increased in the rest of the economy from 20.1 to 25.7 percent in the same period (INEI definition). We do not observe formality rates in agribusiness located in coastal zones only, where formal employment reportedly increased substantially.

#### ***Regulatory barriers to competition undermine competitiveness and innovation***

#### **240. The misallocation of resources to less productive firms and the low adoption or innovation of new technologies in Peru signal significant barriers to market entry and**

<sup>138</sup> The 2014 tax reform has reduced the corporate tax rate for the general regime to 28 percent in 2015/16, 27 in 2017/18, and 26 from 2019 onwards.

<sup>139</sup> Copper and gold prices increased 204 and 385 percent from 2000-15, respectively, while FAO's food price index increased by only 80 percent in the same period.

**competition (Section 3).** If market mechanisms function well—market entry costs are low and firms face a level playing field—resources are shifted toward more efficient uses and more efficient firms thrive and gain market shares while less efficient firms shrink. These allocative efficiency gains play a crucial role in aggregate productivity growth.<sup>140</sup> Low barriers to market entry and competition also encourage all firms to invest in new technologies or innovate to increase their cost effectiveness and outperform their competitors.<sup>141</sup> But that will not happen if vested interests groups are strong enough to capture (local) regulators and create new barriers, allowing firms to obtain profits by lobbying for protection rather than investing in new technologies or processes.

**241. Doing Business Indicators suggest that Peru has a competitive business environment relative to peers overall, but that regulatory constraints to competition such as market entry and exit are the top business environment constraints.** Peru has implemented several regulatory reforms that improved the business environment between 2010 and 2016. It reduced the cost for firms to pay taxes by creating an advanced online registry with up-to-date information on employees, improving electronic filing and payment of the major taxes, and distributing software for value added tax payments. It improved its credit information system by implementing a new law on personal data protection. And, it strengthened investor protections by allowing minority shareholders to request access to non-confidential corporate documents and by introducing fast-track procedures for land registry, cutting by half the time needed to register property. The overall ease of doing business indicator ranks Peru as the 50<sup>th</sup> most business-friendly country among 189 countries worldwide in 2016 (it ranked 71 in 2006), the second highest ranking among Latin American countries after Chile (ranked 48).<sup>142</sup> Among the different sub-indicators, Peru has the lowest ranks in regulatory constraints to competition such as the cost to start (97) or close (74) a business and the costs to trade across borders (88). However, the indicators measure the legal costs to do business for formal sector firms located in the capital city, potentially concealing much more severe regulatory constraints to do business in cities other than Lima.

**242. Peru laid the foundations for comprehensive national competition policy.** It introduced a best-practice legal framework for competition, an independent competition authority, INDECOPI (*Instituto Nacional de Defensa de la Competencia y de la Protección de la Propiedad Intelectual*), embedded competition principles in network sectors regulation, reined in State economic activity, and put in place a unique ex-post control mechanism for regulations that unduly burden private initiative. For instance, since 2014 INDECOPI can declare an existing public norm

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<sup>140</sup> There is a vast theoretical and empirical literature pointing to the importance of allocative efficiency to explain the large differences in income levels across countries (see Hsieh and Klenow, 2009, or Bartelsman, Haltiwanger, and Scarpetta, 2013, among others).

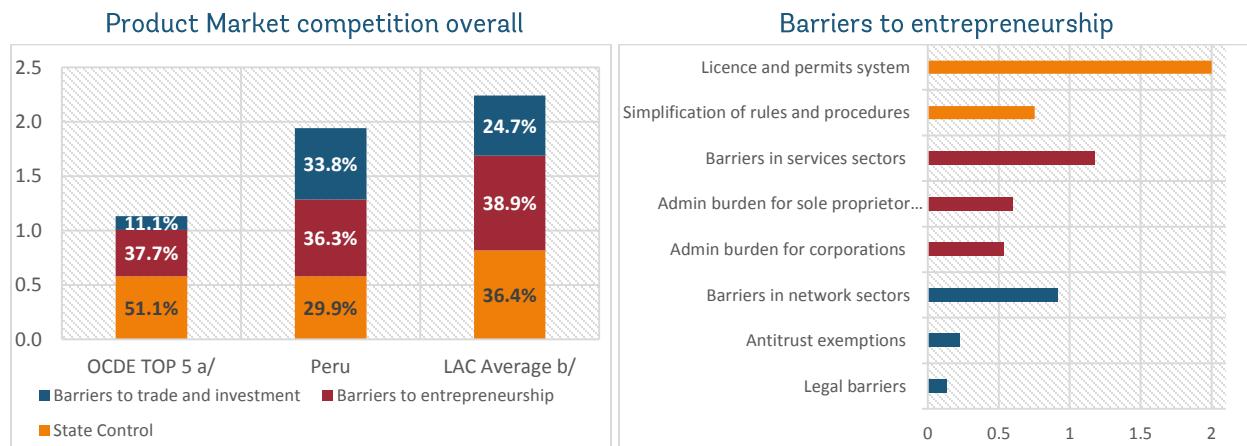
<sup>141</sup> World Bank (2016). The study, for instance, shows that manufacturing firms in Mexico are more likely to invest in digital technologies and use them more productively when they sell products that are directly competing (in the U.S. market) with imports from China.

<sup>142</sup> World Bank Doing Business indicators 2016.

or administrative act as non-compliant with legal framework (illegal) or unreasonable, and sanction the responsible institution or public servant.

**243. Product market competition is stronger in Peru than in the average LAC country but significant regulatory barriers for licenses and permits and in service sectors remain.** Peru performs well in areas of pro-competition network sector regulation, limited State economic activity, and general openness to trade. The extent of State control in Peru is comparable to the OECD countries' (Figure 98). However, barriers to entry and rivalry are still hinder market mechanisms from encouraging firms to raise their efficiency or innovate, especially in backbone service sectors such as gas, electricity, airlines, and telecommunications, and other service sectors. Despite having a liberalized economy for trade, barriers to FDI and trade facilitation remain.

Figure 98: Product market competition performs is stronger than in the average LAC country but significant regulatory barriers for licenses and permits and in service sectors remain



Source: World Bank and OECD Product Market Regulation indicator. Note: absolute values from 0 to 6, higher values are associated with more regulatory barriers to competition.

**244. Regulatory barriers stifle product market competition, especially in services.** Unlike their counterparts in Chile, Mexico and Colombia, professional service providers in Peru self-regulate the entry conditions for new service providers. Professional services (such as lawyers, accountants, architects, and engineers) are licensed by professional bodies and it is a mandatory requirement to be a member of the association.<sup>143</sup> Also, there are more tasks than in the OECD on which these professionals have a monopoly or shared monopoly right.<sup>144</sup> Peruvian firms also report

<sup>143</sup> By some estimates, removing these restrictive regulations would increase value added in 14 Peruvian sectors that use professional services intensively by 0.8 percent, equivalent to 0.2 percent of GDP (World Bank, 2015). Intensive use is defined as an above average technical coefficient with respect to professional services in the input-output matrix. The 14 sectors are: chemical and chemical products; electric machinery and apparatus; information service activities; other transport equipment; electricity, gas and water supply; transport and storage; post and telecom; finance and insurance; renting of machinery and equipment; health and social work; public administration; other business activities; other social and personal services; and professional, scientific and technical activities.

<sup>144</sup> Barone and Cingano (2011).

to spend significantly more management time to deal with government regulations than in the average Latin American country or the worldwide average across countries.

**245. Regulatory barriers and anti-competitive practices may constrain the development of a well-functioning retail payment system, reducing private sector productivity.** High-quality retail payment services at competitive prices enable more efficient use of electronic payments instead of cash and promote economic efficiency across all sectors of the economy. The use of electronic payments in Peru is much lower than in other countries in the LAC region, and interbank transfers are particularly low—electronic payments are twice as high in Mexico and eight times as high in Brazil and credit card payments are about 11 and 60 times higher in Mexico and Brazil, respectively. Interbank transfers (crossing financial institutions as opposed to intra-bank transfers among accounts in the same institution) are only 3 percent of total in the case of credit transfers, and debit transfers are exclusively feasible on an intra-bank basis. While this seems natural in a market with very few large banks instead of many smaller ones, the figure is low in Peru even given its high concentration among banks, pointing to severe constraints in competition. In fact, over 80 percent of card payments run through one network and a single acquirer. The coverage of physical access points to payment services (branches, ATMs, banking agents) has grown, but in rural districts, inhabitants are often facing only one provider. Cash transport services are provided by only two firms with no entry for over more than a decade, and with legal entry barriers in place.

**246. Borrowing costs are high for SMEs and firms located outside of Lima while the banking sector is highly concentrated.** The average real lending rate was still as high as 16 percent in 2013, higher than in most other countries with similar income.<sup>145</sup> The fact that large firms can obtain credit at low competitive rates also indicates that small and medium enterprises' (SMEs') costs of borrowing are much higher. As a result, only half of small firms had a bank loan or credit line in 2010, compared to around 90 percent for medium and large firms. The annual cost of formal sector credit for micro enterprises is 33 percent. Although measurement is difficult, there is evidence that effective borrowing rates are excessive for informal firms.<sup>146</sup> Access to credit also substantially varies geographically. Lima accounts for 45 percent of GDP, but receives 72 percent of the total credit. In Lima, 85 percent of firms have a bank loan, compared to 46 percent in Arequipa and 59 percent in Trujillo and, the country's second and third largest cities. The interest rate spread is high in absolute and relative terms—the third highest in the sample and the highest for countries with similar credit depth of 30 to 50 percent of GDP (Figure 99, left). High administrative costs for small-scale loans and limited access to firm information raise the costs of financing, but the banking sector is also highly concentrated and profitable pointing to a lack of

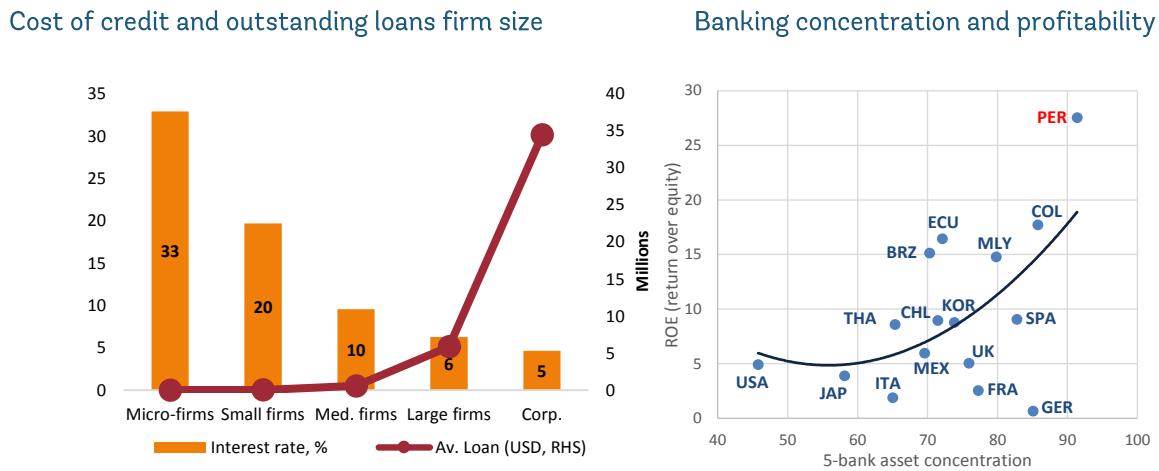
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<sup>145</sup> Corresponds to the average lending interest rate, adjusted by the GDP deflator, as reported by WDI Data, from World Bank.

<sup>146</sup> A survey by the association of banks (ASBANC) found that the annual effective rate in such loans could be as high as 400 percent. Informal loans also can involve pledges, whose value can go from 1.3 to 5 times the value of the loan. This segment is not small, as informal activity accounts for about 20 percent of GDP and units of production categorized informal were 87 percent of all units of production in 2012, according to INEI (2014).

competition in the banking sector (Figure 99, right). The four largest banks accounted for 84 percent of total assets and 83 percent of total deposits in the end of 2015.

**Figure 99: Costs of credit are high for SMEs and banking is highly concentrated and profitable**



Source: left: Choy et al. (2015), Central Bank of Peru; right: Global Financial Development Data, World Bank. Note: left: cost of credit by firm size, in percent, and US\$ million, in 2014; right: the return on equity (ROE) is calculated as the average for 2007–11. 5-bank asset concentration shows the assets of the five largest banks as a share of total assets in commercial banking; in percentage, 2011.

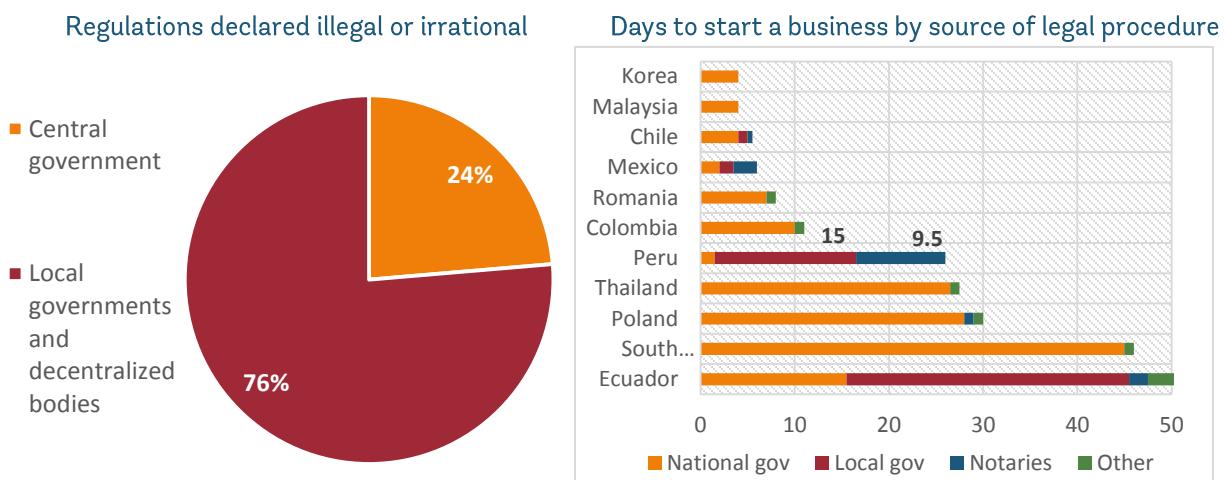
**247. Many instances of undue implementation of legal frameworks and regulatory procedures that hinder market entry and competition and raise firms' operating costs occur at the subnational level.** The Peruvian legal framework gives subnational governments the legal authority to regulate local market entry and investments without the imposing the appropriate checks and balances in the current decentralized system and despite limited implementation capacity. Municipalities have more regulatory and implementation power than in many other countries and subnational governments can effectively limit market access through their licensing and regulatory authority in key service sectors. Procedures relating to company startup, licensing or permits, inspections, and access to land, for example, commonly require procedures at national and subnational levels. According to the index for Bureaucratic Barriers Imposed at the Local Level, INDECOPI processed 613 complaints on bureaucratic barriers in 2013; of these, 76 percent were on barriers imposed by local governments and decentralized bodies. Most of these barriers were classified by INDECOPI as non-compliant with the legal framework (Figure 100, left).<sup>147</sup> The number of complaints increased dramatically in 2014: through July, over 1,200 bureaucratic

<sup>147</sup> The database includes claims identified at national level—the headquarters Commission to Eliminate Bureaucratic Barriers (Comisión de Eliminación de Barreras Burocráticas, CEBB)—and 12 subnational CEBBs. It is classified by sector (14), illegal or unreasonable, and type of barrier. Barriers deemed *illegal* include suspending authorizations to provide passenger interstate road transport in the national road network; requiring proof of a minimum capital of \$1.2 million to offer public transport for passengers; and requesting presentation of a marketing, financial, and administrative feasibility study for any route starting or ending in Lima. Barriers deemed *unreasonable* include requiring transport companies to have authorized land terminals and stations at both ends of the route and commercial stops to access and remain in the sector; requiring vehicles to be no more than three years old to access the market for public transportation of goods; and restricting opening hours.

barriers to local market access were declared non-compliant with the legal framework and/or unreasonable. Moreover, 70 percent of the barriers affect key sectors for development such as transport, telecommunication, construction, real estate, or tourism, limiting local services quality.

**248. The lion's share of administrative constraints to firm entry is imposed by subnational governments or lengthy procedures involving notaries.** All of the legal administrative procedures to start a business in Lima absorb, on average, 26 days. Almost all of the time required to open a business (24.5 days) is dealing with municipalities to obtain an operating license (15 days) or with notaries to the necessary registrations (Figure 100, left). This starkly contrasts with Peru's structural peers, where subnational government regulations or procedures involving notaries are not required. For instance, in Santiago de Chile or in Kuala Lumpur, it takes only 4 to 5 days to start a business and entrepreneurs only need to deal with national government institutions.

Figure 100: Many bureaucratic barriers to competition and entry are subnational



Source: left: INDECOPI, 2014; right: Doing Business, 2016. Note: left: Share (in percent) out of 613 processed complaints. Processed complaints are firms' claims about a bureaucratic procedure that has been declared illegal or irrational by INDECOPI; right: the number of days required by official procedures to open a business in largest city; categorized into procedures imposed by national government, subnational (local) governments, notaries, and other (usually banks).

**249. Local bureaucratic barriers enhance public officials' discretion to discriminate between firms in the implementation of regulations, which can stifle competition and reduce firms' incentives to raise their productivity and innovate in order to break away from potential competitors.** Subnational governments also have crosscutting authorities, on land, environmental and water resource matters, as well as administrative authorities in the application of the regulatory framework through which they can restrict market access and investments in key sectors. Examples abound:

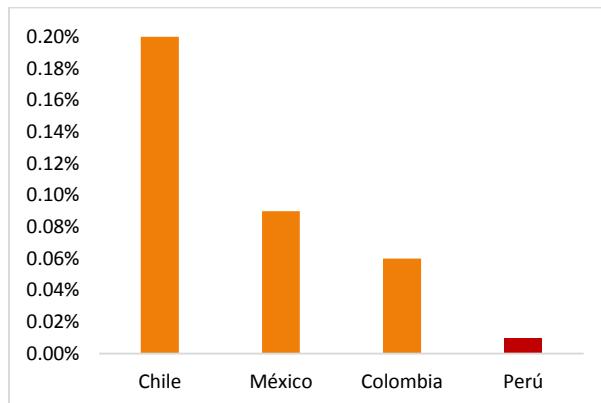
- As of November 2013, 10 out of 21 larger municipalities had no procedure in place for authorizations for telecommunication infrastructure works. At a time when 14,000 new

antennas are needed to roll out 4G, the second mobile operator in Peru was denied municipal permits to install antennas worth \$80 million in investments (de Rosa, Goodwin, Licetti and Villaran, 2015).

- The illegal application of national law at the local level affects competition in key markets. Almost one third of all municipalities did not comply with the legal framework on operational licenses for establishments in 2014. Around \$670 million in key investment projects were stalled between one and three years by regulatory restrictions and arbitrary actions of local authorities (Rosa, Goodwin, Licetti and Villaran, 2015).

**250. While a level playing field is a first order condition to stimulate firms' incentives to innovate<sup>148</sup>, targeted government support programs can further support Peru's low capacity to innovate.** Peru's science, technology and innovation (STI) system was created in the late 1960s and reformed in the mid-2000s. The National Council for Science, Technology, and Innovation (CONCYTEC) is responsible for governing the STI system and for developing, promoting, and coordinating STI policy. Other public actors in Peru's STI system include the Ministry of Production, the Ministry of Economy and Finance, the Ministry of Education, the Presidency of the Council of Ministries (PCM), the Development Finance Corporation (COFIDE), and line ministries respective research organizations and funding programs (Figure 102).

Figure 101: Low public investments in innovation compared to peers



Source: World Bank staff. Note: total public investments in innovation as a percentage of GDP.

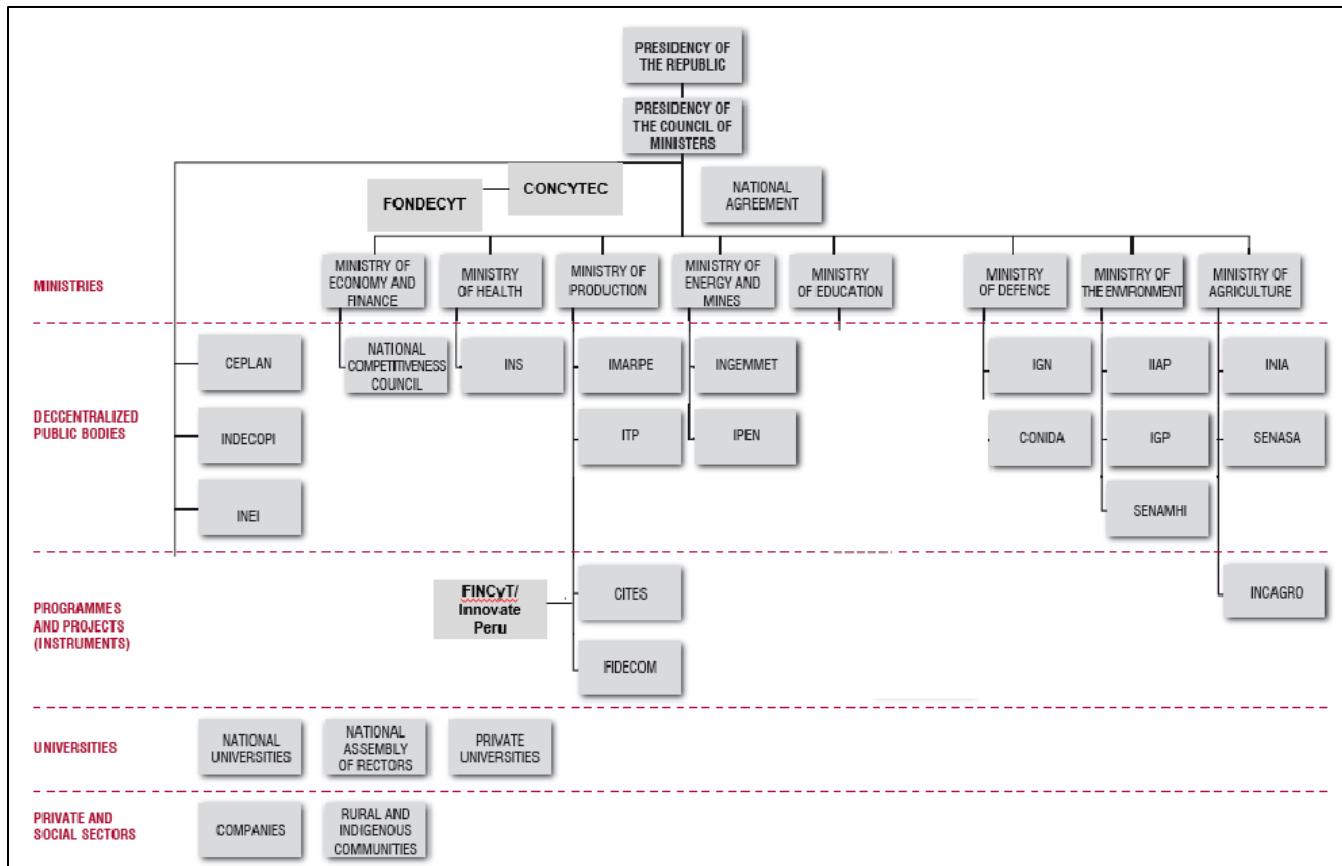
**251. However, the institutional framework of Peru's STI system is fragmented, leading to high coordination costs.** The institutional framework of the national STI system is still underdeveloped compared to peers such as Chile and Colombia. It has many players that result in high coordination costs, the fragmentation of programs, and high monitoring costs—about 20 institutions implemented a public budget of US\$150 million on STI programs in 2015 (Figure

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<sup>148</sup> World Bank (2016).

102). Peru also has one of the weakest sets of STI data in the LAC region, hindering monitoring of policies and international benchmarking. The fragmentation undermines the Government's ability to design and implement efficient policy instruments and a proper monitoring and evaluation framework, thereby constraining the potential impact of innovation policy.

Figure 102: Peru's National Science, Technology and Innovation (STI) System has high coordination costs



Source:

**252. The Government invests very little in public innovation (support) compared to its peers:** CONCYTEC had a 2013 budget that in terms of GDP percentage was 20 times lower than the budgets of innovation agencies in Chile, 10 times lower than in Mexico, and 6 times lower than in Colombia (Figure 101). Public innovation support reaches less than one percent of firms, compared to 6 and 8 percent of firms in Brazil and Chile, respectively. If Peru's production structure implies a relatively low potential for technology spillovers (see section 3), it makes government investments in technology even more important.

## **Supporting and sustainability conditions**

**253. Meeting three conditions is crucial to ensure the sustainability of new micro-structural reforms.** These sustainability conditions, outlined in Section 4, address the growing concerns over environmental degradation and climate change, and their effects on the bottom 40 percent in particular; the need to ensure that the Government can generate sufficient revenues to invest in the pillars of productivity growth and on closing gaps; and the need to improve policy coordination in government to raise the efficiency of public spending; and to strengthen the relations and the trust between the Government and the public. Sustainability conditions and the major constraints to meet them are summarized below:

### ***Right-sizing the fiscal envelope to afford investment and services with sustainability***

**254. Low public spending efficiency and the lack of adequate financing necessary to conduct the necessary reforms are critical sustainability challenges.** Peru has maintained over two decades of macroeconomic stability, which has laid the foundation for healthy economic growth so far. As Section 4 discusses, however, in many areas, the SCD identifies insufficient public spending as a bottleneck to improving access to services and infrastructure crucial to improve the country's competitiveness. Yet, Peru's tax revenues are relatively low, and they would have to increase if the Government is to raise the level of spending on education, health, basic infrastructure, and other services, while maintaining fiscal sustainability. Popping up financial resources is needed to reduce spatial disparities and boost private sector productivity. Making social assistance programs more effective, for instance, primarily entails scaling up the existent, well-targeted programs instead of redesigning the programs themselves. Improving education and health sector outcomes requires (among others) constructing or modernizing school infrastructure or health facilities. Likewise, building comprehensive cadasters in the 99.6 percent of the municipalities that do not have them will also involve allocating more resources for urban planning.

**255. The lack of appropriate funding for sectors highlights the importance to addressing fiscal sustainability risks in Peru.** The necessary increase in public expenditures will only be sustainable if the Government raises its revenue base, for instance, by choosing a tax policy and social security contribution mix that encourages the formalization of labor and enhances tax compliance.

### ***Reducing environmental risks***

**256. Better managing Peru's natural resources is key to ensure the effectiveness of policy reforms in social sectors and infrastructure, such as health or water, and to secure investments and supply in critical sectors of the economy such as mining, agricultural, or**

**energy.** The sustainability and impact of key policy reforms can be jeopardized by the inefficient management of resources, by a growing “grey” agenda, and by the incremental risks from climate change. An incomplete enforcement of environmental regulations has been identified as an important bottleneck. More precisely, the regulatory framework lacks: (a) appropriate environmental standards; (b) wide and systematic environmental monitoring; (c) planning and coordination across institutions in charge of monitoring activities; and (d) sufficient channels for public participation, including information provision and spaces for monitoring by the civil society.

#### ***Improving coordination, institutional capacity and the enforcement of laws***

257. **Despite the economic and social progress of the last decade, Peruvians’ satisfaction with the quality of their government, and their sense of security and social cohesion continue to decline.** In various dimensions, citizens’ perceptions of transparency, equity, and efficiency of the State, and of the justice sector in particular, are among the most negative in LAC. Compared to other countries in Latin America, Peru has the lowest trust in the judicial system, the national congress and municipal governments, and crime, corruption, and unemployment are the top concerns for its population. In part, this is related to the inability of government institutions to enforce the law in an efficient and equitable manner, to provide reliable and timely police and justice services to the population, and to combat organized crime.

258. **The impact and sustainability of sector policy reforms would be jeopardized without improvements in the coordination across different government bodies, including more efficient decentralization arrangements.** To increase productivity of people and firms, services need to be delivered in a coordinated and efficient manner. So far, infrastructure investment and service delivery has been implemented with a low degree of coordination and planning, and often in a responsive rather than proactive way. The lack of adequate coordination and planning has led over time to a haphazard urbanization process, and is leading towards increasingly congested cities, with the resulting outcomes for traffic, pollution, crime, and other negative effects. This process has also led to large inequities in access and costs of services within urban areas, with poor people bearing higher economic and social burdens. One critical factor impacting policy coordination is the inefficient process of decentralization, which affects service provision in many areas. The inefficient and inequitable justice system further undermines property rights and amplifies growing safety concerns for the population.

259. **In fact, institutional reform to improve coordination and efficiency becomes increasingly important to guarantee service delivery in all regions.** While responsibilities for service provision may be assigned at the municipal level, the challenges of service provision usually go beyond administrative boundaries. A local government might not be large and prepared enough to provide adequate solutions for difficulties affecting the metropolitan area as a whole.

Recent work suggests that policy coordination is positively correlated with local GDP: metropolitan areas fostering coordination across local governments have between 4 to 7 percent higher levels of GDP.<sup>149, 150</sup>

## Conclusion

260. **This Section has organized the priority areas for action according to their impact on the two main binding constraints for shared prosperity in Peru.** The new micro-reforms outlined in this Section are the result of an in-depth analysis from the vast literature covering economic and social development in Peru, as well as from the detailed inputs and comments provided by the Country Team at large, including those provided during collective workshops through a prioritization exercise. The specific reforms within each category can indeed be traced back to their importance in raising productivity or bridging spatial development gaps (Figure 3).

261. **The SCD identifies the need for a new generation of micro-structural reforms in a number of policy areas.** Micro-structural reforms with the greatest impact on addressing Peru's structural challenges for shared prosperity include raising the quality of human capital to allow all Peruvians to acquire the skills necessary to take better income opportunities and to raise firms' capacity to innovate; improving connecting infrastructure and public services to better connect citizens to quality public services and firms to markets; and reducing factor and product market rigidities to ensure affordable consumer prices and to encourage all firms to compete on the basis of their efficiency and innovative capacity. At the same time, however, the SCD finds that the extent to which these reforms have an impact depends on addressing key sustainability risks. Peru therefore needs to reduce environmental risks; right-size the fiscal envelope to afford investments and services with sustainability; and implement institutional reforms to improve government coordination, capacity, and law enforcement.

262. **The longer list of necessary micro-structural reforms reflects that the quality of the services in Peru is still catching up in many areas with its aspiration to become a high-income country and its own recent fast growth.** While Peru made some progress in most of these areas in the recent past, the number of necessary micro-structural reforms reflects Peru's stage of development as a high middle-income country in which the quality of social, infrastructure, and regulatory services are still lagging behind that of high-income countries in many dimensions. Macroeconomic stability and favorable exogenous conditions helped Peru achieve fast economic growth over the past 15 years. But public services and institutions are to some extent still catching up with the more sophisticated needs and demands of the richer population and new middle class. This is also reflected in Peru's structural challenges for shared prosperity. That is, reducing spatial

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<sup>149</sup> Ahrend et al. (2014).

<sup>150</sup> Policy Note: Intermediate Cities.

disparities and boosting private sector productivity demands a multi-sectoral approach and as it does not only involve a single policy area.

**263. Nevertheless, this SCD finds that significant progress in all areas calling for micro-structural reforms will not be possible without institutional reforms that improve government coordination, capacity, and enforcement.** The lack of government coordination, capacity, and enforcement has been recognized as a critical cross-cutting constraint in all sectors. The inefficiencies in all sectors are often largely the result of inefficient planning coordination across the different levels of government (national, regional, municipal), or across sectors (ministries) or low capacity to enforce policies. Implementing institutional reforms to improve government coordination and thus its efficiency is critical to maximize the gains for shared prosperity from any micro-structural and sustainability reforms. Other reforms will not yield the desired results unless institutional reforms improve government efficiency, including its ability to plan, coordinate, and implement policies, and to guarantee law enforcement and access to justice.

#### Box 9: Knowledge gaps

**Gender:** Regarding gender, there are important aspects of the labor market for women that remain to be better understood. First, labor force participation is higher in Peru than in most other LAC countries, even though the economic development and urbanization process in Peru has not been an outlier in the region. It is important to understand the factors driving this higher participation and also to understand why women still lag in terms of compensation vis-a-vis men. As outlined in the SCD, women also suffer disproportionately from exposure to domestic violence, but less is known about interventions that would help to better manage this risk in the Peruvian context.

**Labor informality:** Peru has one of the highest levels of labor informality in Latin America. But the factors determining labor informality in Peru are not yet well understood. Peru's high labor costs and strict labor regulation, especially the high firing cost, are likely to explain part of the high labor informality. But informality remains high even under the special regimes for micro enterprises and agribusinesses which foresee a more flexible labor market regime, including significantly lower non-wage labor costs. It is thus not well understood to which extent labor informality is a choice and linked to the general low trust in the government and the low compliance with regulations in Peru overall. Against this background, it is also important to better understand to which extent higher productivity will translate in formalization in Peru.

**Size of the impact of subnational bureaucratic barriers to competition on firm productivity:** Subnational government bodies in Peru have significant regulatory authority relative to other countries, for instance, by issuing operating licenses or inspecting firms in their jurisdiction. Most regulatory barriers to competition in Peru stem from subnational regulation. It is thus important to better understand to which extent these specific barriers hinder the development of a harmonized single market and thus the ability of firm to exploit economies of scales and enhance their productivity.

## References

- Abusada, Roberto; Cusato, Antonio and Pastor, Cinthya. 2008. “Eficiencia del gasto en el Perú”. Lima. Instituto Peruano de Economía (IPE).
- Alcázar, Lorena and Jaramillo, Miguel. 2012. “El Impacto de la Licencia Municipal en el desempeño de las microempresas en el Cercado de Lima,” GRADE, Documento de Investigación No. 64, Lima, Peru.
- Alcázar, Lorena and Diego Ocampo. 2016. “Consecuencias de la violencia doméstica contra la mujer en el progreso escolar de los niños y niñas del Perú,” GRADE, Documento de Investigación No. 80, Lima, Peru.
- ANA-Autoridad Nacional del Agua. 2015. Data available at <http://www.ana.gob.pe/>
- Aragón, Fernando; Miranda, Juan Jose; Oliva, Paulina. 2016. “Particulate matter and labor supply: the role of caregiving and non-linearities”. Policy Research working paper; No. WPS 7658. Washington, D.C.:.
- Araujo, Jorge T.; Vostroknutova, Ekaterina; Wacker, K.M. and Clavijo, M. 2015. “Understanding Latin America and the Caribbean’s Income Gap”. Washington, DC: World Bank.
- Aterido, Reyes and Iacovone, Leonardo. 2015. “Firms’ Dynamics in Peru: Analysis of Jobs and Productivity”. Washington, DC: World Bank.
- Barone, G. and Cingano, F. 2011. “Service Regulation and Growth: Evidence from OECD Countries”. *The Economic Journal*.
- Bartelsman, Eric, Haltiwanger, John and Scarpetta, Stefano. 2004. “Microeconomic Evidence on Creative Destruction in Industrial and Developing Countries.” Working paper.
- Bartelsman, Eric, John Haltiwanger, and Stefano Scarpetta. 2013. “Cross-country differences in productivity: The role of allocation and selection.” *The American Economic Review* 103.1 (2013): 305-334.
- Benavides, Martin, Juan León, Lucía Espezúa and Alejandro Wangeman. 2015. “Estudio especializado sobre Población Afroperuana,” GRADE and Ministerio de Cultura.
- Botero, Javier. 2015. Citing World Bank. 2007. “World Development Report 2007: Development and the next generation”. Washington DC: The World Bank.
- Briceño-Garmendia, Cecilia. 2016. “Costos y tiempos portuarios y marítimos en el Perú”. Próxima publicación de MINCETUR-Banco Mundial.
- Briceño-Garmendia, Cecilia and Guasch, Luis. 2015. “Análisis integral de logística en Perú”. Lima: Banco Mundial - Mincetur - SECO.
- Briceño-Garmendia, Cecilia; Moroz, Harry and J. Rozenberg. 2015. “Road networks, accessibility, and resilience: the cases of Colombia, Ecuador, and Peru”. LCR Regional Study. Washington, D. C.: Banco Mundial (en prensa).
- Brown, J.D., G. A. Crespi, L. Iacovone, L. Marcolin. 2015. “Productivity Convergence at Firm Level: New Evidence from Americas”. In J. Araujo, E. Vostroknutova, K. Wacker, M. Clavijo, eds. “Understanding Latin America and the Caribbean’s Income Gap”, World Bank.
- Buera, F., Fattal-Jaef, R., Shin, Y. 2015. “Anatomy of a Credit Crunch: From Capital to Labor Markets,” The National Bureau of Economic Research (NBER), Working Paper No. 19997.
- Ciudadanos Al Día – CAD. 2013. “RankinCAD 2013: Corrupción en Gobiernos Regionales”. Lima, Peru.
- Cai, J. and N. Li. 2013. “The Composition of Knowledge and Economic Growth in a Path-Dependent World”. *Society for Economic Dynamics*, 2013

- Caselli, Francesco. 2005. "Accounting for Cross-Country Income Differences". In Aghion, P. and S. N. Durlauf eds. *Handbook of Economic Growth*, Volume 1, Part A, Pages 1-1060, I1-I46.
- Castro, Juan and Yamada, Gustavo. 2012. "Convexification and Deconvexification of the Peruvian Wage Profile: A Tale of Declining Education Quality". Lima: Universidad del Pacifico.
- Castro, Juan F., Yamada, Gustavo and Arias, Omar. 2010. "Analysis of School Trajectories, Career Choice, and Insertion into the Peruvian Labor Market". World Bank, mimeo.
- CEB-Comision de Eliminación de Barreras Burocraticas .2014.
- CEDEFOP-European Centre for the Development of Vocational Training. 2011. "VET in Europe: Country Reports".
- CEDLAS-Centro de Estudios Distributivos, Laborales y Sociales Universidad Nacional de la Plata.
- Alvarez Cisneros, David. 2013. "Opportunities and Obstacles to Financial Inclusion in Peru," Center for Financial Inclusion.
- Central Bank of Peru: Internal demand and Agriculture GDP, 1950-2014.
- Central Bank of Peru: Economic Activity, Productivity and Labor Market Statistics.
- Céspedes, N. 2011. "Tendencias de las horas de trabajo en el Mercado laboral peruano" (Revista Moneda). Lima: Banco Central de Reserva del Perú.
- Céspedes, N. and Ramírez-Rondán, N. 2014. "Total Factor Productivity Estimation in Peru: Primal and Dual Approaches". Department of Economics - Pontificia Universidad Católica del Perú.
- Choy, M., Costa, E., Churata, E. 2015. "Radiografía del Costo del Crédito en el Perú". Lima: Banco Central de Reserva del Perú.
- CIFOR-Center for International Forestry Research. 2006. "Why Policy Reforms Fail To Improve Logging Practices: The Role Of Governance And Norms In Peru". Lima: CIFOR
- Comin, D. and Mestieri, M. 2013. "If Technology Has Arrived Everywhere, Why Has Income Diverged?" Cambridge, MA: National Bureau of Economic Research.
- CNF, AIDER y UNALM. 2005. "Organización y Conducción de Foros Regionales sobre Tala y Comercio Ilegal de Maderas." Cited in World Bank (2006). "Análisis Preliminar Sobre Gobernabilidad Y Cumplimiento De La Legislación Del Sector Forestal En El Perú," Report No. 80505, Washington, DC: World Bank.
- Contraloría General De La República. 2016. "Informe de Gestión 2009-2016". Lima, Peru.
- Cord, L. Rodríguez-Castelán, C., Genoni, Maria Eugenia. 2015. "Shared Prosperity and Poverty Eradication in Latin America and the Caribbean". Washington, DC: World Bank.
- De la Torre, A., Beylis, G., Piniés, J. 2014. "International Flows to Latin America – Rocking the Boat?" LAC Semiannual Report (April) The World Bank (2014). Washington, DC: World Bank.
- De la Torre, A., Levy Yeyati, E., Beylis, G., Didier, T., Rodriguez Castelán, C., Schmukler, S. 2014. "Inequality in a Lower Growth Latin America," LAC Semiannual Report (October) The World Bank (2014). Washington, DC: World Bank.
- Defensoría del Pueblo. 2016. "Reporte de Conflictos Sociales N 150"  
[\(<http://www.defensoria.gob.pe/modules/Downloads/conflictos/2016/Reporte-Mensual-de-Conflictos-Sociales-N-150---Agosto-2016.pdf>\)](http://www.defensoria.gob.pe/modules/Downloads/conflictos/2016/Reporte-Mensual-de-Conflictos-Sociales-N-150---Agosto-2016.pdf)

Diaz Bazan T., S. Garriga, M.E. Genoni, and R. Vakis. 2016. "District level welfare disparities in Peru: The role of endowments and context", Working Paper.

El Comercio. 2015(a). "*Sepa cuánto debe pagar por su consumo de agua potable.*" <http://elcomercio.pe/economia/peru/sepa-cuanto-pagar-su-consumo-agua-potable-noticia-1821880>

El Comercio. 2015(b). "*La Oroya: Contaminación por plomo continúa afectando a niños.*" <http://elcomercio.pe/sociedad/junin/oroya-contaminacion-plomo-continua-afectando-ninos-noticia-1809791> El Comercio, 2016, "*¿Cuántos millones debe pagar Petro-Perú por derrames de crudo?*". Available at: [http://elcomercio.pe/peru/pais/multarian-petro-peru-s79-mlls-derrames-crudo-noticia-1885531?ref=flujo\\_tags\\_110347&ft=nota\\_2&e=titulo](http://elcomercio.pe/peru/pais/multarian-petro-peru-s79-mlls-derrames-crudo-noticia-1885531?ref=flujo_tags_110347&ft=nota_2&e=titulo)

Escobal, Javier and Ponce, Carmen. 2009. "Spatial Patterns of Growth and Poverty Changes in Peru (1993 – 2005)". Proceedings of the 2009 Congress of the Latin American Studies Association. Rio de Janeiro, Brazil, 11-14 June.

Escobal, Javier and Ponce, Carmen. 2011. "Access to Public Infrastructure, Institutional Thickness and Pro-poor Growth in Rural Peru". *Journal of International Development* 23 (3): 358-79.

Escobal, Javier and Ponce, Carmen (eds.). 2016. "Combinando protección social con generación de oportunidades económicas: Una evaluación de los avances del proyecto Haku Wiñay," GRADE, Lima, Peru.

Escobal, Javier and Maximo Torero. 2000. "Measuring the Impact of Asset Complementarities: the case of rural Peru, Documento de Investigacion, GRADE, Lima, Peru

Espinoza, R., Hernández-Avila, M., Narciso, J., Castañaga, C., Moscoso, S., Ortiz, G. 2003. "Determinants of bloodlead levels in children in Callao and Lima metropolitan area". *Salud Publica Mex.* 2003; 45 Suppl 2:S209-19.

Euromonitor. 2016. "Retailing in Peru". December 2016.

Fattal, R. 2015. "TFP Gains from removing input-output distortions in Peru." World Bank, mimeo.

Feenstra, R.C., Inklaar, R., Timmer, M.P. 2015. "The Next Generation of the Penn World Table". Pittsburgh, PA: *American Economic Review*.

Ferreira, F.H.G., Messina, J., Rigolini, J., López-Calva, L.F., Lugo, M.A., Vakis, R. 2013. "Economic Mobility and the Rise of the Latin American Middle Class". Washington, DC: World Bank.

Fort, R., Remy, M. and Paredes, H. 2015. "*¿Es Necesario una Estrategia Nacional de Desarrollo Rural en el Perú? Apunte para el Debate de Propuestas de Implementación*". Lima: Grupo de Análisis para el Desarrollo (GRADE).

Foster, Lucia, John Haltiwanger, and Chad Syverson. 2008. "Reallocation, firm turnover, and efficiency: Selection on productivity or profitability?", *The American Economic Review*, 98, 1, 394-425.

Galarza and Kámiche. 2012, "Impactos del Fenómeno El Niño (FEN) en la economía regional de Piura, Lambayeque y La Libertad," Proyecto Seguros para la Adaptación al Cambio Climático, GIZ.

Genoni, Maria Eugenia and Salazar, Mateo. 2015. "Poverty toward Shared Prosperity in Peru". Washington, DC: World Bank.

Gestion. 2014. "La Sunat proyecta cerrar con una presión tributaria de 17% este año". Available at: <http://gestion.pe/economia/sunat-proyecta-cerrar-presion-tributaria-17-este-ano-2098058> .

Gestion. 2015. "Evasión tributaria en el Perú asciende a S/. 25.000 millones, estima Geneva Group". Available at: <http://gestion.pe/economia/evasion-tributaria-peru-asciende-s-25000-millones-estima-geneva-group-2138881>.

Ghezzi, Piero and Gallardo, Jorge. 2013. "Que se puede hacer con el Perú: Ideas para sostener el crecimiento en el largo plazo". Universidad del Pacífico (PUCP).

Global Integrity (2012). "Global Integrity Indicators". Available at:  
<http://www.globalintegrity.org/downloads/>

Gobierno Regional del Callao. 2016. "Aspectos Biológicos y Ambientales". Available at: [http://sitr.regioncallao.gob.pe/webzee/aspectos\\_ambientales5.aspx](http://sitr.regioncallao.gob.pe/webzee/aspectos_ambientales5.aspx)

Goodwin, T., Licetti, M. and Villarán, L. 2015. "Peru-Tackling regulatory barriers to competition and local economy development". Lima: World Bank.

GRADE. 2015. "Los niños muestran mejores logros de aprendizaje que las niñas en Matemáticas a lo largo de la Educación Básica". Aportes para el Debate. Available at: <http://www.grade.org.pe/aportes/los-ninos-muestran-mejores-logros-de-aprendizaje-que-las-ninas-en-matematicas-a-lo-largo-de-la-educacion-basica/>

Grosh, Margaret, Bussolo, Maurizio and Freije, Samuel. 2014. "Understanding the Poverty Impact of the Global Financial Crisis in Latin America and the Caribbean". Directions in Development. Washington, DC: World Bank.

Hoeckel, Kathrin. 2008. "Costs and Benefits in Vocational Education and Training," OECD.

Hopenhayn, Hugo A. 2016. "Firm Size and Development." *Economía*, 17, 1, 27-49.

Hsieh, Chang-Tai, and Peter J. Klenow. 2009. "Misallocation and Manufacturing TFP in China and India." *The Quarterly journal of economics*, 124, 4, 1403-1448.

Hsieh, Chang-Tai, and Peter J. Klenow. 2014. "The Life Cycle of Plants in India and Mexico." *Quarterly Journal of Economics*, 129, 3.

IDL Reporteros. 2016. "*La pesca descontrolada de jurel en el Perú*," Lima, Perú. Available at: <https://idl-reporteros.pe/la-pesca-descontrolada-del-jurel-en-el-peru/>

International Labour Organisation. 2012. "Global Estimate of Forced Labour". Genève, Switzerland

International Labour Organisation . 2016. "World Employment Social Outlook, Trends 2016".

International Monetary Fund. 2016. "Regional Economic Outlook: Western Hemisphere".

INDECOPI- Instituto Nacional de Defensa de la Competencia y de la Protección de la Propiedad Intelectual. 2015. "Índice de Barreras Burocráticas de Acceso al Mercado Impuestas a Nivel Local Durante el Año 2014". Lima: INDECOPI.

Instituto Nacional de Estadísticas e Informática. 2008. "Matriz Insumo Producto". Lima: INEI.

Instituto Nacional de Estadísticas e Informática. 2008. PIB por actividades económicas – DATOS. Lima: INEI

Instituto Nacional de Estadísticas e Informática. 2015. "Mapa de Pobreza Provincial y Distrital 2013". Lima: INEI

Instituto Nacional de Estadísticas e Informática. "ENAHO", Lima: INEI

Instituto Nacional de Estadísticas e Informática. (2012-2015). "Encuesta Demográfica y de Salud Familiar – ENDES". Lima: INEI

Inter-American Development Bank. 2012. "Un espacio para el desarrollo: Los mercados de vivienda en América Latina y el Caribe". Washington, DC: Inter-American Development Bank (IDB).

Jaramillo, Miguel. 2014. "The Incidence of Social Spending and Taxes in Peru". Washington, DC: Center for Inter-American Policy and Research and Department of Economics, Tulane University, New Orleans.

LAC Equity Lab (DATA), The World Bank.

Langeland, A. 2015. "Impact of alluvial artisanal and small-scale gold mining in the Madre de Dios River Basin, Peru: total mercury levels in human and farmed fish populations," University of Michigan, Working paper.

Lanphear, B., Dietrich, K., Auinger, P. and Cox, C. 2000. "Cognitive deficits associated with blood lead concentrations <10 microg/dL in US children and adolescents". Public Health Reports. 2000;115(6):521-529

LAPOP-Latin American Public Opinion Project. 2014. "The Political Culture of Democracy in the Americas 2014: Democratic Governance across 10 Years of the American Barometer". Tennessee: Vanderbilt University-LAPOP

Larsen, Bjorn, Skjelvik, J. M., and Strukova, E. 2013. "Economic Assessment of Environmental Degradation in Peru: An update 2012". Washington, DC: World Bank

Latinobarómetro. 2015. <http://www.latinobarometro.org/lat.jsp>

Lavado, Pablo; Rigolini, Jamele; and Yamada, Gustavo. 2015. "Giving Peru a Productivity Boost: Towards a System of Continuous Education and Training," The World Bank and Universidad del Pacífico. Lima, Peru.

Loayza, Norman and Jamele Rigolini. 2016. "The Local Impact of Mining on Poverty and Inequality: Evidence from the Commodity Boom in Peru". *World Development*, Volume 84, August 2016, Pages 219–234.

Loayza, Norman. 2016. "La productividad como clave del crecimiento y el desarrollo en el Perú y el mundo," *Banco Central de Reserva, Revista Estudios Económicos* 31. Available at: <http://www.bcrp.gob.pe/docs/Publicaciones/Revista-Estudios-Economicos/31/ree-31-loayza.pdf>

MACROCONSULT. 2012. "*La economía de la minería ilegal de oro en el Perú*". Lima, Peru.

MACROCONSULT. 2014. "*Evaluación del D.S. 005-2012-PRODUCE a 2 años de su emisión*". Lima, Peru.

Matos Mar, J. 1984. "Desborde Popular y Crisis del Estado. El nuevo rostro del Perú en la década de 1980". Instituto de Estudios Peruanos (IEP).

Medici, A. and Gómez-Suarez, R. 2015. "La Disponibilidad de Servicios de Salud en Perú". Lima, Peru.

Ministerio del Ambiente. 2014. "Informe Nacional del Estado del Ambiente, 2012-2013". Lima: MINAM.

Ministerio del Ambiente. 2014. "Los pasivos ambientales". Lima: MINAM

Ministerio del Ambiente. 2015. "Informe Nacional de Calidad del Aire 2013 – 2014". Lima: MINAM. Available at: <http://www.minam.gob.pe/wp-content/uploads/2016/07/Informe-Nacional-de-Calidad-del-Aire-2013-2014.pdf>

Ministerio de Educación. 2013. "PISA 2012: Primeros Resultados. Informe Nacional del Perú". Lima: MINEDU MINEDU-Ministerio de Educación (2015). "Evaluación Censal de Estudiantes 2015," - UMC (Learning Quality Measurement Office, Lima: MINEDU.

- Ministerio de Energía y Minas. 2015. “Boletines Estadísticos del Subsector Minero (2015)”. Lima: MINEM
- Ministerio de Energía y Minas. 2016. “Ministro Tamayo participó en reunión del Ejecutivo con Gobernadores de la Macroregión Sur”. Lima: MINEM. Available at: [http://www.minem.gob.pe/\\_detallenoticia.php?idSector=9&idTitular=7550](http://www.minem.gob.pe/_detallenoticia.php?idSector=9&idTitular=7550)
- Ministerio de Salud. 2005. “Desarrollo de un Plan de Intervención Integral para Reducir la Exposición al Plomo y otros Contaminantes en el Centro Minero de La Oroya, Perú”. Lima: MINSA.
- MiQuiosco. 2016. “Hacia la Dirección Correcta,” by Angus Laurie. Lima: Perú. Available at: <http://miquiosco.com/ver/164462-hacia-direccion-correcta-angus-laurie-noticia-1930894>
- Ñopo, Hugo. 2016. Diálogo de Políticas. Educación (Presentation).
- Organisation for Economic Co-operation and Development. 2014. “PISA 2012 Results: What Students Know and Can Do – Student Performance in Mathematics, Reading and Science” (Volume I, Revised edition, February 2014)”. Paris: OECD Publishing.
- Organisation for Economic Co-operation and Development. 2015. “Multi-dimensional Review of Peru: Volume 1. Initial Assessment, OECD” Development Pathways, OECD Publishing, Paris. Available at: <http://dx.doi.org/10.1787/9789264243279-en> OECD/ECLAC/CIAT/IDB (2015). “Revenue Statistics in Latin America and the Caribbean”. Paris: OECD Publishing
- Organisation for Economic Co-operation and Development. 2016. “PISA 2015 Results: Excellence and Equity in Education– Student Performance in Mathematics, Reading and Science” (Volume I, December 2016), PISA, OECD Publishing.
- Oxford Analytica. 2016. “Educación y nutrición (Anemia)”.
- Pautrat, L. and Lucich, I. 2006. “Análisis preliminar sobre gobernabilidad y cumplimiento de la legislación del sector forestal en el Perú”. The World Bank.
- Raffo, Emma. 2015. “Estudio antropológico sobre cuidado de salud.” Lima: World Bank.
- Registry for Judicial Delinquent Debtors (Law 30201).  
[http://www.leyes.congreso.gob.pe/LeyNume\\_1p.aspx?xEstado=2&xTipoNorma=0&xTipoBusqueda=4&xFechaI=&xFechaF=&xTexto=&xOrden=0&xNormaI=30201&xNormaF=30229](http://www.leyes.congreso.gob.pe/LeyNume_1p.aspx?xEstado=2&xTipoNorma=0&xTipoBusqueda=4&xFechaI=&xFechaF=&xTexto=&xOrden=0&xNormaI=30201&xNormaF=30229)
- Registry for Judicial Delinquent Debtors (Law 30229).  
[http://www.leyes.congreso.gob.pe/LeyNume\\_1p.aspx?xEstado=2&xTipoNorma=0&xTipoBusqueda=4&xFechaI=&xFechaF=&xTexto=&xOrden=0&xNormaI=30201&xNormaF=30229](http://www.leyes.congreso.gob.pe/LeyNume_1p.aspx?xEstado=2&xTipoNorma=0&xTipoBusqueda=4&xFechaI=&xFechaF=&xTexto=&xOrden=0&xNormaI=30201&xNormaF=30229)
- Remy, M. 2015. “Desigualdad Territorial en el Perú. Reflexiones Preliminares”. Lima: Instituto de Estudios Peruanos (IEP).
- RENAMU (Registro Nacional de Municipalidades) <https://www.inei.gob.pe/prensa/noticias/inei-actualizara-registro-nacional-de-municipalidades-al-ano-2015-8575/>
- República del Perú. 2015. “Contribución Prevista y Determinada a Nivel Nacional (Indc1) De La República Del Perú”. Country Paper for the Paris 21st Community of Parties (COP).
- Ricse Castano, Carlos. 2016. “Informe sobre estado actual de la implementación de presupuesto por resultados en el sector salud” The World Bank.
- Rivadeneyra, D. 2014. “Tres Destapes sobre el Negocio de la Tala Ilegal en el Perú”, *Utero.pe*. Lima, Peru.

Ruppert Bulmer, Elizabeth; Mathilde Perinet; Angela Elzir and David Robalino. 2015. "Jobs in Peru: Dynamics, Constraints and Policy Implications," background paper for the Peru Flagship Report, The World Bank.

Russo, Giovanni; Bainbridge, Steve; and Dunke, Torsten. 2013. "Benefits of Vocational Education and Training in Europe for people, organisations and countries," CEDEFOP.

Servicio de Agua Potable y Alcantarillado de La Libertad, S.A. 2014. "Estudio Tarifario 2014-2019". Lima: Sunass

SEDLAC-Socio-Economic Database for Latin America and the Caribbean, CEDLAS and the World Bank.

SPDA Actualidad Ambiental. 2016. "Yuri Hooker: Pesca ilegal está fomentando la desaparición de varias especies marinas". (B. Moreno, Producer) Disponible en: <http://www.actualidadambiental.pe/?p=35289>

SUSALUD and INEI (2014). "Resultados de la Encuesta Nacional de Satisfacción de Usuarios en Salud (ENSALUD)." <http://portales.susalud.gob.pe/documents/11450/29009/01+INFORME+FINAL.pdf/901a201f-ccd3-4080-b1bc-8365d16a5aa7>

Székely, M., Kudo, I. 2015. Desafíos Educativos del Siglo XXI para Perú: Balance de la Política de Educación Básica 2007-2014. Washington, DC: World Bank.

Terrazas, B., Rivas , M., and Hurtado, K. 2014. "Retos actuales de la inversión minera en el Perú", Pontificia Universidad Católica del Perú. Lima, Peru..

The Conference Board. 2015. "Total Economy Database". Statistics, New York.

The World Bank and the International Labor Organization. 2014. World Development Indicators: Labor force structure.

The World Bank and World Health Organization Global Health Expenditure Database. 2014. World Development Indicators: Health Systems.

The World Bank. 2011. "El Mercado Laboral Peruano durante el Auge y la Caída," The World Bank. Lima, Peru.

The World Bank. 2014(a). "Jobs or Privileges, Unleashing the Employment Potential of the Middle East and North Africa", The World Bank, Washington D.C.

The World Bank. 2014(b). Global Findex Database. <http://datatopics.worldbank.org/financialinclusion/>.

The World Bank. 2015(a). "Peru Building on Success: Boosting Productivity for Faster Growth". Washington, DC: World Bank.

The World Bank. 2015(b). "Indigenous Latin America in the Twenty-First Century". Washington, DC: World Bank.

The World Bank. 2016(a). "Perú hacia un sistema integrado de ciudades: Una nueva visión para crecer". Lima: World Bank.

The World Bank. 2016(b). "Education policy note". The World Bank. Lima, Peru.

The World Bank. 2016(c). "Peru Nutrition Policy Note". The World Bank. Lima, Peru.

The World Bank. 2016(d), "Demand for Housing in Peru". The World Bank. Lima, Peru.

The World Bank. 2016(e). "Digital Dividends. World Development Report 2016". Washington, DC: World Bank.

The World Bank. 2016(f). "Doing Business 2016: Measuring Regulatory Quality and Efficiency". Washington, DC: World Bank.

The World Bank. 2016(g), "The Commodity Cycle in Latin America: Mirages and Dilemmas". Policy Report, The World Bank.

The World Bank. 2016(h). "Project Appraisal Document on a Proposed Loan to the Republic of Peru for an Investment in Environmentally Sustainable Development Project," The World Bank, Washington DC.

The World Bank. 2016(i). "Key issues facing Peru's fisheries sector and opportunities for World Bank Group support" - Policy Brief. Prepared by the World Bank / FAO team.

The World Bank. 2016(j). "Peru Public Expenditure Review", forthcoming.

The World Bank. 2016(k). "Lessons from Poland, Insights for Poland: a Sustainable and Inclusive Transition to High Income Status", forthcoming.

The World Bank. 2016(l). "Technical proposal for the design of the National School Infrastructure Plan – PNIE". Lima, Peru, forthcoming.

The World Bank. The International Income Distribution Data Set (I2D2)

The World Bank's Logistics Performance Index. (2014). Available at:  
<http://lpi.worldbank.org/international/global>

The World Health Organization. 2015. "Climate and Health Country Profile – 2015: Peru". Available at: <http://www.who.int/globalchange/resources/PHE-country-profile-Peru.pdf?ua=1>

The World Justice Project. 2015. "Rule of Law Index 2015". Washington, DC: World Justice Project

Trivelli, Carolina. 2014. "Articular, única opción para movernos de programas sociales aislados a una estrategia de Desarrollo e Inclusión Social que enfrente la pobreza." Lima: MIDIS.

Truth and Reconciliation Commission. 2003. "Comisión de la verdad y reconciliación, Informe Final". Lima, Peru.

Universidad del Pacifico. 2010. "Balance de la Inversión Pública: Avances y Desafíos para consolidar la Competitividad y el Bienestar de la Población". Lima, Peru.

Universidad del Pacifico and AFIN-Asociación para el Fomento de la Infraestructura Nacional. 2015. "Plan nacional de Infraestructura 2016-2025". Lima: Universidad del Pacífico

United Nations Office on Drugs and Crime. 2015. "Perú: Monitoreo de Cultivos de Coca 2014". Lima: UNODC

Vakis, Renos ; Rigolini, Jamele and Lucchetti, Leonardo. 2015. "Left behind: chronic poverty in Latin America and the Caribbean, Overview". Washington, DC: World Bank.

Vermeersch, C., Cotlear, D., Alvarado, B., Giovagnoli, P. 2016. Financiamiento de la salud en el Perú: Análisis de la situación actual y desafíos de política al 2021, Washington, DC: World Bank.

Volpe, Martincus, C., Carballo, J., Garcia, P., Graziano, A. 2014. "How Do Transport Costs Affect Firms' Exports?" Washington, DC: Inter-American Development Bank (IDB).

Vtyurina, S. and Z. Leal. 2016. "Fiscal Multipliers and Institutions in Peru: Getting the Largest Bang for the Sol", IMF Working Paper, WP/16/144.

Wahl, L. 1990. "El Manu, los Nahua y Sepahua Frente a la Madera: Ideología y Producción". Perú indigena, 12(28), 151.

Webb, Richard. 2013. “Conexión y Despegue Rural”. Universidad de San Martin de Porres (USMP). Lima, Peru.

World Economic Forum. 2016. “Global competitiveness Report 2015-2016”. Cologny, Switzerland.

Yamada, Gustavo. 2009. “Urban Labor Market in Peru, 2001-2007: Gains from Growth and Main Vulnerable Groups”. Mimeo, Lima.

Zahir, F., Shamim, R., Soghra, H. and Rizwan, K. 2005. “Low dose mercury toxicity and human health”. Amsterdam, The Netherlands: Elsevier.

ZEW Project. “Vocational Training, Income and Self-Employment”. Available at:  
<http://www.zew.de/en/forschung/vocational-continuous-training-income-and-self-employment/>

## Appendix A: Country Comparators

To benchmark Peru's performance, this report uses xx comparable groups of peers: Andean countries, Latin American peers, upper-middle-income countries, structural peers, and aspirational peers.

The structural peers were selected using the following criteria: GDP per capital, share of urban population, and the share of manufacturing exports. The use of these criteria resulted in the following set of countries: Colombia, Ecuador, Malaysia, Mexico, Romania, South Africa, and Thailand. The aspirational peers are all highly urbanized which makes this criteria redundant. Instead, we include a measure of educational quality, the share of population with tertiary education, which approximates the level of educational quality Peru aspires to. The aspirational peers are: Chile, Korea, Rep., and Poland.

Figure A.1 Structural Peers for Peru

Country	Nominal GDP per capita (US\$), 2014	Urban Population %	Manufacturing exports (% of merchandise exports)
Peru	6,549.4	78.3	14.7
South Africa	6,472.1	64.3	49.6
Colombia	7,918.1	76.2	17.6
Romania	10,011.8	54.4	76.3
Ecuador	6,345.8	63.5	6.2
Mexico	10,350.8	79.0	78.7
Thailand	5,969.9	49.2	76.3
Malaysia	11,307.1	74.0	61.8

Under aspirational peers, we want to aggregate countries that may be used as good examples of development for Peru. "Aspirational peers:" Korea, Chile, and Poland.

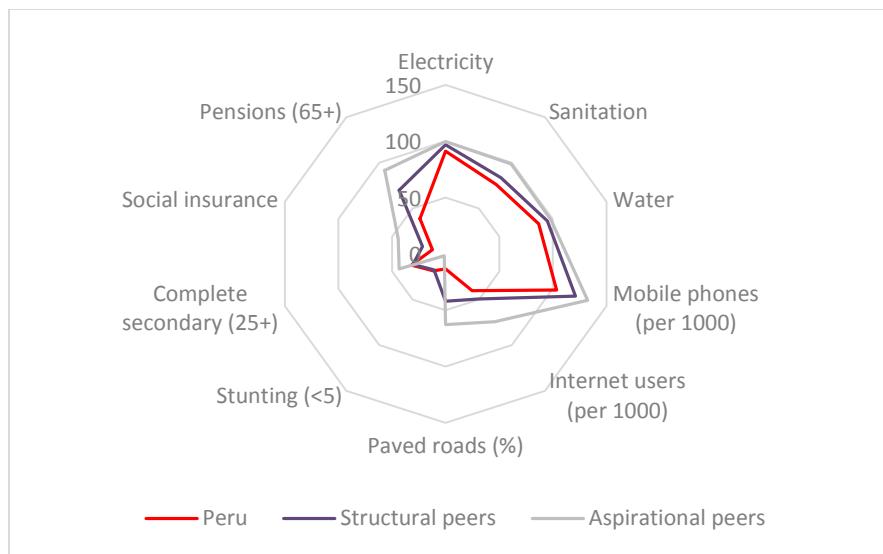
Figure A.2 Aspirational peers for Peru

Country	Nominal GDP per capita (US\$), 2014	Manufacturing exports (% of merchandise exports)	Population with tertiary education (% of adults between 25-64 years old)
Korea Rep.	27,989.4	86.8	45
Poland	14,566.1	77.7	27
Chile	14,377.2	14.1	21

Under aspirational peers, we want to aggregate countries that may be used as good examples of development for Peru. “Aspirational peers”: Korea, Chile, and Poland.

The performance of Peru in social and infrastructure indicators relative to these peers are presented in Figure A.1. It shows that Peru is somewhat lagging behind its structural peers in quasi all indicators. These indicators, however, measure the access or coverage of social and infrastructure services but do not describe the quality of these services (apart from stunting as an outcome measure for the quality of health services).

Figure A.1: Peru lags behind peers in important outcomes for shared prosperity



Source: Authors elaboration with data from World Bank. Note: Phone and internet data is for 2014. Paved roads data is for circa 2007, except Peru (2011), Colombia (1999), South Africa (2001), Romania (2004) and Chile (2001). Electricity data is for 2012, Water and sanitation is for 2015. Human capital data is for circa 2010.

## Appendix B: Poverty Profiles

Table 6: Household poverty profile, 2015

	Extreme Poor	Moderate Poor	Non-poor	Bottom 40%	Top 60%
<b><i>Household</i></b>					
Age of household head	47.3	48.1	51.3	48.0	52.1
Years of education of household head	3.6	4.8	9.1	5.5	9.7
Indigenous household head	36.6	37.2	22.8	34.2	21.2
Share of members age 0-12	37.4	33.3	19.9	31.3	17.9
Share of members age 13-18	13.5	13.4	10.4	13.3	9.8
Share of members age 19-70	43.5	48.0	63.2	50.2	65.4
Share of members age 70+	5.5	5.3	6.5	5.2	6.9
Household size	5.8	5.6	4.5	5.2	4.4
Living in urban area	19.1	51.0	83.5	58.8	86.5
Dependency ratio	125.5	103.2	62.2	96.4	56.6
Has teen mother*	10.1	9.4	5.8	9.0	5.0
*Among All HH that have at least one woman aged 12-19					
<b><i>Access to basic services (%)</i></b>					
Water	56.4	70.0	87.5	74.2	89.0
Toilet in the dwelling	43.5	61.8	86.9	68.5	88.7
Sewage	17.8	40.6	76.2	49.3	79.4
Electricity	73.1	85.4	96.6	88.4	97.5
Telephone	67.7	81.8	95.2	85.6	96.0
<b><i>Labor market (Age 15-64)</i></b>					
In labor force	74.8	72.9	73.2	69.5	75.1
Female labor force	63.4	61.9	65.3	59.7	67.3
Unemployed	1.8	3.2	3.7	4.3	3.3
Employer	1.1	1.4	4.5	1.7	4.9
Employee	17.2	36.2	55.6	34.4	59.8
Self-employed	45.4	40.3	31.3	42.6	28.6
Unpaid worker	36.3	22.2	8.6	21.2	6.7
Small firm (<11 workers)	96.0	87.1	65.8	87.2	62.1
No contract	50.5	48.9	32.2	46.0	30.7
<b><i>Employment sector (%)</i></b>					
Primary	80.0	52.8	18.2	47.9	14.7
Manufacturing	5.0	7.7	10.2	8.3	10.4
Construction	3.0	6.2	7.0	5.4	7.6
Retail	4.6	12.2	20.6	14.9	20.7
Utilities	0.0	0.1	0.2	0.1	0.3
Services	7.4	21.0	43.7	23.4	46.4

Table 7: Household profile of indigenous and non-indigenous, 2015

	Indigenous (%)	Non-Indigenous (%)
<b>Household</b>		
Age of household head	51.1	50.4
Female household head	20.9	24.3
Years of education of household head	5.7	9.1
Share of members age 0-12	22.3	23.0
Share of members age 13-18	12.6	10.6
Share of members age 19-70	58.0	60.5
Share of members age 70+	7.2	6.0
Household size	4.8	4.7
Living in urban area	57.5	83.0
Dependency ratio	71.9	70.9
Has teen mother*	6.2	7.0
*Among All HH that have at least one woman aged 12-19		
<b>Access to basic services (%)</b>		
Water	78.4	85.5
Toilet in the dwelling	73.5	84.1
Sewage	54.2	73.4
Electricity	89.6	95.7
Telephone	87.2	94.0
Simultaneous Access: 5	49.2	69.0
<b>Education (Age 18+)</b>		
Years of Education	6.3	9.5
Primary Complete	12.9	11.2
Secondary Complete	23.0	29.2
Tertiary Complete	9.8	20.9
<b>Labor market (Age 15-64)</b>		
In labor force	77.0	72.6
Female labor force	71.5	63.6
Employer	3.4	4.3
Employee	39.8	55.1
Self-employed	38.1	32.7
Unpaid worker	18.7	7.9
Small firm (<11 workers)	80.8	66.3
<b>Employment sector (%)</b>		
Primary	42.4	19.3
Manufacturing	7.6	10.4
Construction	6.4	6.6
Retail	15.9	19.8
Services	27.5	43.6

Table 8: Household profile, by gender of household head, 2015

HH Head	All		Poor		Non-Poor	
	Male	Female	Male	Female	Male	Female
Age of household head	50.0	52.6	47.3	51.3	50.8	52.9
Years of education of household head	8.6	7.0	5.2	3.4	9.6	8.0
Indigenous Household Head	26.8	23.1	37.0	37.9	23.8	19.6
Share of members age 0-12	23.5	20.3	33.9	30.9	20.5	17.8
Share of members age 13-18	11.0	11.4	13.1	14.5	10.4	10.6
Share of members age 19-70	59.9	59.7	48.3	47.0	63.3	62.7
Share of members age 70+	5.6	8.6	4.7	7.6	5.8	8.8
Household size	4.9	4.3	5.6	5.4	4.6	4.0
Living in urban area	73.7	85.2	46.5	68.2	81.6	89.2
Dependency ratio	70.9	71.9	102.3	106.6	61.8	63.6
Has teen mother*	6.7	7.2	9.2	10.4	5.7	6.0
*Among All HH that have at least one woman aged 12-19						
<b>Access to basic services (%)</b>						
Water	82.8	86.4	68.8	74.6	86.9	89.2
Toilet in the dwelling	80.2	85.2	59.4	71.0	86.3	88.6
Sewage	66.4	75.4	37.3	53.3	74.8	80.6
Electricity	93.6	96.1	84.4	89.4	96.2	97.7
Telephone	92.4	91.8	81.6	82.3	95.5	94.0
Simultaneous Access: 5	62.2	69.4	31.9	45.6	71.0	75.0
<b>Education (Age 18+)</b>						
Years of Education	8.7	8.7	4.7	4.9	9.5	9.3
Primary Complete	12.4	9.3	18.7	11.4	11.0	8.9
Secondary Complete	27.8	27.2	20.7	24.1	29.4	27.7
Superior Complete	17.6	19.4	3.5	6.2	20.7	21.8
<b>Labor market (Age 15-64)</b>						
In labor force	73.7	73.9	73.7	72.9	73.7	74.1
Unemployed	3.3	3.8	2.6	4.7	3.4	3.7
Employer	4.4	3.1	1.3	1.2	5.1	3.4
Employee	48.9	57.9	31.3	43.7	53.0	60.5
Self-employed	34.4	33.3	42.4	43.4	32.5	31.5
Unpaid worker	12.3	5.7	25.0	11.7	9.3	4.6
Small firm (<11 workers)	71.0	67.3	89.3	84.2	66.8	64.1
<b>Employment sector (%)</b>						
Primary	28.3	16.1	59.4	38.1	21.0	12.0
Manufacturing	9.8	9.4	7.1	9.9	10.4	9.4
Construction	6.9	5.4	5.9	5.3	7.2	5.4
Retail	18.1	21.1	10.1	17.5	20.0	21.8
Services	36.7	47.7	17.4	29.0	41.2	51.1

## Annex C: IFC industry notes

### Infrastructure

#### *Transport sector*

##### *Overview*

Transport infrastructure accounted for approximately 56.2% of all infrastructure industry value in 2013. Investment is needed in order to support country's competitiveness and export growth. The 3-year pipeline is estimated at \$9.6 billion, which would cover only 46.3% of current infrastructure gap estimates. So far the government payment guarantees that aim to eliminate financing risk have been a great success in bringing projects to the market in transport and water sectors. However, given the current macroeconomic down turn, it is expected that government support reduces significantly going forward.

##### *Key Players*

Most of the concessions awarded by the Government in the past are held by international investors. Brazilian construction firms (Odebrecht, Queiroz Galvao, OAS, Camargo Correa), who were the leading players until recently have begun to divest assets. Spanish firms (ACS, FCC, Cintra, OHL, Sacyr) are expected to take a leading role in participating/developing concessions. A few prominent local firms are also present, most importantly Grana & Montero and, to a lesser degree, smaller firms such as Cosapi and Andino Holdings. International firms have been attracted due to the stable regulatory framework, good credit rating, and strong Government support that permitted obtain financings in very favorable terms (both tenor and pricing).

##### *Recent Trends*

There are several projects in advanced stages of development at Proinversion (the investment promotion agency of Peru responsible for structuring PPPs). Those include a few toll roads (2 tranches of Longitudinal de la Sierra), a rail project (Huancavelica project) and a water supply project for Lima (Obras de Cabecera). Those projects are expected to reach the market soon, as the new administration wants to expedite infrastructure projects that have been delayed in getting to the market.. In addition, several projects developed by the municipality of Lima- mostly urban toll roads- have been or are in the process of being awarded.

##### *Regulatory Framework*

To promote private participation in infra and accelerate the development of pipeline, constrained by the lack of institutional capacity of the GoP to develop pipeline at the speed needed to cover the country's needs, the GoP developed a private initiative framework (Law 1012 and Supreme Decree 146-2008).

Through this framework, private players can develop their own projects and present them to the government for approval and a fast-track tender. Private initiatives, especially those that are self-sustainable (not requiring monetary support from the GoP) are expected to play a key role in bringing projects to the market given the downturn in macroeconomic conditions. A large number of private initiatives have been presented to the GoP (both at national and municipal level) and are awaiting approval. Those include tollroads, urban transport projects, ports, railways, power and water.

### *Opportunities*

The Pipeline in development at Proinversion and private initiatives presented to the Government present ample opportunities. Financing projects that are self-sustainable and do not count with government support (RPICAO schemes) will be more difficult and appetite from commercial banks and institutional investors will be limited. This will give IFC a role to play (by providing comfort to local institutions on structuring taking project-related risks) while providing larger opportunities for IFC to invest.

### *Challenges*

The likely reduction of GoP support through RPICAO schemes due to budgetary constraints is both a challenge as an opportunity. It is a challenge because projects are going to be riskier by nature and could limit participation of commercial banks and institutional investors. Another challenge is the slow pace of approvals within the government that for the last years has slowed down the pipeline.

### *Future outlook*

Private sector participation in infrastructure is going to be more important in the future as due to the economic downturn, the government has to cut back its direct support to the projects. The only way to continue bringing needed infra projects through the markets is going to be through private sector. A key issue is to expedite processes and decision making at the government level to enhance private sector participation, especially through private initiatives (unsolicited bids).

## ***Power sector***

### *Overview*

Peru has 92% national electricity coverage, with 75% in rural areas. Around 50% of the generation is thermal, due to the success of gas exploration and the subsidy on gas prices for thermal generation. The government is incentivizing the development of gas related industries (including thermal) in the north and south of the country. Currently, there is a large pipeline of hydroelectric power projects, to be developed through competitive auctions by the government. However, the pipeline is delayed given the oversupply in the market. Renewable energy projects (small hydro, solar and wind) are incentivized by technology specific auctions with competitive-set prices. A renewable energy auction (a feature specific to Peru) for small hydro, wind, solar and biomass occurred in mid-February. This was the first auction in Peru in three years, and based on the success of this auction as well as the prevalence of market supply and demand

factors, more auctions could be spurred in the years ahead, leading to more potential infrastructure opportunities.

### *Key Players*

The Peruvian power market is comprised of thermal (mainly gas) and hydro producers, each with about 45% of the market. Key players are companies owned by large international players: i) In generation: Edegel (Enel), Enersur (Engie), Egenor (Duke), Electroperu (State owned) and some thermal and hydro IPPs (Chaglla hydro – Odebrecht, Cerro de Aguila hydro – IC Power, Cheves hydro - SN Power, Termochilca – Energia Activa, Kallpa – IC Power sized IPPs (Chaglla-ODebrecht, ; ii) in distribution: REP (ISA); and iii) in transmission: Redesur (Red Electrica), Isa Peru (ISA), Transmantaro (ISA, EEB).

### *Recent Trends*

Peru had supply issues a few years ago due to the over reliance on thermal generation that was affected by the lack of capacity in the only pipeline to bring natural gas from the fields to the thermal generators. From that, the GoP had incentivized the development of hydro power and to a lesser extent other renewable energy projects. Given the low electricity prices (spot price currently below US\$30/MWh) due to the gas subsidies that make thermal generation cheap, projects can only be developed through PPAs auction by the GoP. The current power oversupply caused by reduction of the demand has delayed the auctions for large projects and has only allowed the RE tender carried out in February, where around 400 MW of wind, solar and hydro projects were awarded.

### *Regulatory Framework*

Peru has a modern and efficient regulatory system for the power sector, regulated by the Electricity Concessions Law (Law Decree 25844) reglamented by Supreme Decree 009-93-EM. The activities of generation, transmission and distribution are separated by regulation since 1992. The main entities in the electricity system are the Osinergmin acting as regulator and supervisor of players in the system, the Ministry of Energy and Mining that sets energy policy and the COES (Comite de Operacion Economica del Sistema) that is the entity responsible for the operation of the system.

### *Opportunities*

In the short term, opportunities resulting from the RE tender. In the medium term opportunities resulting from the new tenders and power plants developed using the gas in the north and south after the pipelines have been built. There are also opportunities in transmission as the country is auctioning T-Lines on a recurrent basis to strengthen the country's transmission network.

### *Challenges*

Challenges are related to the market. Due to the market structure, new power projects will only materialize through government PPA auctions. Those auctions only occur when there is a need, but given current electricity over-supply, it is not likely to have them often or in large scale (except for the RE tender).

## *Future Perspectives*

The development of the power sector will depend on a large degree to the recovery of the demand, highly correlated with the economic growth in the country.

## **Water and Sanitation**

### *Overview*

Water and Sanitation infrastructure accounted for approximately 9% of all infrastructure industry value in 2013. Overall, there is 77% national water coverage and 66% sanitation. Currently there are more than 7 million families with no access to water and over 10 million with no access to sanitation services. It is projected that there is a \$6.3 billion investment gap, related to improvement in access to water and sewage. There has been a handful of water projects tendered to the private sector in the past years, while there are a few large ones in the pipeline.

### *Key Players*

State owned Sedapal, the provider of potable water and sanitation in Lima is the key player in the country. A few projects, developed through competitive tenders sponsored by the GoP have been developed recently, mostly to complement the services provided to Sedapal. Those include: Huascacocha treatment plant (OAS), Taboada treatment plant (Odebrecht), La Chira plant (Acciona and Grana y Montero), Agua azul water (Impregilo, Asea, Marubeni). Provision of water services in the rest of the country remains in the hands of municipalities.

### *Recent Trends*

There are several initiatives to increase the capacity of potable water and water treatment in Lima. Most important is the project Obras de Cabecera, a large project intended to increase supply of water to Lima. This project is expected to be tendered by the GoP this year. In addition to this, Agua Azul is also discussing a new project to increase the supply of water to Lima.

### *Regulatory Framework*

Provision of water services is regulated through *the Ley General de la Superintendencia Nacional de Servicios de Saneamiento (SUNASS)*.

### *Opportunities*

Opportunities will come from the GoP willingness to bring to the market projects for the private sector, or from the privates to develop private initiatives. As in the transport sector, the opportunity will come from the fact that the GoP is less willing to offer government guarantees and projects will be structured with larger components of market risk, where the presence of IFC will be beneficial for both sponsors and co-lenders.

## *Challenges*

The main challenge is the limited participation of private sector in water in Peru. Except for the few projects sponsored by the GoP, that until now have been structured with structures that are similar to sovereign guarantees and as such, they have been easily financed through the capital markets. PPP projects are structured under RPICAO schemes through which the government offers guaranteed payments regardless of project performance. This has greatly contributed to the past success of infrastructure projects as it allowed financing in the capital markets at long-tenors and competitive prices.

## *Future Perspectives*

As explained before, development of projects in the sector is likely to come from government sponsored projects, private initiatives and municipal players like Sedapal.

## **Agribusiness**

### *Overview*

Agribusiness represents approximately 4.5% of GDP and employs 25% of the working population. There are 3 main geographical areas engaged in agribusiness production:

- Coast: represents 11.5% of agricultural land, including river valleys with a focus on modern agriculture and concentrated land ownership
- Highlands: 57% of the land, traditional agricultural area dominated by small farmers
- Amazon basin: 31% of the land, not as significant as the other two areas but rapidly developing

Peru is a net exporter of food. Agri exports are ~10% of total exports, where traditional exports represent 19% of all agri exports. Traditional exports include cotton, sugar, cocoa (#2/world organic cocoa) and coffee (#7 world). Non-traditional exports include mangoes, grapes, bananas, asparagus, artichokes and avocados.

### **Agribusiness exports – Evolution**

Fob value (US\$ million)	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2006 - 2015 CAGR
Cotton	7.0	3.3	2.3	2.7	1.2	7.8	4.4	1.7	3.7	3.3	-8%
Sugar	43.0	18.8	24.7	37.1	64.7	47.6	5.8	13.9	37.1	17.1	-10%
Coffee	515.0	426.9	645.1	584.7	888.7	1,597.2	1,023.6	699.1	734.0	584.5	1%
Other	8.7	11.5	13.8	12.1	20.5	36.7	61.0	74.6	72.5	86.3	29%
<b>Total traditional sector</b>	<b>573.7</b>	<b>460.5</b>	<b>686.0</b>	<b>636.5</b>	<b>975.2</b>	<b>1,689.4</b>	<b>1,094.8</b>	<b>789.3</b>	<b>847.3</b>	<b>691.1</b>	<b>2%</b>
<b>Non traditional sector*</b>	<b>1,219.7</b>	<b>1,511.5</b>	<b>1,911.9</b>	<b>1,827.1</b>	<b>2,201.5</b>	<b>2,834.3</b>	<b>3,057.7</b>	<b>3,406.5</b>	<b>4,197.0</b>	<b>4,344.0</b>	<b>15%</b>
<b>Total</b>	<b>1,793.4</b>	<b>1,972.0</b>	<b>2,597.8</b>	<b>2,463.6</b>	<b>3,176.7</b>	<b>4,523.6</b>	<b>4,152.5</b>	<b>4,195.8</b>	<b>5,044.3</b>	<b>5,035.2</b>	<b>12%</b>

000's Metric tones	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2006 - 2015 CAGR
Cotton	3.8	1.6	1.0	1.6	0.5	2.1	1.9	0.8	1.6	1.3	-11%
Sugar	108.6	48.3	70.4	85.5	112.0	62.6	8.4	26.5	69.4	33.3	-12%
Coffee	238.1	173.6	225.1	197.8	230.1	296.4	266.4	238.7	182.2	177.2	-3%
Other	6.8	8.2	8.0	18.6	24.8	23.2	72.4	101.7	90.9	72.7	30%
<b>Total traditional sector</b>	<b>357.3</b>	<b>231.6</b>	<b>304.5</b>	<b>303.4</b>	<b>367.4</b>	<b>384.4</b>	<b>349.1</b>	<b>367.8</b>	<b>344.1</b>	<b>284.5</b>	<b>-3%</b>
<b>Non traditional sector*</b>	<b>1,017.3</b>	<b>1,124.0</b>	<b>1,329.2</b>	<b>1,359.9</b>	<b>1,579.0</b>	<b>1,835.6</b>	<b>1,900.3</b>	<b>1,997.3</b>	<b>2,345.4</b>	<b>2,667.7</b>	<b>11%</b>
<b>Total</b>	<b>1,374.6</b>	<b>1,355.7</b>	<b>1,633.7</b>	<b>1,663.3</b>	<b>1,946.4</b>	<b>2,220.0</b>	<b>2,249.4</b>	<b>2,365.1</b>	<b>2,689.5</b>	<b>2,952.2</b>	<b>9%</b>

\*Non traditional sector includes agriculture and live stock

## Principal non-traditional exports

<b>Avocado</b>	<b>2006</b>	<b>2007</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>	<b>2011</b>	<b>2012</b>	<b>2013</b>	<b>2014</b>	<b>2015</b>
Exported volume (000's MT)	31.7	37.5	51.3	48.3	59.5	81.5	83.6	114.5	179.0	175.6
FOB value (million US\$)	38.8	46.8	72.7	67.7	85.0	161.2	135.5	184.0	304.3	303.8
Av. Export price (US\$/kg.)	1.22	1.25	1.42	1.40	1.43	1.98	1.62	1.61	1.70	1.73

<b>Grapes</b>	<b>2006</b>	<b>2007</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>	<b>2011</b>	<b>2012</b>	<b>2013</b>	<b>2014</b>	<b>2015</b>
Exported volume (000's MT)	27.9	26.1	43.9	60.6	77.8	122.0	149.2	177.5	266.2	308.0
FOB value (million US\$)	50.9	60.5	83.4	135.7	186.2	287.5	366.5	442.7	643.2	690.4
Av. Export price (US\$/kg.)	1.83	2.32	1.90	2.24	2.39	2.36	2.46	2.49	2.42	2.24

<b>Total Asparagus</b>	<b>2006</b>	<b>2007</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>	<b>2011</b>	<b>2012</b>	<b>2013</b>	<b>2014</b>	<b>2015</b>
Exported volume (000's MT)	151.1	167.3	189.8	186.7	186.6	200.0	185.4	183.8	186.1	177.3
FOB value (million US\$)	318.6	422.5	448.9	389.4	426.9	485.8	538.5	614.3	573.5	583.5
Av. Export price (US\$/kg.)	2.11	2.53	2.37	2.09	2.29	2.43	2.90	3.34	3.08	3.29

<b>Cacao</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>	<b>2011</b>	<b>2012</b>	<b>2013</b>	<b>2014</b>	<b>2015</b>
Exported volume (000's MT)	5.5	7.5	11.1	19.8	25.1	31.2	47.0	56.5
FOB value (million US\$)	17.8	20.1	34.7	62.9	64.7	83.8	151.9	183.1
Av. Export price (US\$/kg.)	3.23	2.67	3.13	3.18	2.58	2.69	3.23	3.24

<b>Quinua</b>	<b>2011</b>	<b>2012</b>	<b>2013</b>	<b>2014</b>	<b>2015</b>
Exported volume (000's MT)	8.0	10.7	18.6	36.4	41.4
FOB value (million US\$)	25.4	31.1	79.1	196.3	143.3
Av. Export price (US\$/kg.)	3.18	2.90	4.25	5.39	3.46

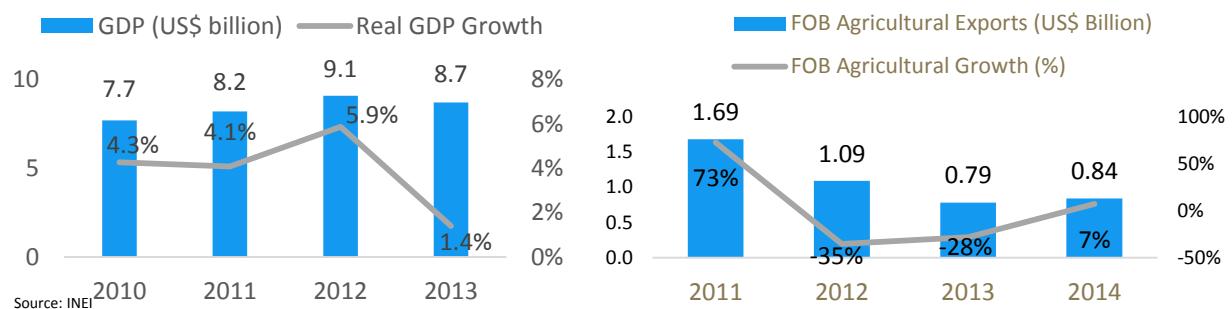
<b>Blueberries</b>	<b>2012</b>	<b>2013</b>	<b>2014</b>	<b>2015</b>
Exported volume (000's MT)	0.05	1.3	2.9	10.2
FOB value (million US\$)	0.5	15.2	30.4	95.8
Av. Export price (US\$/kg.)	9.71	11.25	10.47	9.38

### Recent trends

GDP growth and higher purchasing power (growing middle class) has spurred increasing demand for more and better quality food products. Agribusiness has grown at 3.9% on average during the 2010-2013 period with a sharp slowdown in 2013 (1.4%). Agricultural exports, however, fluctuated widely, ranging from 73% in 2011 to -35% in 2011.

Agribusiness Industry Growth

Agri- Exports



Numerous FTAs (Pacific Alliance, USA, China, Canada, Singapore) and recent large infrastructure projects, focusing on irrigation such as Chavimochic, Olmos and Majes, are expanding the agri-frontier (+187,000 new arable hectares) and enabling the growth of non-traditional exports such as asparagus, grapes, avocado, quinoa and cacao. Peru, however, remains net importer of main agricultural grains (soya, corn, wheat).

The Peruvian financial system is active in the agriculture space, including universal banks, financieras, municipal and rural cajas, and non-deposit taking institutions. BCP is the biggest lender (17% share). Agri-loans have grown with the market, staying relatively constant at around 4.5% of total commercial lending.

A number of agri-projects are being developed by local conglomerates with deep roots and connections to local banks. New products such as asparagus, grapes, avocado and berries have benefited from proper climactic conditions and taken advantage of market windows to achieve competitiveness in global markets. This has led to numerous new projects being developed.

### *Opportunities*

A dynamic and growing middle class demands more and better products which could benefit the food processing business. Additionally, South/South opportunities may arise as large and dynamic corporates, mainly in processed food and fast-mass-consumption goods (FMCG) such as Grupo Gloria and Grupo Romero are expanding in the region and there is an increasing number of foreign companies investing in the agribusiness in Peru.

### *Challenges:*

Atomized land ownership (small scale agriculture) affects the efficiency of the agri-business. Small producers have limited access to finance. Moreover, local companies have a preference to local currency financing, limiting the scope of possibilities for financing. Ownership fragmentation on the broader market is also impacting returns.

Poor infrastructure with inefficient distribution channels is also a challenge. The infrastructure deficit in rural areas is hurting competitiveness via increased costs, making expansion difficult.

Some of the other challenges that pose threats to the sector are exposure of agribusiness to weather patterns (El Nino/La Nina) and diseases such as La Roya. Sustainability issues such as water availability,

deforestation, social displacement, overfishing are an ever-present challenge in the sector. Additionally, social sustainability is expected to become an issue with the passage of more FTAs as local production will be affected, potentially sparking social unrest.

## Public-Private Partnerships

### *Regulatory framework on PPPs*

The government of Peru (GoP) has established a legislative framework for PPPs and has developed deal structures that have gradually transferred risks to the private sector. Discouraging early experiences in the transport sector are currently being overtaken by a second generation of projects that have partially applied lessons learned from successful projects. More sophisticated international investors (Dubai Ports, Hutchinson Group etc) are entering the PPP market, and new sources of funds have been leveraged in the local market, which in contrast to other countries are not suffering liquidity problems. Pension funds and infrastructure funds are fervently searching for investment opportunities in highly collateralized deals.

Recent reports by the WB, IADB, and WEF have captured the GoP's significant progress in enhancing the investment climate for PPI. Private investment attractiveness has been boosted by a fairly stable macroeconomic environment, a moderately advanced legal framework, a proper institutional framework, good litigation track records (with few project cancelled or distressed and almost no contract termination by the government without fair compensation), and one of the best regulatory frameworks in the region. Yet the implementation has been riddled with problems and conflicts. Despite having one of the highest levels of government readiness for private investment, Peru is still lacking an infrastructure plan and procedures capable of generating a pipeline of mature projects. In addition, the institutional capacity for developing projects is low, and the risk that political interferences occur remains moderate.

Overall, in order to reach maturity and further secure and leverage private sector participation, Peru will need to work in three policy areas: (i) enhancing its legal and regulatory framework; (ii) strengthening, building capacity in its institutions and reducing turnover; and (iii) streamlining the PPP process, including improving contract design, PPP procedures, procurement processes and contract management.

### *Future outlook/opportunities:*

It is estimated that GDP growth will be between 5,5% and 6,5% per year in the upcoming years. This will require macroeconomic stability, low financing costs and an improvement in the competitiveness of the country through the development and upgrading of infrastructure.

Recent projects have led to an equivalent of up to 8% of GDP, thanks to a competitive and transparent process which led to the selection of world-class investors. At the same time, there is a consensus that private participation is not a panacea. One of the key challenges for governments has been to balance the sharing of risks and returns between the government and its private sector partners, while at the same time dealing with the technical complexities of projects. Success requires that governments invest heavily in high quality pre-construction studies and surveys, that they structure contracts carefully to achieve an

appropriate distribution of risks and expected rewards, and that the mix of private-public investment and involvement be adapted to specific circumstances.

According to early estimations, there are sectors where public investment would cover the gap on infrastructure development. The following are sectors where public investment is expected to fill the gap: water irrigation (90%), health (77%) and roads (68%). The sectors where public investment is low and would require private investment are: prisons (23%), water sanitation (11%), airports (11%), energy (7%) and ports (0.1%)<sup>151</sup>. The following table shows where private sector participation is expected:

	<b>INFRASTRUCTURE CONSTRUCTION</b>	<b>ADMINISTRATION</b>
<b>SANITATION</b>		
<b>COVERAGE</b>	Public	Private
<b>CATCHMENT</b>	PPP/Private	Private
<b>ELECTRICITY</b>		
<b>GENERATION</b>	Private	Private
<b>TRANSMISSION</b>	Private	Private
<b>DISTRIBUTION</b>	Public	PPP/Private
<b>ROADS</b>		
<b>NATIONAL</b>	PPP/Private	Private
<b>REGIONAL</b>	PPP/Private	Public
<b>LOCAL</b>	PPP/Private	Public
<b>IRRIGATION</b>		
<b>MAYOR</b>	PPP/Private	Private
<b>INFRASTRUCTURE</b>		
<b>MINOR</b>	PPP/Private	Public
<b>INFRASTRUCTURE</b>		
<b>HEALTH</b>		
<b>HEALTH CENTERS</b>	Public	Public
<b>HOSPITALS</b>	PPP/Private	Private
<b>EDUCATION</b>	Public	Public
<b>PORTS</b>	PPP/Private	Private
<b>AIRPORTS</b>	PPP/Private	Private
<b>RAILWAYS</b>	PPP/Private	Private
<b>PRISONS</b>	PPP/Private	Private

Therefore, there is an opportunity for the private sector to participate in the development of urban infrastructure, mainly in the energy and transport sectors (roads, railways, etc.). Low oil prices expect to focus public investment in the most pressing needs, a fact that could allow a greater participation from the private sector in project structuring and financing. **General Future outlook:** Short-term (< 1 year), medium term (to 2020—Peru SCD period), long-term (beyond 2020):

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<sup>151</sup> Source: National Plan of Infrastructure 2016-2025. Asociación para el Fomento de la Infraestructura Nacional – AFIN. October 2015

Regarding short term investment needs, the GoP has estimated that during 2016 USD\$45,901 million is required to fill the infrastructure gap in electricity, transport, irrigation, prisons, health and education<sup>152</sup>.

The infrastructure gap for the 2016 – 2025 period would require an average investment of 8,27% of GDP per year, for a total annual investment of US\$ 15,955 millions, while the associated benefits of these projects could reach an average of 15,56 of the GDP per year in the period 2016 - 2025. The GoP has not officially developed a national infrastructure plan that highlights the required investment in infrastructure. However, private sector stakeholders have done a technical study to determine the infrastructure gap in different sectors.

The following table shows the investment required to fill the infrastructure gap, taking as a reference to achieve the level of development of the Pacific Alliance countries in five years and to reach the average infrastructure development of OCDE countries by 2025. The total investment required to fill this infrastructure gap is USD\$159,549 millions.

**INFRASTRUCTURE GAP  
MILLION USD\$ (2015 EXCHANGE RATE)**

<b>SECTOR</b>	<b>2016-2020</b>	<b>2021-2025</b>	<b>2016-2015</b>
<b>WATER AND SANITATION</b>	6,97	5,282	12,252
<b>POTABLE WATER</b>	1,624	1,004	2,629
<b>SANITATION</b>	5,345	4,278	9,623
<b>TELECOMMUNICATIONS</b>	12,603	14,432	27,036
<b>MOBILE</b>	2,522	4,362	6,884
<b>BROAD BAND</b>	10,081	10,07	20,151
<b>TRANSPORT</b>	21,253	36,246	57,499
<b>RAILWAYS</b>	7,613	9,37	16,983
<b>ROADS</b>	11,184	20,667	31,85
<b>AIRPORTS</b>	1,419	959	2,378
<b>PORTS</b>	1,037	5,25	6,287
<b>ENERGY</b>	11,388	19,387	30,775
<b>HEALTH</b>	9,472	9,472	18,944
<b>EDUCATION</b>	2,592	1,976	4,568
<b>EARLY</b>	1,037	585	1,621
<b>PRIMARY</b>	137	137	274
<b>SECONDARY</b>	1,418	1,254	2,672
<b>HYDRAULIC</b>	4,537	3,94	8,477
<b>TOTAL</b>	68,815	90,734	159,549

<sup>152</sup> Source: Contraloría pide “tala normativa” en un total de 600,000 normas del Estado. Gestión Diary, February 17, 2016.

## Financial Sector

**Composition and structure of financial system:** % of country assets by financial institution segment (banks, insurers, pension funds, NCBI, etc):

**Structure of Peru's financial sector**

Soles, 000	#					
	2010	2015	Dec-10	Dec-15	% total 2010	% total 2015
Banks	15	17	\$ 179,637,657	\$ 358,820,137	58.83%	64.41%
Financial Institutions	10	12	\$ 6,036,812	\$ 11,100,664	1.98%	1.99%
Municipal savings and credit institutions	12	12	\$ 10,901,820	\$ 18,992,996	3.57%	3.41%
Rural savings and credit institutions	10	8	\$ 2,281,785	\$ 662,226	0.75%	0.12%
Entities for the development of SMEs	10	11	\$ 1,152,889	\$ 2,116,570	0.38%	0.38%
Insurance companies	14	18	\$ 17,358,672	\$ 38,989,975	5.68%	7.00%
Pension funds	4	4	\$ 87,974,206	\$ 126,393,090	28.81%	22.69%
<b>TOTAL</b>	<b>75</b>	<b>82</b>	<b>\$ 305,343,841</b>	<b>\$ 557,075,657</b>	<b>100.00%</b>	<b>100.00%</b>

Source: SBS

Top four banks as a % of the total banking sector

	Dec-15	% of total
Total Assets	\$ 300,605,004	83.73%
Total Deposits	\$ 177,881,536	83.28%

Source: SBS

The banking sector is highly concentrated with the top four banks (BCP, Continental, Scotiabank and Interbank) representing 83.73% of the total assets and 83.28% of the total deposits of the banking sector.

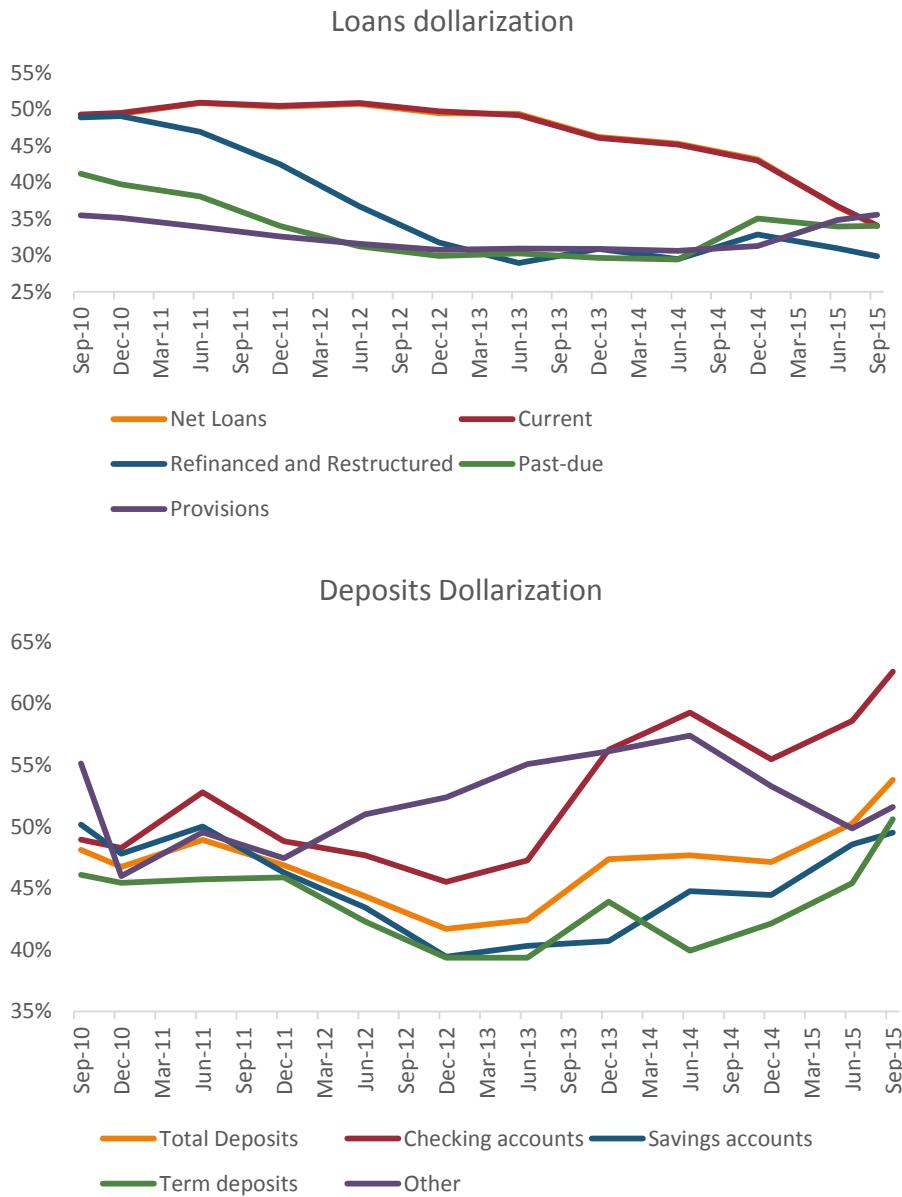
### Most critical challenges:

The Peruvian banking system faces the challenges of dollarization and asymmetric liquidity amid a slower growth environment. However, banks seem well placed to weather this period of structural changes as they start from a very strong position, with robust profitability, sound asset quality and adequate reserves and capital.

Since 2013 depositors and investors in Peru have expected a continued depreciation of the local currency, this has driven depositors toward USD-denominated deposits in detriment of local currency deposits, which was accentuated in 2015. Hence, even though liquidity levels are adequate, there is an asymmetry by currency that has substantially increased the FX and interest rate risk.

Furthermore, the loans placed in USD have been steadily declining since 2013 while the deposits denominated in USD have steadily increased, further accentuating the FX risks.

## Peru's dollarization



**Local capital markets development:** stock market capitalization, ratios to compare level of development v-a-v international standards (Andean, LAC, worldwide):

Stocks traded, total value (% of GDP)

	1990	2000	2006	2007	2008	2009	2010	2011	2012	2013	2014
Peru		4.8%	5.4%	9.5%	3.9%	3.4%	3.4%	3.7%	3.2%	1.9%	1.8%
Bolivia		0.8%	0.0%		0.4%	0.1%	0.1%	0.1%	0.1%		
Colombia			9.6%	8.3%	7.4%	8.5%	9.7%	10.5%	10.9%	6.6%	5.5%

Ecuador		0.1%	0.6%	0.6%	0.3%	1.2%	0.1%	0.1%	0.2%		
LAC		8.7%	15.0%	25.3%	18.4%	24.0%	24.9%	19.4%	20.1%	19.3%	16.9%
OECD	19.5%	186.6%	150.1%	189.5%	183.4%	123.3%	124.7%	150.5%	117.7%	126.2%	130.6%
World	23.5%	171.0%	128.5%	170.7%	153.6%	113.3%	108.7%	114.8%	89.6%	97.8%	108.0%

Source: World Development Indicators

Stocks traded, turnover ratio of domestic shares (%)

	1990	2000	2006	2007	2008	2009	2010	2011	2012	2013	2014
Peru		0.23%	0.15%	0.18%	0.09%	0.07%	0.06%	0.07%	0.07%	0.04%	0.05%
Bolivia		0.06%	0.00%		0.02%	0.01%	0.00%	0.00%	0.00%		
Colombia			0.29%	0.22%	0.19%	0.17%	0.16%	0.17%	0.17%	0.11%	0.12%
Ecuador											
LAC	0.41%	0.00%	0.36%	0.47%	0.43%	0.52%	0.46%	0.42%	0.45%	0.43%	0.42%
OECD	0.32%	1.53%	1.41%	1.73%	2.19%	1.62%	1.42%	1.84%	1.43%	1.28%	1.20%
World	0.39%	1.03%	1.32%	1.61%	1.87%	1.56%	1.29%	1.52%	1.21%	1.15%	1.16%

Source: World Development Indicators

Market capitalization of listed domestic companies (% of GDP)

	1990	2000	2006	2007	2008	2009	2010	2011	2012	2013	2014
Peru		0.19%	0.46%	0.68%	0.31%	0.59%	0.70%	0.48%	0.53%	0.40%	0.39%
Bolivia		0.21%	0.19%	0.17%	0.16%	0.16%	0.17%	0.17%	0.16%		
Colombia			0.35%	0.49%	0.36%	0.60%	0.73%	0.60%	0.71%	0.53%	0.39%
Ecuador											
LAC			0.50%	0.67%	0.30%	0.62%	0.61%	0.43%	0.49%	0.42%	0.37%
OECD	0.52%	1.13%	1.15%	1.13%	0.60%	0.86%	0.93%	0.76%	0.88%	1.09%	1.10%
World	0.52%	1.72%	1.07%	1.15%	0.57%	0.85%	0.89%	0.69%	0.78%	0.91%	0.95%

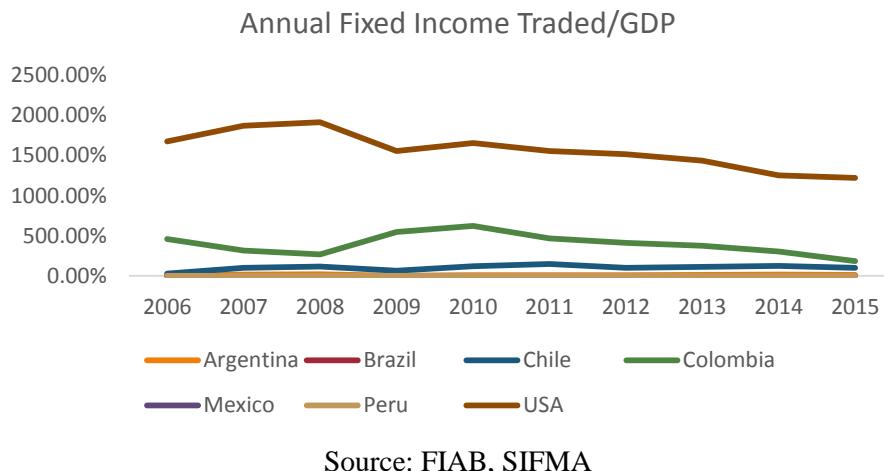
Source: World Development Indicators – WBG

**Relevance & future outlook by segment:** **capital markets** (Peru being reclassified as frontier market), **pension funds** (regarding free disposition of accumulated pension funds), **insurance markets** (with very poor penetration and offer), **NBFI** (with scant specialization, e.g., lack of important mortgage banks or factoring houses or operating lease operations), **digital finance** (mobile banking eg), **E&S standards** (eg protocolo verde initiative of SBS)

### *Capital Markets*

As seen in the precedent information listed for the point 4, Peru's financial market is not highly liquid in stock trading (stocks volume traded as % of GDP in 2014 was 1.8% vs. LAC's 16.9% vs. 130.6% in OECD). Additionally, the market capitalization of listed domestic companies as a % of GDP, standing at 0.39% on 2014, is considerably behind the world's average of 0.95% and the OECD countries' average of 1.10%. This imposes restrictions on the companies that might be willing to search for capital in the markets as the market is not capable/willing to provide the capital to respond to those needs.

Additionally, the bond market is also relatively unexplored, shallow and illiquid.



Source: FIAB, SIFMA

In 2015, the amount traded in fixed income instruments in Peru's local market as a percentage of the GDP stood at 0.47%. This signals that the local bond market is extremely lagging as countries like Colombia or Chile have considerably more liquid markets (Colombia: 185.26% and Chile: 101.15%).

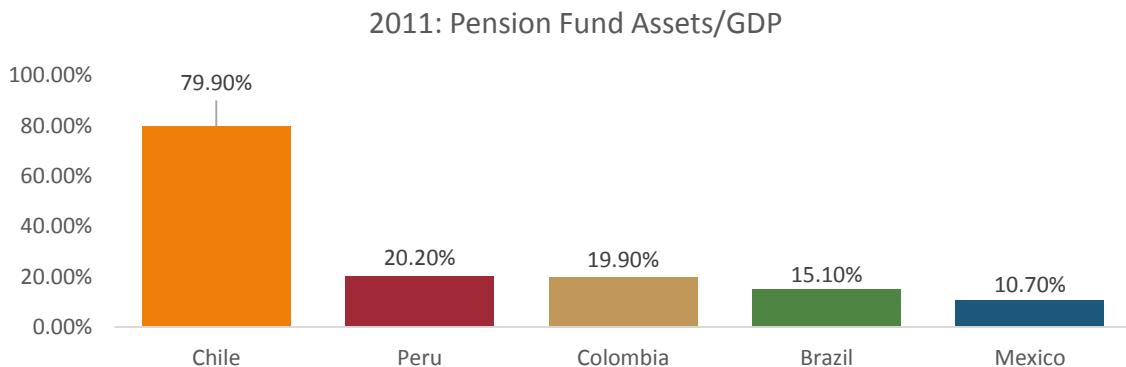
The reclassification of Peru from emerging market to frontier market would only worsen the current situation of shallowness and illiquidity of Peru's capital market. As was stated by the CEO of the *Bolsa de Valores de Lima* (Lima's Stock Exchange), if this reclassification does happen, there would be a capital flight of nearly US\$5 billion. The reclassification would oblige certain investors like mutual funds and pension funds to liquidate their positions in Peru's stock market.

The government appears to have noticed the situation and passed a bill trying to increase the liquidity of Peru's capital market. The "*Ley que Fomenta la Liquidez e Integración del Mercado de Valores*" establishes that the capital gains are exempt of taxes until the end of 2018. This combined with the strengthening of the MILA, we believe, is a step in the right direction but further initiatives are needed.

### **Pension funds**

The pension funds continue to be vital in the local market as they provide liquidity to the capital market and continue being important investors in Peru's primary bonds emissions. They are still relatively underdeveloped as can be seen in the chart comparing it to the case of Chile.

On 2015, a new law was being proposed allowing people that turned 65 years old the possibility to retire 95.5% of the funds they had saved in the pension funds at once. This is beneficial to people that otherwise would have only received a negligible pension. Nevertheless, this can be prejudicial in the short term for the pension funds' financial position as they were initially counting on those funds to set their investment strategies. We expect the funds to accommodate to potential regulatory changes in the short-medium term.

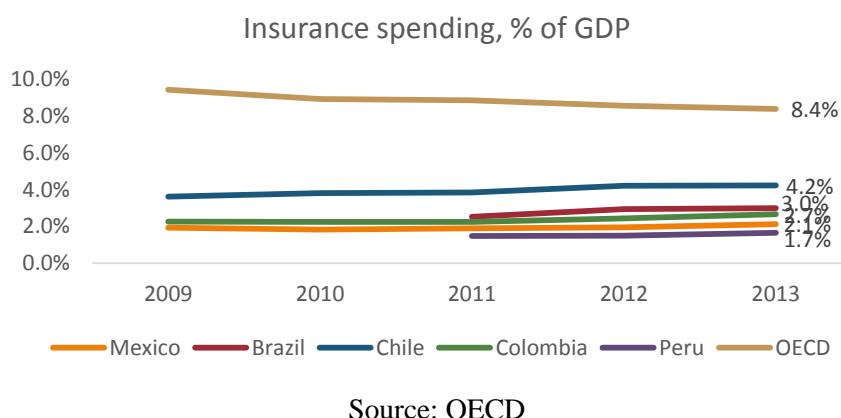


Source: How Latin America Pension Funds Invest Their Assets presentation April 2013

### *Insurance markets*

The insurance market in Peru continues to have low penetration. Even among Latin-American peers, the insurance companies' penetration is quite low, as can be seen in the graph shown above. Insurance spending in Peru in 2013 was only 1.7% of the GDP compared to Colombia's 2.7% or the OECD's 8.4%. The insurance penetration is expected to grow and reach 3.3% of the GDP by 2020.<sup>153</sup>

The market is concentrated with the top three insurance companies owning around 56% of the total assets. With a relatively strong expected GDP growth and with a growing insurance market, Peru is likely to observe new entrants into the market. This will increase competition amongst the firms which will be increasing their products' offered and their sophistication to respond to increasing needs of their customers.



Source: OECD

### *Non-Banking Financial Institutions*

The banks play a very important part in the financial system in Peru. Nevertheless, NBFI's hold nearly one third of the financial assets of the system.

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<sup>153</sup> <http://www.bnamicas.com/en/news/insurance/peru-insurance-penetration-rate-to-increase-by-2020>

Of these, of special importance for Peru's economy, given their relative robust development, are the microfinance institutions. These institutions (the municipal and rural savings and credits institutions, the financial institutions and the Entities for the development of SMEs) hold only 5.9% of the financial system's assets. However, these institutions are very important for the development of Peru and for the achievement of global financial inclusion by 2020; therefore, the focus should be to strengthen and expand the reach of these institutions.

% of assets of the financial system

	Dec-10	Dec-15
Banks	58.8%	64.4%
Non-banking financial institutions	41.2%	35.6%

### **Fintech**

Although the Fintech sector is not very developed, we expect this sector in Peru to experience an explosive growth in the upcoming years. Furthermore, we expect the Fintech solutions that appear in the market to be mostly supplemental to financial activity in Peru and not disruptive.

The Fintech solutions have a fertile ground in Peru as most of the population is underserved (only 29% of the people 15+ years old have an account at a financial institution) and the population has increasing access to internet and cellphones/smartphones. In 2014, about 40 in every 100 persons in Peru had access to internet and there were 103 cellphone subscriptions for every 100 persons. Access to these technologies is expected to continue growing in an exponential manner.

Fintech developments, such as mobile banking, will serve an important role in the consecution of the global financial inclusion by 2020 goal. As such, access to the internet (either by smartphones or computers) is fundamental for the development of this sector. Additionally, an entrepreneurial policy that eases the process of starting a new business and that encourages the entrepreneurship could further enhance the growth of the Fintech sector.

### **E&S Standards**

The 20<sup>th</sup> Conference of the Parties (COP) or COP 20, was held in Lima on December 9<sup>th</sup>, 2014. As a result of this conference the Ministerio del Ambiente – MINAM (Peru's Ministry of Environment), ASOBANC (Peru's Bank Association), ASOMIF (Peru's Microfinance Association) and Agrobanco, signed an initiative called "Protocolo Verde". This initiative has the objective of inciting banks and financial institutions to take an important role in the preservation of the environment and in the financing of sustainable development. The "Protocolo Verde" focuses on three fronts: the development of good practices and instruments to finance sustainable projects, the promotion of sustainable processes internally in the financial institutions and the consideration of environmental and sustainability risks when assessing the risks and impacts of the projects financed.

Additionally in 2015, the Superintendency of Banking, Insurance and Private Pension Fund Administrators (SBS) issued a regulation for Social and Environmental Risk Management. This regulation required local

financial institutions to adopt an E&S risk management, encouraging them to implement prudent decision making and best practices.

Furthermore, to be noted, IFC in 2014 issued the first Green Bond denominated in Peruvian Soles for approximately US\$15 million. The sole subscriber of the issuance was RIMAC Seguros, a Peruvian insurance company.

**General Future outlook:** (eg., Digital finance and traditional banking cannibalization, legal/regulatory improvements needed for future)

The appearance of digital finance in Peru is more viewed as additional services offered to the public rather than cannibalizing on already established markets. Moreover, the Peruvian financial institutions are also expected to take part in the development of this new sector using its growth as an opportunity to create new channels to reach their customers.

Also, there are certain needs for advancement in the legal/regulatory framework:

- Legal/regulatory framework that encourages/improves the liquidity of the financial markets. The 2015 law as mentioned is a step in the right direction but further advances are needed to develop more deeply and broadly the financial markets.
- Legal/regulatory framework that encourages the financial inclusion of the Peruvian population. The National Financial Inclusion Strategy launched in 2015 is also a step in the right direction. Similar strategies will be necessary for the goal of global financial inclusion by 2020 to be achieved.
- Legal/regulatory framework facilitating the process of starting a new business. This is especially important for the development of the Fintech sector.

### ***General challenges and opportunities:***

Short-term (< 1 year),

The Peruvian banking system will face the challenges of dollarization and asymmetric liquidity amid a slower growth environment. However, banks seem well placed to weather this period of structural changes as they start from a very strong position, with robust profitability, sound asset quality and adequate reserves and capital.

Since 2013 depositors and investors in Peru have expected a continued depreciation of the local currency, this has driven depositors toward USD-denominated deposits in detriment of local currency deposits, which was accentuated in 2015. Hence, even though liquidity levels are adequate there is an asymmetry by currency that has substantially increased the FX and interest rate risk.

The current world financial markets turmoil doesn't appear to pose a serious threat on Peru's capital market and financial system. Banks will continue to adapt to the new environment by curbing their growth appetite and focusing on consolidating and improving efficiency. Performance in 2016 should remain sound despite the expected deterioration in asset quality and profitability, mainly due to higher loan loss reserves and pressures on margins.

The banking system will continue facing the increased FX and interest rate risks. However, the banks are expected to remain liquid and maintain strong positions as the country's macroeconomic perspectives improve.

Banking penetration will continue to be low compared to its regional peers, which will present a growth opportunity in the micro and small entrepreneur segments. This, combined with the National Financial Inclusion Strategies, the strong growth of Fintech and the strengthening of the microfinance institutions will permit the problem of low financial inclusion to strongly subside.

In addition, several Cajas Rurales and Municipales, facing capital constraints as well as asset quality issues, will generate interesting acquisition opportunities for medium sized players.

long-term (beyond 2020):

The FX and interest rate risk exposure is expected to diminish in the future as the efforts from Peru's central government and the Banco Central de la Reserva del Peru, Peru's Central Bank, start to bear fruit.

The banking and pension funds sectors are expected to continue being highly competitive. The microfinance sector is expected to be maturing as the consolidation of previous years starts to show its results. The insurance companies will be offering more diverse and at the same time more sophisticated products catering to the increasing needs of their clients.

The financial technologies sector will continue presenting various opportunities and will continue growing at very solid rate. Latin-American Fintech companies, especially from Chile, are expected to have entered the market and to have dynamized the sector.

### ***Basel III implementation in Peru***

Peru has made significant advances in the implementation of the Basel III requirements. The regulatory body of Peru's financial system, the Superintendency of Banks, Insurance and Pension Funds (SBS), has been implementing the regulatory framework although with a local flavor. Some of Peru's advances in the implementation are:

- The liquidity requirements of Basel III, that are to be fully adopted by 2019 by European banks, are also expected to be fully phased in in Peru by 2019.
- The capital conservation buffer, fixed at 2.5% of risk weighted assets by the Basel III requirements, was implemented by the SBS as a range that goes from 1.3% to 5% of the risk weighted assets depending on the risk profile of the financial institution.
- There is a sketch resolution that, if passed, would limit which subordinated debt can be included as Tier II capital. Also, this resolution would enhance the SBS' powers enabling it to dictate when the subordinated debt holders must absorb losses and have their claims converted into bank's equity.

The SBS argued that these adaptations were made due to the different structure and relative higher volatility of Peru's economy when compared to that of the developed economies. We believe the SBS is a solid regulatory body that will implement the Basel III requirements in a capable way. We also expect the Peruvian banks to have adopted Basel III requirements (with the local adaptation) in the medium term. As has been seen during the beginning of this year in the world (especially in Europe), the Basel III

requirements, paired with very low central banks' interest rates (negative in some cases), have been putting a lot of pressure on the banks earnings. The higher capital requirements lower the banks' earnings as they rise the banks' funding costs. We expect the implementation of the Basel III requirements to have this effect in the Peruvian Banks. Nevertheless, in the medium term, we anticipate the higher costs of funding to be passed on to the customers via higher lending spreads.

## Health and Education

### ***Health Sector Overview***

Total healthcare expenditure in Peru is forecasted to grow at a CAGR of 7.8% through 2019. Currently, healthcare coverage stands at 65% of population. However, this indicator is expected to continue to rise. Private sector participation on total healthcare spending is estimated at 40%. Given the deteriorating public sector efficiency and increasing ability to pay via private or social health insurance, there is a growing demand for private healthcare.

#### ***Opportunities***

- Investment in healthcare facilities is expected to grow as population average age increases
- Government's continuing efforts to increase healthcare coverage
- Private sector expanding in basic care as government addresses increasing NCDs burden

#### ***Challenges***

- Comprehensive health insurance represents an enormous effort from the government to expand health coverage, which may affect the private sector
- Low penetration of health insurance
- Little development of PPP mechanism for healthcare projects
- Healthcare has been slow to modernize and below comparable countries in the region and globally.
- Little new private hospital infrastructure built since the 1980's.

#### ***Future Prospects***

Increasingly, the growth in infrastructure and services in emerging markets such as Peru is expected to focus on outpatient care, not just hospitals, consistent with ongoing trends in developed countries and to focus mostly on non-communicable disease, which is growing while infectious disease is declining.

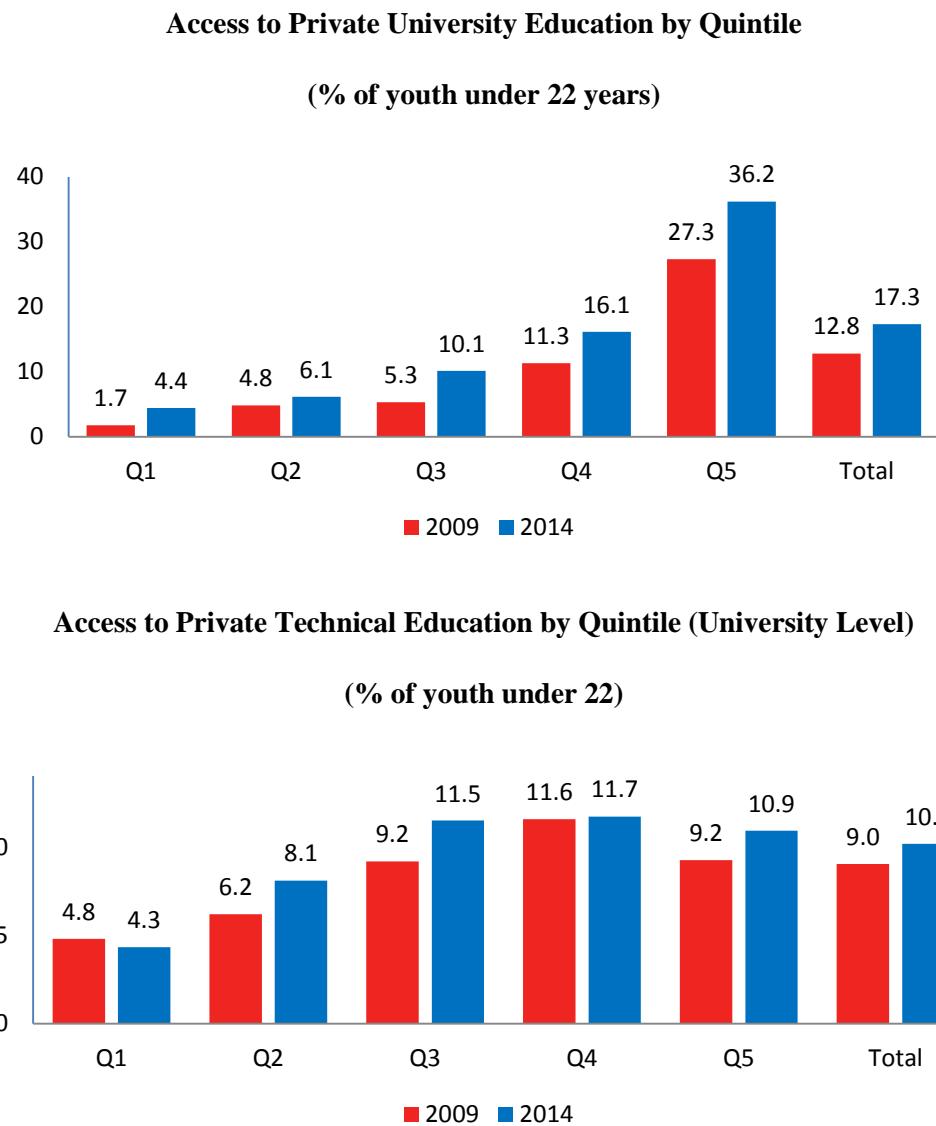
In particular, there is an increased focus upon Primary Care and Specialist services; (Dialysis; Diagnostics; Oncology; Eye; Mother and Child).

### ***Education – Overview***

There is a huge need for employment and education alignment in Peru. Private sector involvement in this sector focuses in pre-primary and tertiary education, where the public sector offer is insufficient. Tertiary market is highly fragmented with a broad range of differences in terms of

quality. In addition, mismatch between employers demand and university production remains a challenge. Employers report major skills gaps in job candidates. Private players are well positioned to help fill this gap because they are nimble and can innovate with their curriculum and engagement with employers.

Education remains centralized with enrollment rates in rural areas at 18.9% vs. 28.8% in Lima. Underdeveloped private funding for students creates a huge opportunity as government help programs has been reduced.



Recently there have been efforts to pass a ‘Reforma Universitaria’ with a major objective of increasing the quality (licensing and accreditation) and accountability (more transparent information for students) of public and private universities. This presents both a challenge and an opportunity for private universities; a

challenge because this possibly means greater scrutiny and requirements to operate with proper authorizations. An opportunity because it will weed off low-quality players and students will make informed choices.

### ***Opportunities***

- Peru has a favorable regulatory framework for private education, having attracted local and international groups. Private provision is allowed and a number of private equity funds have invested in the sector.
- In higher education, market growth has been driven by the expansion of private universities, which have been responding to latent demand, in particular in the middle income segments.

### ***Challenges***

- In higher education, the market is becoming increasingly dual, with operators targeting the A/B segments increasing tuition and those targeting the mass market (C segment) entering price wars.

### ***Future Prospects***

- Changing attitudes to private provision: governments viewing private sector more positively as public budgets stressed, while demand for tertiary education continues to grow.
- TVET crisis shortage of skilled technicians creates opportunity for private providers.
- Middle class willing and able to pay for better colleges but concerned about affordability. Well-managed private providers focused on access, excellence, value have a chance to grow.

## **Mining**

### ***Overview***

Peru is a top producer of metals, worldwide it recently took over China as second in copper production and ranks also second in silver, third in zinc, fourth in lead, seventh in gold and third in tin. In the last two decades the Peruvian economy has grown rapidly on the back of the development of its mining industry. In 2014, mining exports totaled \$20.4 billion, more than 50% of the country's exports, and contributed \$8.9 billion in private investments.

The mining industry represented around 14% of country's GDP with 5.53% YoY increase during January-June 2015. Although the mining industry is experiencing a very difficult international environment and investment in the sector in Peru is expected to continue dropping, it nevertheless is expected to account for 32% of the US\$ 24.6 billion announced private investment projects in Peru during 2016 and 2017, according to the Central Bank.

Moreover, indirectly, mining activity contributes to create additional investment, employment and tax revenues. A study by the Peruvian Institute of Economy indicated that for every worker the industry generated around 10 additional jobs. In addition the mining industry brings transport, power and other basic services to isolated populations that live in extreme poverty conditions. In 2015 Peru ranked 6<sup>th</sup>

globally on mining exploration expenses with around US\$ 502 million which represented 6% of the total worldwide and 62% of the investment in the Andean region.

Currently the mining sector in Peru is dominated by global players like BHP, Glencore, Freeport, Chinalco, Barrick, Newmont and its production is highly concentrated in a few very large mines like polymetallic Antamina, copper producers Cerro Verde, Toromocho, Cuajone, Toquepala and now Las Bambas which has just started operations. On the gold side Yanacocha (although its production is rapidly declining in the last years) and Lagunas Norte stand out.

### **Peru's Largest Mines:**

**Antamina** is a large polymetallic mine (copper, zinc, molybdenum, silver and lead) owned by BHP Billiton (33.75%), Glencore (33.75%), Teck Resources (22.50%), and Mitsubishi Corp (10.00%). The mine is located in the District of San Marcos, Province of Huari, Ancash Region, which is 200 km from the city of Huaraz with an average altitude of 4,300 m.a.s.l. Antamina is one of the largest mining investments in the history of Peru, US\$3.6 billion including the cost of a recent expansion of its operations. In addition, currently it is one of the largest Peruvian producers of copper and zinc concentrates and one of the ten largest mines in the world. Antamina produced 412,000 tons of copper during 2015.

**Las Bambas** is a large long-life copper mine owned by MMG (62.5%), Guoxin International (22.5%) and Citic Metal (15.0%) which is located in Cotabambas, Apurimac. Las Bambas is at an advanced stage of construction and is expected to start production in 2016. It is expected to produce 400,000 tons of copper per year one of the top 10 largest worldwide.

**Cerro Verde** is an open-pit copper and molybdenum mine owned by Freeport-McMoRan (53.56%), Sumitomo Metal Mining (21.00%), Buenaventura (19.58%), and other minority shareholders (5.86%) which is located 20 miles southwest of Arequipa. The mine is currently being expanded, the processing capacity will increase from 120,000 tons per day (tpd) to 360,000 tpd. Cerro Verde is among the largest mines in the world, in 2015 it produced 256,000tons of copper and is expected to increase production to 450,000tons of copper per year once the expansion is completed and reaches full capacity sometime during 2016.

**Toromocho** is an open-pit copper mine wholly-owned by Chinalco which is located in the District of Morococha, Yauli Province, in the Junin region. Tomorocho host a large mineral reserve of 1,526 million tons of ore with an average grade of 0.45% of copper, 0.019% of molybdenum and an average grade of silver of 6.88 grams per ton. Toromocho produced 182,000 tons of copper during 2015 and is expected to produce 300kt of copper when it completes an ongoing expansion of production capacity.

**Toquepala** is an open-pit copper mine wholly-owned by Southern Copper and located in Tacna, Southern Peru. Toquepala's processing milling capacity of 60,000 tpd in being expanded to 120,000 tpd and at a cost of US\$1 billion and it is expected to allow an increase of 100,000 tpy of copper production starting in early 2017. Toquepala produced 140,000 tons of copper during 2015.

**Cuajone** is an open-pit copper mine wholly-owned by Southern Copper which is located 30 kilometers from the city of Moquegua in the western slopes of Cordillera Occidental in the southern Andes in between and near Toquepala and Quellaveco. The concentrator has a milling capacity of 87,000 tons per day and produced 182,000t of copper during 2015.

**Antapaccay** is an open-pit copper mine wholly-owned by Glencore which is located in Yauri, Espinar, southern Peru, at 4,100 m.a.s.l. 10km from the old Tintaya mine, which has been depleted, where Glencore process the ore from Antapaccay. The mine produced 203,000 tons of copper during 2015 and currently has an estimated remaining mine life of 20 years.

**Yanacocha** is an open-pit gold mine owned by Newmont Mining (51.35%), Buenaventura (43.65%) and IFC (5.00%) which is located in Cajamarca. Yanacocha is one of the largest gold mines in the world, which has produced over 35 million ounces of gold since it started operations in 1993. Production is declining and unless more reserves are discovered it will close in 2020. In 2015 Yanacocha produced around 900,000 ounces of gold and is expected to produce around 6000,000 ounces in 2016.<sup>I</sup> In addition to financing, overtime since investing in the company in 2003, IFC has provided to Minera Yanacocha advisory services aimed to enhance the local benefits and increase communities' trust.

**Lagunas Norte** is an open-pit gold and silver mine wholly-owned by Barrick Gold located in the Alto Chicama property in north-central Peru, 140 kilometers east of the coastal city of Trujillo. The property lies on the western flank of the Peruvian Andes at an elevation of 4,000 to 4,260 m.a.s.l. Lagunas Norte is an open-pit heap leach operation that produced 560,000 ounces of gold in 2015 at all-in sustaining costs of US\$509 per ounce. Production in 2016 is anticipated to be 410,000-450,000 ounces of gold at all-in sustaining costs of US\$570-US\$640 per ounce. Proven and probable gold reserves as of December 31, 2015, were 3.7 million ounces of gold. Barrick has recently announced a US\$640 million investment to exploit the refractory ore located beneath the oxide mineral currently being heap leached which will expand the life of mine in 9 years until 2030.

### *Largest Peruvian Mining Companies*

**Buenaventura** is the largest Peruvian precious metals producer founded by Alberto Benavides whose heirs today own 27% of the company. The rest is sparsely held by institutional and retail investors, Buenaventura's stock is listed in the NYSE. The Company is engaged in the mining, processing, development and exploration of gold and silver and other metals via wholly owned mines as well as through its participation in joint operations such as Yanacocha, El Brical, La Zanja and Tantahuatay. Buenaventura is a former IFC client and an existing partner in Minera Yanacocha.

**Volcan** is a significant producer of lead, zinc and silver, one of the largest in the world. The Company is considered one of the lowest cost producers in the industry due to the quality of its ore deposits.

**Minsur** is the third largest producer of Tin worldwide and the only producer in Peru through the San Rafael mine in the region Puno. Minsur is a subsidiary of Inversiones Breca S.A., company domiciled in Peru owned by the Brescia family, one of the most powerful economic groups of Peru with interest in several industries.

**Hochschild Mining** is a significant silver producer 50.1% controlled by the Hochschild family. The balance is owned by institutional and retail investors, Hochschild's stock is listed in the London Stock Exchange. In 2015, the Company's recently commissioned Inmaculada mine (its largest mine) contributed 7.1 million ounces of silver equivalent production (including gold production) which helped Hochschild to produce a total of 24.7 million ounces. It is expected that in 2016 Inmaculada will contribute 14 million ounces of silver equivalent to the Company's expected production of 32 million ounces of silver equivalent.

### *Future Perspectives*

The mining sector in Peru is expected to grow by 11.2% and 11.6% during 2016 and 2017, respectively, driven by a boost in copper production due to ongoing projects like the expansion of Cerro Verde, the beginning of production of Las Bambas and the expansions of Toromocha and Toquepala, according to the Central Bank. Conversely, gold production is projected to decrease due to the natural depletion of the mines deposits, in particular Yanacocha.

Nevertheless, the outlook for mining industry in the mid-term is not promising, since no new major mine development is expected in Peru after the ongoing pipeline of projects in construction is completed.

### *Challenges*

The outlook for the mining sector is expected to be driven by macro factors such as the monetary policy tightening cycle in the United States and the slowdown in China, according to the World Bank's January 2016 Global Economic Prospects. Companies will need to adapt to a new period of more modest growth in large emerging markets, characterized by low commodity prices and diminished flows of trade and capital. Project delays and falling ore-grades may have a moderating effect by constraining the growth of supply but weaker demand is expected to dominate the commodity markets.

In addition to a tough global environment the mining industry faces other significant challenges in Peru like lack of trust from communities and social conflict in many cases as well as a more complex permitting framework which have led to longer execution timelines at best or fully stopped projects in several cases like Tia Maria (Southern Peru), Minas Conga and Cerro Quilish (Yanacocha), Quellaveco (Anglo American), La Granja (Rio Tinto). In an effort to ease this situation and at a request from the GoP, the WBG has been performing a pilot program to try to identify regulatory policy measures and sustainability practices aimed at facilitating mining investments and reducing social conflict around the mining industry.