

Practice Midterm #1

October 2013

You have 90 minutes to complete this exam. Please answer each question in the space provided and show all of your work. You may consult one page of notes and a calculator, but devices capable of wireless transmission are prohibited.

I understand that the honor code applies: I will not lie, cheat, or steal to gain an academic advantage, or tolerate those who do.

(Name and Signature)

Year	Y/L	K/L
1990	2.489	2.396
2011	6.582	24.722

Table 1. Aggregate data for Vietnam. Y is real GDP, K is the stock of capital, and L is the number of people working. The numbers are thousands of 2005 US dollars. Source: Penn World Table, Version 8.0.

1. *Prospects for Vietnam (40 points).* You have been asked to provide a short overview of Vietnam's economic prospects for a group of international business leaders who have come to Washington DC for the annual IMF meetings. To many in the United States, Vietnam brings up painful memories of war and Oliver Stone movies, but its economic performance over the past two decades has been extraordinary. GDP per capita remains low at about 3600 USD, but its GDP growth rate since 1990 has been over 7 percent per year.

In preparing your report, you start with some basic data from the Penn World Table, reported in Table 1. Then you turn to the Economist Intelligence Unit, where you find (quotes from reports, edited lightly for continuity, with additional data from other sources):

- The Communist Party remains the dominant political force. The government, the army, and the bureaucracy are subordinate to it.
- Vietnam's economic success over the last two decades followed the Party's 1986 commitment to "economic renovation." By the end of the 1980s economic reforms had become part of the new consensus.

- Regulatory conditions and market access for foreign investors have continued to improve in recent years, reflecting Vietnam's efforts to fulfil its commitments on accession to the World Trade Organisation (WTO) in January 2007.
 - The EIU democracy index puts Vietnam among the most authoritarian regimes in the world. In the functioning of government, however, Vietnam fares much better, and the public's confidence in the government and the party is high. Vietnam also scores well in the degree of societal consensus and cohesion. The judiciary is relatively weak and not independent of the Communist Party.
 - The World Bank's Doing Business now ranks Vietnam 99th (of 185) on overall ease of doing business, which is below China (91) and above India (132). The World Bank's Governance Indicators rank Vietnam in the 43rd percentile on overall government effectiveness and the 39th percentile on rule of law. The Heritage Foundation rates Vietnam 15 (of 100) on rule of law but 64 on business freedom and 79 on open markets.
 - A recent slowdown in growth coincided with growing evidence of corruption and rising prices gas, food, and utilities, which led the prime minister to make a public apology. The trouble stems in large part from the Communist Party's failure to discipline state-owned enterprises, which account for 40% of output, and to clean up bad debts lurking in state-owned banks. Some state-owned firms are reported to be so cash-strapped they have stopped paying workers.
 - There has been debate in the party between conservative hard-liners pushing for stability and reformist moderates who would like to see further liberalization, including privatization of state-owned firms. One Western diplomat says the question now isn't whether real reform will happen, but how fast.
- (a) Using the data in the table, compute the continuously-compounded annual growth rate of GDP per worker for the period 1990-2011. (5 points)
 - (b) Identify the sources of growth in Vietnam over the same period. (This is an indication that you should do the usual growth accounting calculations. Be sure to include calculations of productivity.) What is the primary source of growth? (15 points)
 - (c) Between 1990 and 2011, average years of schooling for adults rose from 5.3 to 6.3. By how much would you estimate this increased GDP? (5 points)
 - (d) Continued high performance in developing countries is often connected to continued improvement in institutions. Which institutions are important, in general? From what you've read above, how does Vietnam rate on them? Using the information presented, and your own good judgement, how attractive do you think Vietnam will be over the next ten years to international firms looking to do business there? (15 points)
2. *Zambeef looks for opportunities (20 points).* Zambeef, the Zambia-based meat distributor, is looking for new opportunities. The Economist reports: "Zambeef

Indicator	Zambia	Botswana	Tanzania
<i>General</i>			
GDP per capita (2005 USD)	1690	11,300	1250
Population (millions)	13.5	2.0	44.9
Doing Business overall (percentile)	49	68	27
World Economic Forum overall (percentile)	37	50	16
<i>Governance</i>			
Political stability (percentile)	66	88	48
Govt effectiveness (percentile)	38	68	28
Regulatory quality (percentile)	37	74	37
Rule of law (percentile)	42	75	34
Control of corruption (percentile)	46	79	22
<i>Labor</i>			
Minimum wage (USD per month)	76	92	52
Severance after 10 years (weeks of pay)	87	36	10
Labor market efficiency (percentile)	37	68	67
Literacy (percent of adults)	71	84	73
Years of school (adults)	6.7	9.6	5.8
<i>Infrastructure and trade</i>			
Infrastructure quality (percentile)	20	36	10
Import documents required (number)	8	5	6
Import delay (days)	56	37	31
Import cost (USD per container)	3600	3500	1600

Table 2. Economic and institutional indicators. Percentiles range from 0 (worst) to 100 (best). Sources: Penn World Table, World Economic Forum, World Bank, Doing Business.

operates meat counters at all 20 Shoprite stores across Zambia as well as its newer outlets in Ghana and Nigeria. Zambeef also has around 100 shops of its own. The CEO notes that with markets targeting both low and high-income consumers, they are able to sell ‘all of the animal.’ The firm is also vertically integrated; its ‘farm-to-fork’ model includes farms, retail outlets, and ‘cold chain logistics’ with its fleet of 78 refrigerated trucks. The downside of recent expansion, they say, is the demands on its managers.”

Zambeef is now looking to expand, either in Zambia or in nearby countries. As a consultant based in Johannesburg, you have been asked to advise Zambeef on the strengths and weaknesses of neighboring Botswana, Tanzania, and Zambia. You quickly summarize various measures of institutional quality in the three countries; see Table 2. You also turn to the World Economic Forum’s Global Competitiveness Report, which includes a survey of business leaders and tabulates

the most commonly reported problems. For the three countries, the most common complaints were

- Zambia: access to financing, corruption, and inadequate infrastructure.
 - Botswana: poor work ethic of labor force, inefficient government bureaucracy, and access to financing.
 - Tanzania: access to financing, corruption, and inadequate infrastructure.
- (a) Describe the features of an economy that are important to operating a business like Zambeef's. How do Botswana and Tanzania compare to Zambia on these features? (10 points)
- (b) What issues raise the most concern in each country? How might you deal with them? What location(s) would you recommend? (10 points)

3. *Short questions (50 points).*

- (a) In 1960, 41% of women aged 25-54 in the US were employed. In the most recent data, the number is 69%. What is the likely impact on US GDP growth over this period? What is the likely impact on the US employment rate? (10 points)
- (b) Suppose Apple's Irish assembly plant took 230 (millions of euros) in parts produced in Asia and hired workers for 80 to assemble products worth 320, which were then sold in the US. What is the value-added of the plant? Which of these transactions appears as an expenditure in the Irish national accounts? (10 points)
- (c) Describe, in Ricardo's model, how — and why — free trade affects productivity. (10 points)
- (d) Consider the statement: "When financial institutions fail, we should let them fail." Do you agree or disagree? Why? (10 points)
- (e) Consider the statement: "Germany's high investment rate is supported, in large part, by flows of capital from other countries." Do you agree or disagree? Why? (10 points)

**Practice Midterm Examination #2**

October 2012

You have 90 minutes to complete this exam. Please answer each question in the space provided. You may consult one page of notes and a calculator, but devices capable of wireless transmission are prohibited.

I understand that the honor code applies: I will not lie, cheat, or steal to gain an academic advantage, or tolerate those who do.

(Name and Signature)

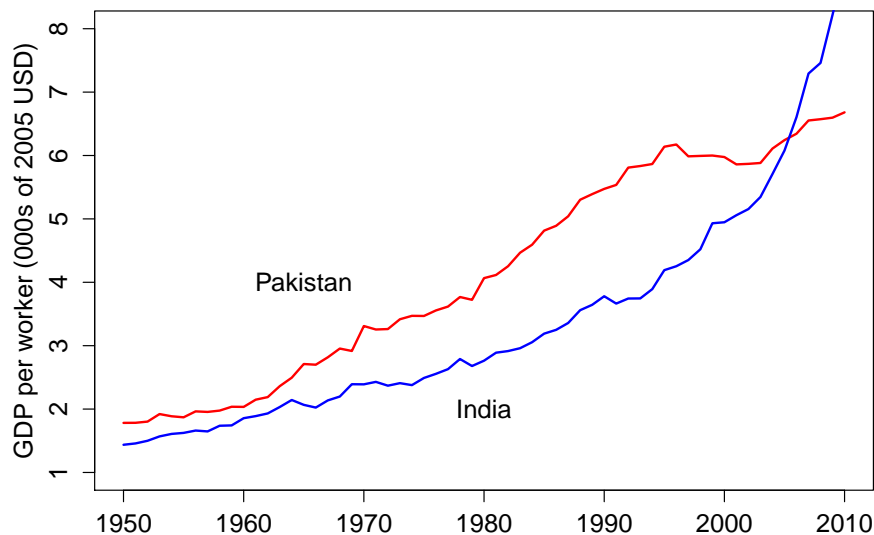


Figure 1. GDP Per Worker in Pakistan and India.

1. *Prospects for Pakistan.* You have been asked to write a short report on the prospects for Pakistan: Can we expect it to grow as India has, or are there factors that you think will inhibit future economic performance?

Pakistan is a large country, with an ethnically and linguistically diverse population of 180 million and an equally diverse geography. Its level of development

	India	Pakistan	
Year	Y/L	Y/L	K/L
1990	3.780	5.473	9.040
2010	9.010	6.681	10.577

Table 3. Aggregate data for Pakistan and India. The numbers are thousands of 2005 US dollars. Source: Penn World Table, Version 7.1.

	Pakistan	India
Voice and accountability	26.3	59.2
Political stability	0.5	12.7
Govt effectiveness	22.3	54.5
Regulatory quality	29.9	40.3
Rule of law	20.7	52.6
Control of corruption	15.6	35.1

Table 4. Governance indicators for Pakistan and India. The numbers are percentiles and range from 0 (worst) to 100 (best). Source: World Bank.

after independence in 1947 was comparable to India's. The Penn World Table estimates that GDP per worker in 1950 was 25% above India's, with somewhat less difference in GDP per capita. Since 1990, however, India has grown rapidly, while Pakistan has not. See Figure 1 and Table 3.

The country is now a democracy, but has alternated democratic and military rule throughout its history. The Economist Intelligence Unit's Country Report states: "Pakistan's 1973 constitution established Pakistan as a federal parliamentary democracy, but it has undergone major amendments to mould the political system to the wishes of successive political leaders. ... Still in force before the October 1999 coup launched by General Pervez Musharraf, it had undergone major amendments, often to legitimise the authoritarian actions of successive administrations. ... President Pervez Musharraf ceded power to a civilian government in early 2008. In the wake of his resignation the new civilian government appears likely to amend the constitution once again to limit the powers of the presidency. ... The EIU now categorises Pakistan as a 'hybrid regime' and ranks it 108 (of 167) on its democracy index." The EIU adds: "pervasive official corruption and increasingly frequent terrorist attacks" act as a disincentive to foreign investors. Additional governance indicators from the World Bank are reported on Table 4.

- Compute continuously-compounded annual growth rates of GDP per worker for Pakistan and India for the period 1990-2010. Which is higher? (10 points)
- Identify the sources of growth in Pakistan over the same period. (This is an indication that you should do the usual growth accounting calculations.)

Why has growth been so slow? (15 points)

- (c) Use the information provided to assess Pakistan's prospects. Do you see it growing like India or more slowly? Why? (10 points)

Indicator	China	Thailand	Vietnam
<i>General</i>			
GDP per capita (2005 USD)	8400	9200	3500
Doing Business overall (percentile)	50.8	90.3	46.5
World Economic Forum overall (percentile)	80.0	73.6	47.9
<i>Governance</i>			
Political stability (percentile)	25.0	16.5	52.8
Govt effectiveness (percentile)	60.7	59.7	45.0
Regulatory quality	45.5	56.4	29.4
Rule of law	41.8	48.8	39.9
Control of corruption (percentile)	30.3	43.6	33.6
<i>Labor</i>			
Minimum wage (USD per month)	204	118	65
Severance after 10 years (weeks of pay)	43	50	43
Labor market efficiency (percentile)	71.5	47.2	64.6
Literacy (percent of adults)	94	94	93
Years of school (adults)	8.2	7.5	6.4
<i>Infrastructure and trade</i>			
Infrastructure quality (percentile)	66.7	68.1	34.0
Export documents required (number)	8	5	6
Export delay (days)	21	14	21
Export cost (USD per container)	580	585	610

Table 5. Institutional indicators for China, Thailand, and Vietnam. Percentiles range from 0 (worst) to 100 (best). Sources: Penn World Table, World Economic Forum, World Bank, Doing Business.

2. *Foxconn's next frontier.* Hon Hai Precision Industry Co. Ltd. ("Foxconn") is a Taiwan-based manufacturer that makes products for Apple, Intel, Sony, and others. Known for its plants in China, including one in Shenzhen that makes iPads, it also has operations in Brazil, Malaysia, Mexico, and other locations.

With wages rising rapidly in China, Foxconn is exploring other locations. As a private consultant, you have been asked to write a short report outlining the advantages and disadvantages of locating in Thailand and Vietnam and to compare both to China. You collect the information in Table 5 and begin your report.

- (a) Which of these indicators are most important to your venture? How do the two countries compare on them? (10 points)

- (b) Which country or countries would you recommend to your clients? What are the primary challenges they would face? (10 points)

3. *Short questions.*

- (a) XYZZY Partners offers business consulting services worldwide from its US headquarters. In 2012, sales were 235 (million dollars), of which 60 came from clients in other countries. Expenses included labor compensation of 150, rent of 35, and materials of 25. Any surplus goes to the firm's partners. They also purchased enterprise resource management software from German software giant SAP for 85, which they will treat as a capital expenditure and amortize over ten years.
What was the firm's contribution to US GDP? (10 points)
- (b) In Ricardo's model, what is the impact of trade on jobs? (10 points)
- (c) When an unemployed person stops looking for work, what happens to the unemployment rate? The employment rate? The labor force? (10 points)
- (d) Consider the statement: "In financial markets it's important to protect lenders. Otherwise, both borrowers and lenders lose." Do you agree or disagree? Why? (10 points)
- (e) Consider the statement: "It's not necessary for a country to save in a global economy. Firms can finance all the investment they want in global capital markets." Do you agree or disagree? Why? (10 points)

**Practice Midterm Examination #3**

March 2012

You have 90 minutes to complete this exam. Please answer each question in the space provided. You may consult one page of notes and a calculator, but devices capable of wireless transmission are prohibited.

I understand that the honor code applies: I will not lie, cheat, or steal to gain an academic advantage, or tolerate those who do.

(Name and Signature)

1. *Mexico and Turkey.* Flextronics is an original equipment manufacturer of electronics, making products around the world that are sold under other brand names. It is currently looking for a location to produce the next generation Xbox for Microsoft. They would be sold (primarily) in the US and Europe. Your mission: to provide a quick assessment of the productivity and labor market conditions for two countries on the short list, Mexico and Turkey. Mexico, of course, has both proximity to the US and access to the US through NAFTA. Turkey has proximity to Europe.

Recent data for the two countries includes

	POP	Y/POP	L/POP	K/Y	Education	Hours
Mexico	104.3	7938	0.423	2.53	7.4	1871
Turkey	71.3	5633	0.477	2.03	5.4	1918

POP is population (millions), Y is GDP (2000 US dollars), K is capital (2000 US dollars), Education is years of school, and Hours is annual hours worked per employed person. Y and K are PPP-adjusted. Education and Hours are from the OECD's *Employment Outlook*; the other variables are from the Penn World Tables.

The World Bank's Doing Business website includes these measures of labor market flexibility:

- Mexico: difficulty of hiring workers (33), rigidity of hours (40), difficulty of firing workers (70), and cost of firing (52 weeks of salary).
- Turkey: difficulty of hiring workers (44), rigidity of hours (40), difficulty of firing workers (30), and cost of firing (95 weeks of salary).

Low numbers indicate greater flexibility in each case.

- (a) Which country has higher total factor productivity? (15 points)
- (b) Which country holds more risk of labor issues? (15 points)
- (c) All things considered, which country do you think is the better prospect? Why? (10 points)

Indicator	China	India	UK	Source
GDP per capita (USD)	5,300	2,700	35,300	CIA Factbook
GDP growth (%)	11.2	8.4	2.9	The Economist
Competitiveness	4.6	4.3	5.4	WEF
Regulatory quality	4.8	4.9	9.8	Governance Matters
Rule of law	4.6	5.8	9.3	Governance Matters
Investor protection	5	6	8	Doing Business
Financial sophistication	3.3	4.9	6.2	WEF
Macro stability	6.0	4.2	5.2	WEF
Control of corruption	3.8	5.3	9.4	Governance Matters

Table 6. Measures of performance and institutional quality in China, India, and the UK. Competitiveness index is an overall measure of institutional quality.

2. *Investing in China and India.* You work at a British asset management company and have been asked to assess the potential of starting a country fund: a mutual fund for UK investors that would invest in China or India. You realize that both countries are growing rapidly, China more so to date than India, but you wonder whether there are important differences in the institutional environment that might also be relevant.

Your summer intern collects the data in Table 6 and explains what each of the indicators means. In addition, she points out that the World Economic Forum (WEF) collects survey responses about the biggest problems faced by businesses. In China they are: access to financing, bureaucracy, corruption, and policy instability. In India: infrastructure, bureaucracy, labor regulations, and corruption. And in the UK: taxes, education of workforce, and bureaucracy.

Based on this information and your own experience, which country would you recommend? Why? (30 points)

3. *Miscellany.*
 - (a) *Jobs.* Senator Joe Lieberman once said something like: “The only way to increase jobs is to make hiring attractive to businesses.” Use an analysis of the minimum wage to argue for or against his statement. (10 points)
 - (b) *Infrastructure.* An article posted on the discussion board suggested that infrastructure investments (highways, ports, telecommunications) not only

increase the stock of capital, they can also increase productivity. Do you agree? Why or why not? (10 points)

- (c) *Trade balance.* Some have suggested that the US trade deficit ($NX < 0$) reflects inadequate saving, while others have suggested that investment is excessive. In what sense does each claim contain a grain of truth? What evidence would you use to support one claim over the other? (10 points)

**Practice Midterm Examination #4**

March 2011

You have 90 minutes to complete this exam. Please answer each question in the space provided and show all of your work. You may consult one page of notes and a calculator, but devices capable of wireless transmission are prohibited.

I understand that the honor code applies: I will not lie, cheat, or steal to gain an academic advantage, or tolerate those who do.

(Name and Signature)

1. *Indonesia*. Indonesia is one of the world's most populous countries, but it remains a poor one, with GDP per capita of about 6 thousand US dollars. Its recent trajectory, however, has been strong, with average GDP growth over 5% between 2000 and 2011 and a barely perceptible impact from the global financial crisis.

From EIU reports, we find that Indonesia's recent success comes after a tumultuous history. Following independence from the Dutch after World War II, it had several decades of authoritarian rule. The bloody transition from Sukarno to Suharto in 1965 is vividly portrayed in Peter Weir's 1982 film, "The Year of Living Dangerously." Economic performance improved under Suharto, but dissatisfaction with authoritarian rule peaked after the Asian Crisis of 1997, when the currency fell by 80% against the dollar and real GDP fell 14%.

After the crisis, Indonesia made a rapid transition to multi-party democracy, with the first democratic elections in 34 years in 1999 and several more since then.

Your mission is to examine the economic roots of recent success using the data in Table 7.

- (a) What is the average annual growth rate of GDP per capita between 2000 and 2011? GDP per worker? (Here and elsewhere in this question, growth rates are understood to be continuously-compounded.) (10 points)
- (b) What was total factor productivity in 2000 and 2011? Its average annual growth rate? (10 points)
- (c) What are the other sources of growth? What factors account for the growth rate of GDP per worker you computed in (a)? GDP per capita? (10 points)

Year	POP	Y/POP	Y/L	K/L
2000	220.0	4,151	8,828	21,408
2011	245.6	6,209	12,672	23,471

Table 7. Indonesia: aggregate data on output and inputs. Population is in millions. The other numbers are 2005 US dollars (PPP adjusted, from Penn World Tables and EIU CountryData).

2. *Indonesia and Kazakhstan.* As the junior member of a consulting team, you have been asked to collect information on the pros and cons of building a small manufacturing operation in Indonesia or Kazakhstan. The plant would produce toys aimed at the growing Asian market. Both countries have shown recent signs of economic progress. Both are actively recruiting foreign manufacturers, Indonesia to continue its growth, Kazakhstan to diversify beyond its resource-based economy.

A collection of institutional indicators is given in Table 8. In addition, the political situations are quite different. Indonesia is an emerging democracy. The EIU describes Kazakhstan's political structure as authoritarian:

Nursultan Nazarbayev, the current president and formerly the first secretary of the Communist Party of the Kazakh Soviet Socialist Republic, has ruled Kazakhstan since independence. He has steadily increased his control over Kazakhstan's political structures, which has allowed him to secure re-election several times, the most recent presidential election being in December 2005. Parliament approved amendments that pave the way for him to remain president for life. His party, Nur Otan (Light-Fatherland), won every seat available for election in the new parliament.

As a result, the political situation is thought to be stable.

- (a) Which of these indicators are most important to your venture? How do the two countries compare on them? (10 points)
 - (b) Which country or countries would you recommend to your clients? What are the challenges they would face? (10 points)
3. *True/false.* Please explain why each statement is true, false, or uncertain. The explanation is essential.
- (a) If a product is made in the Mexico but sold to consumers in the US, it is not included in Mexican GDP. (10 points)
 - (b) If the unemployment rate falls, employment has risen. (10 points)

Indicator	Indonesia		Kazakhstan	
	1996	2010	1996	2010
<i>Governance</i>				
Political stability (percentile)	13.5	18.9	28.4	61.8
Govt effectiveness (percentile)	40.0	47.8	13.2	44.5
Control of corruption (percentile)	30.7	27.3	9.3	15.3
<i>Labor</i>				
Minimum wage (ratio to average)		0.41		0.13
Severance after 10 years (weeks of pay)		56		4
Mandatory vacation (days per year)		0		13
Flexible hours? (yes, no)		yes		yes
<i>Transportation infrastructure</i>				
Overall quality (percentile)		42		40
<i>International trade</i>				
Documents required (number)		4		9
Delay (days)		17		76
Cost (USD per container)		644		3130

Table 8. Institutional indicators for Indonesia and Kazakhstan.

- (c) Firms find it costly to search for workers with the right skills. For that reason, regulations that discourage labor turnover are good for the economy. (10 points)
- (d) A tax on labor tends to reduce employment. (10 points)
- (e) In Ricardo's model, free trade is good for consumers but bad for workers. (10 points)