

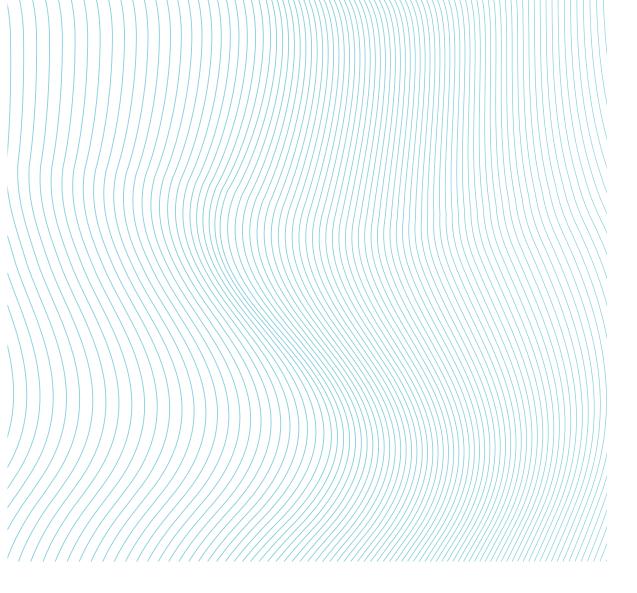
POLICY BRIEF POLICY CAPACITY DEVELOPMENT TO INFORM POLICIES FOR SUSTAINABLE DEVELOPMENT



Task Force 6 **ECONOMY, EMPLOYMENT, AND EDUCATION IN THE DIGITAL AGE**

Authors

ROMAN ZYTEK, SITI ATHIRAH ALI, ARIADNA BANKOWSKA, JASON KOK



موجز السياسة <mark>تنمية القدرة السياسية لإنارة طريق</mark> <mark>السياسات من أجل التنمية المستدامة</mark>



فريق العمل السادس **الاقتصاد والتوظيف والتعليم في العصر الرقمي**

> المؤلفون رومان زيتيك، سيتي أثيرة على، أريادنا بانكوسكا، جيسون كوك



Developing countries are working to improve the human capital of their populations to facilitate productivity growth and economic, social, and environmental development. In this policy brief, we emphasize the role of national policy capacity in the context of promoting sustainable development. We discuss an effective model for building national policymaking capacity and provide an approach to developing and understanding how policies inside and outside the education sector can promote or obstruct individual and group incentives to invest—both time and money—in lifelong education.

تعمـل الـدول الناميـة مـن أجـل تحسـين المـوارد البشـرية لسـكانها لتيسـير النمـو الإنتاجي والاقتصـادي والاجتماعي، والتنميـة البيئيـة. وفي ملخّـص السياسـة هـذا، نؤكـد دور القـدرة السياسـية الوطنيـة في سـياق تعزيـز التنميـة المسـتدامة. نناقـش نموذجًا فعـالاً لبنـاء قـدرات صنـاع السياسـة الوطنيـة وتوفيـر نهـج لتنميـة وفهـم الكيفيـة التي يمكـن للسياسـات داخـل قطـاع التعليم وخارجـه أن تعزز بهـا المحفـزات الفرديـة والجماعية أو تعرقلهـا مـن أجـل الاسـتثمار -علـى مسـتوى الوقـت والأمـوال علـى حـدٍّ سـواء- فـي تعليـم يسـتمر مـدى الحـاة.



Ownership of National Policymaking

The 2030 Agenda for Sustainable Development (the 2030 Agenda), Addis Ababa Action Agenda (AAAA), and the G20 Action Plan on the 2030 Agenda for Sustainable Development (the G20 Action Plan) emphasize the importance of national ownership and national priorities in shaping and implementing public policies. These documents emphasize capacity building. Further, they present prima facie evidence that, notwithstanding the undeniable effort undertaken by the international community to help developing and low-income countries build national policy capacities over the past decades, far too many countries still struggle in this area.²

Many developing countries faced with severe policymaking capacity constraints turn for help to ad hoc external technical assistance provided by official bilateral and multilateral partners and private consulting companies. This approach allows national agencies to close specific knowledge gaps. However, the advice mostly amounts to the mechanical replication of solutions attempted in other countries or blueprints promoted by external experts and international organizations. Additionally, policy advice is often biased by the advisers' personal experience or specific foreign culture-centered solutions. However, contemporaneous economic architecture in every country is rooted in the country's history, culture, and institutions, and depends on the level of economic development. Policies are routinely shaped by wars, economic crises, and demographic shocks, and are the result of political compromises. The specific economic architecture in each country or region is the result of historical political compromises among representatives of different stakeholders vying to maximize their economic power, irrespective of the overall social welfare.³ These include labor

^{1.} See paragraph 66 in the 2030 Agenda and paragraph 20 in the AAAA ("... for all countries, public policies [...], underscored by the principle of national ownership, are central to our common pursuit of sustainable development,..."); and the G20 Action Plan, fourth bullet point on page 2 ("Devote ourselves to take collective policy actions to the pursuit of global development that are inclusive, respect country ownership and national priorities, ...").

^{2. &}quot;Capacity building" is referred to 13 times in the 2030 Agenda, 24 times in the AAAA (the term capacity is referred to 57 times overall in various contexts related to building national capacity), and 12 times in the G20 Action Plan (another 13 references are made to "capacity" alone).

^{3.} Henrich, Heine, and Norenzayan (2010) note that "Behavioural scientists routinely publish broad claims about human psychology and behaviour [...] based on samples drawn entirely from Western, Educated, Industrialized, Rich, and Democratic (WEIRD) societies." However, "there is substantial variability in experimental results across populations" and "WEIRD subjects are particularly unusual compared with the rest of the species – frequent outliers. [...] The findings suggest that members of WEIRD societies, including young children, are among the least representative populations one could find for generalizing about humans. Many of these findings involve domains that are associated with the fundamental aspects of psychology, motivation, and behaviour—hence, there are no obvious a priori grounds for claiming that a particular behavioral phenomenon is universal based on sampling from a single subpopulation" (1).

market arrangements, rules and regulations in the goods and services markets, and tax policies and expenditure priorities. Not surprisingly, quick fixes to close knowledge gaps with cookie-cutter recommendations or blueprints are routinely ignored, poorly implemented, or produce suboptimal outcomes.⁴

The approach often comes at the expense of the development of indigenous policy-oriented research capacity. Successful policies require more than high-level reform blueprints parachuted from outside and discussed with senior policymakers by visiting advisers. To ensure effective implementation, monitoring, and continuous adjustment, policies require genuine local ownership; an active, in-depth understanding of the incentives; comprehensive linkages; and possible verifiable outcomes of the various policy options among permanent staff of national policymaking organizations. Moreover, by discouraging competition and limiting the diversity of ideas and policy debate, the approach encourages groupthink and lowers the quality of policy advice, in particular, because national governments find it difficult to challenge the advice. Additionally, the quality of the interactions and the effectiveness of the outside technical assistance suffer. Lastly, in the absence of strong national policy-oriented capacity, international organizations and consultancies face the challenge of restraining the natural tendency for "empire building" among their leadership. This results in shutting out new ideas and criticism, and can result in major policy mistakes.

^{4.} For an insightful discussion on the role of culture, family ties, informality, and institutions in development, see Alesina and Giuliano (2013a, 2013b), Bisin and Verdier (2017), and La Porta and Shleifer (2014).

^{5.} A co-author of this policy brief has contributed to several technical assistance projects around the world. It was not unusual to find technical assistance reports prepared on the same subject by earlier technical assistance teams still in the original, unopened envelopes in which they were sent to the ministry. Local staff typically commented that the reports were not written for them, but to impress supervisors at the dispatching organization. The reports were written in complex language that may have been easy to understand for a PhD degree holder with 20 years of experience, but incomprehensible to the often young local staff.

^{6.} In the late 1990s, the World Bank promoted a three-tier reform of national pension systems. Several East and Central European Transition Countries embraced the model without challenging its wisdom nor understanding its serious, and already well-documented deficiencies (Fultz 2012). By 2015, both Hungary and Poland shut down the mandatory part of the schemes (the second pillar) as they suffered from serious design and implementation errors. The mistakes likely contributed to major election defeats of the governing liberal, reform-oriented parties in favor of "populist" parties. Ironically, some countries that managed to develop stronger national policy-oriented capacity avoided the costly mistakes. In an interview in 2020, Professor Sharpe, the winner of the Nobel Prize in Economics in 1990, commenting on the mistakes of the reforms noted that "your reformers just didn't understand the arithmetic and operation of the stock exchange." (Stodolak 2020).

The Education Framework

Policies to promote human capital development, employment, and social protection are designed and managed by numerous public agencies. These agencies routinely compete with each other and are accountable to different interest groups. Policies across ministries and agencies are not integrated even though they have a profound impact on the returns to human capital, and therefore, also on the private and public investment of time and money in human capital development.⁷ At the same time, success or failure in the area of human capital development will affect the achievement of the Sustainable Development Goal 4 (Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all) and the outcome of the remaining sixteen Sustainable Development Goals (United Nations).

Discussions on the education policies in T20 are not new, and several T20 policy briefs were published in both 2018 and 2019 (Text Box 1 and Text Box 2). They have focused on a broad range of issues that impact education, work, and related demands for skills and social welfare, in particular, in the context of the ongoing global transformation towards digital economies. The policy briefs raise many important issues. However, most use the "partial equilibrium" approach in their analysis when a more general equilibrium perspective is required. In addition, there is a tendency to recommend actions that should be taken by some other, higher authority, a "perfect agent" (Jensen and Meckling 1994), which is an existing or new public organization at the national or international (G20) level. Most briefs call for expanded investment in various education schemes but are not transparent about the opportunity costs of the proposals, where the funds could come from, or which expenditures or activities should be cut.

Some policy briefs call for expansion of financial or digital literacy through specific, publicly paid for, and provided education. However, historically, efforts to expand such education have been routinely ignored because policymakers have been well aware that taxpayers are unwilling to support such programs due to their poor track record (Davis and Durband 2008). The poor track record could be due to poor prerequisite literacies or skills (basic numeracy) among students and adults, soft skills or behavioral traits, and the severe misalignment of incentives in countries with generous welfare systems. Policy briefs do not indicate which literacies should be de-emphasized to make space for the proposed expansion of education in financial or digital literacy.

^{7.} For a comprehensive discussion of how policies developed by different public agencies facing different objectives, even in advanced countries, can have a detrimental impact on human capital development and social welfare, see Heckman and Jacobs (2010).

^{8.} See Abu Bakar et al. (2013).

Moreover, the briefs tend to avoid addressing how stakeholders behave post-policy implementation. While the ideas and proposals are valid, the literature often fails to acknowledge the role of incentives that determine agents' behavior; and hence, well-intentioned policies often yield unintended consequences.

Some policy briefs refer to self-serving reports to highlight problems such as youth unemployment. However, they omit independent research on the reasons for the alleged skill shortages or mismatches that cause unemployment in the first place (Cappelli 2014). The briefs tend to avoid making references to already available, specific, research-based solutions to the problems discussed, that do not require setting up new agencies. Policymakers need specific, hands-on recommendations. Such specific proposals can be found in the rich research on improving the quality of education spending and policies to promote lifelong learning. Admittedly, promoting many of the common recommendations to the various stakeholders could be politically challenging.

Text Box 1

The T20 2018 Argentina policy briefs considered the challenges faced by policymakers in various areas. These are financing education; increasing quality and access to education; building soft skills as part of early childhood development; promoting science, technology, engineering and mathematics (STEM) education to ensure students are well-equipped for the ever-changing digital age; and rethinking the technical and vocational education (TVET) curriculum to fill employment gaps.

Urban, Cardini, and Romero (2018) used the Competent System approach to bring together the various factors that contribute to the early childhood development, education, and care framework (ECDEC). Some of these factors are education, primary healthcare, nutrition, children's rights, social cohesion, and equality.

González, Cueto, Cardini, and Flores (2018) discussed the factors that have resulted in uneven education progress across countries, regions, and socioeconomic groups. They recommended that policymakers increase investment and improve their effectiveness and equitable use.

Fletcher and Grainger (2018) evaluated a wide range of possible options for financing post-compulsory TVET from the perspective of their impact on efficiency, sustainability, equity, growth, and prioritizing.

Costin and Coutinho (2018) focused on the measures to diminish the Education-Workforce Divide. They argued for integrating "unforeseeable social and work demands into schools' practices and resources to ensure that students, especially those from impoverished backgrounds, develop the skills to participate in their local and national economies and democracies."

Cobo, Zucchetti, and Rivas (2018) reviewed how the ongoing technology-driven transformations are redefining the role of education, the value of knowledge and skills. They noted that "non-formal learning, third-space literacies and alternative mechanisms for certification are emerging throughout the world to prepare youth for the job market." This trend requires adjustments in "the role of the State, other actors, and the G20 in education in dimensions such as regional and global articulation, regulation, certification of non-formal education, among others."

Yoshida, Tanaka, and Hirosato (2018) acknowledged the challenge that policymakers face in attempting to achieve multiple objectives with various policy reforms and the difficulties in tracking progress and the effectiveness of these reforms when policies keep changing.

Text Box 2

Under Japan's T20 2019 Presidency, several policy briefs focused on the impact of digital technologies on education and related demands for lifelong learning.

Kiriya (2019) discussed the challenge of humanizing technology to understand the complex nature of digital education and implement sustainable policies contributing to the protection of diversity, the public good character of education, and its cultural roles. The brief made an important call for the G20 to become a think tank to moderate the analytical work integrating interdisciplinary research to inform education in a digital environment.

Morgan, Huang, and Trinh (2019) argued for more efforts to improve digital financial literacy. Their brief called for the use of the OECD and World Bank financial literacy surveys to assess financial literacy and expand financial education.

Bandure and Grainger (2019) discussed how TVET could be improved. They called for a new relationship between educators and employers to improve effective, high profile TVET.

Park (2019) focused on the critical need in today's world for lifelong learning to ensure that employees keep up with the changes in technology and maintain flexibility in skills.

Prakash (2019) called for the continuous upgrading of the skills of the workforce through universal access to higher quality education to allow employees to acquire advanced skills and knowledge required in a digital economy. To accomplish this objective, higher education spending will be required because it "leads to improvements in human capital and reduces the share of low-skilled workers in the work place."

Lyons et al. (2019) emphasized that "to ensure that no one is left behind in today's fast-changing world driven by technological advancement, it is critical for global citizens of all ages and socioeconomic backgrounds to have a set of digital skills to live, work, learn, and participate in modern society." They discussed the standardized assessment tools required to consistently measure digital literacy, identify gaps, and track progress toward narrowing them, especially for the most vulnerable populations.

Mapping Policies

Content-rich theoretical and empirical research is readily available on what works and does not work in education and employee training. It offers insights into policies that determine the quality of education and the impact of specific factors on the returns to education. The availability of digital connectivity makes it possible for even remotely located communities to benefit from quality research regardless of their origin and location. Unfortunately, the resources are seldom used to inform and develop national policies.

The knowledge, skills, and expertise of an organization's workforce are frequently cited as the sources of its lasting competitive edge. To maintain this edge, human capital development and investment are undertaken to upgrade employees' skills continuously. However, there is a lack of a clear understanding of the effectiveness of employee training programs despite the large sums invested by organizations in this area. Researchers find large wastage in training. Armour (1998) and Saks and Burke (2012) found that as little as ten to fifteen percent of what is learned during training is applied on the job. Some researchers demonstrated mixed results from retraining programs of displaced workers and suggested improvements (Jacobson, LaLonde, and Sullivan 2005; LaLonde, Jacobson, and Sullivan 2005).



Ownership of National Policymaking through Effective Policy Capacity Development

A serious effort is required to develop effective national policy-oriented research capacity. Effective policy research teams must be capable of the proactive and continuous development of policies and their effective implementation, monitoring, and adjustment. Moreover, they must be able to better engage outside advisers and become true partners with international development organizations and specialized consultancies. They must be able to apply competitive pressure on outside advisers to increase the quality of the relationship and outcomes. The availability of countervailing local independent policy-oriented research in developing countries could dramatically increase the flow of innovative ideas and solutions. This is required to put the 2030 Agenda back on track; reduce the negative impact of groupthink; understand the possible inconsistencies, trade-offs, and synergies among SDGs; provide constructive input for possible fine tuning of the individual SDGs and their targets (Dawes 2019; Nordhaus 2018; Pradhan et al. 2017); and help international development partners overcome the perception that their recommendations are too often driven by the self-interest of their organizations.

Developing effective policy-oriented research should start with setting up and properly staffing and motivating a dedicated research team composed of local, indigenous staff. A research team is a necessary but not sufficient condition for ensuring the successful transmission of knowledge to decision-makers. Three factors can undermine the effectiveness of the capacity development effort:

• Initially, the approach requires intensive guidance and mentoring from an experienced head of policy research. Many organizations in developing countries initially assign this role to a policy adviser recruited externally to the organization, including international advisers. The arrangement can result in suboptimal outcomes, in particular, when local researchers are monitored and evaluated by a chain of supervisors with limited input from the outside adviser. This can be due to the frequently competing tasks assigned by their local supervisors (short-term, process-oriented deliverables) and the external adviser (longer-term, strategic). As the former determine subordinates' performance ratings and career progression, the latter could be ignored without proper supervisory responsibilities. Therefore, to ensure the effectiveness of the relationship, the responsibilities and chain of command must be aligned to provide incentives for the local team to perform as envisaged by the senior leadership of the organization that recruits the adviser.

- The "in-house" research team must have effective access to senior policymakers—the decision-makers. Too often, policymakers may continue relying on the advice provided by external consultants in setting policies and crowd out in-house capacity development.
- In organizations where hierarchies are influenced by tenure, mid-management must be incentivized to support the transmission of policy research up the management ladder.
- In the absence of policies to address the three factors discussed above, in-house research teams can quickly disintegrate as their members migrate to other parts of the government or the private sector.

From 2012 to 2017, successful capacity development projects were carried out in two key economic policy institutions in Brunei Darussalam: The Ministry of Finance and Economy, Brunei Darussalam, and Autoriti Monetari Brunei Darussalam (Monetary Authority of Brunei Darussalam). Teams of recent university graduates with a strong background in economics, statistics, business administration, and related social sciences developed an in-depth understanding of a range of policy areas of strategic importance for the national government. These policy areas included fiscal and monetary policies, education and financial literacy, labor markets, supporting entrepreneurship and MSMEs, financial sector development, and social protection. The effort required mostly low-cost access to high-quality research resources available digitally. Some of these resources are the National Bureau of Economic Research (nber.org), the American Economic Association (aeaweb.org), SSRN.com, economic research reports from top tier investment banks, commercial research providers (ScienceDirect. com) accessible through libraries, or direct contact with distinguished scholars and experts, which can lead to mutually beneficial discussions, networking, and further development opportunities. Additionally, the selected capacity development strategy could be scaled up across government agencies to establish full local ownership of policy design, execution, and monitoring to improve the quality of national policymaking.

The project drew on the work of Blanchard and Thacker (1998), who explored the effectiveness of different training methods. They identified the comparative advantages of various training methods targeted at improving different types of knowledge, skills, and attitudes. The effectiveness of different forms of training depends on a wide variety of factors, including trainees' preferences, trainers' capabilities, and the appropriate design of training programs. On-the-job training such as job instruction training, apprenticeships, and coaching are deemed the most effective across the training objectives (knowledge, skills, and attitudes; facts, procedures, strategic, technical, and inter-personal), and thus, they are relevant for high impact capacity and policy leadership building.

Human Capital Development Framework

We argue that effective human capital development requires an integrated policy framework that goes beyond universal access to high-quality education for all.

Policymakers must have a framework for measuring the returns to education to understand the economics of education decisions (Ben-Porath 1967). Similarly, corporations tout their employees as their "most important assets" and should have the tools to adequately verify whether their human capital investments are generating positive returns (Cantrell et al. 2006).

Once established, a local research team can develop a framework to review how different policies and factors influence decisions to pursue education. As a byproduct, the team members learn how various, often unrelated, competing policies influence private and social returns to education and the different dimensions of development. The framework helps explain why many countries fail to harvest the fruits of their spending on education and training.

Based on initial brainstorming and subsequent review of interdisciplinary academic research, we propose the following diverse factors that influence returns to education but are often ignored in the education sector-specific research:

• Students may enter college poorly prepared. They will have to spend time catching up, attending high school remedial courses. In some areas, it could be too late to make up for the deficiency of skills that are easiest to acquire in early education, in particular, soft skills and numeracy skills (Greene and Forster 2003; Butrymowicz 2017; Kane et al. 2019; Scott-Clayton, Crosta, and Belfield 2012).

- Colleges may offer a lower than optimal quality of education. Many reasons are possible, in particular, poor facilities and the low quality of faculty and instruction. However, external factors, such as hardship at home, long commutes, and mixing work and college, play a role but are often underappreciated (see, e.g., Bound, Lovenheim, and Turner 2010).
- Colleges may offer poor value for money, possibly due to the monopolistic practices or high, but unjustified, college fees. This is common in developing countries where local colleges may link with established universities and colleges in advanced countries to earn brand name status. In reality, the sponsoring universities may extract fees without contributing very much to the colleges.

Upon graduation, some students may face low starting salaries because they are unable to offer their full productivity potential. Moreover, the same factors may reduce their professional growth, and therefore, the growth in their country's productivity and income:

- An inefficient job market results in the poor matching of graduates with suitable employers, thus making it difficult for graduates to maximize productivity and long-term growth (Pallais 2013). Local job markets can be dominated by the public sector, where pay exceeds productivity. Additionally, employers, unable to properly screen job candidates, may use diplomas for their alleged signaling effect. The practice can produce inefficient matches and reduce career development (Arrow 1973; Salehi-Isfahani 2010).
- The dearth of managerial capital results in the underutilization of college graduates and the low growth, even contraction, in their subsequent skills and productivity (Bloom and Van Reenen 2010; Bruhn, Karlan, and Schoar 2010; Haltiwanger, Jarmin, and Miranda 2012; Hurst and Pugsley 2011; La Porta and Shleifer 2014; Waldman 1984; Waldman and Zax 2020).
- The low quality of co-workers reduces individual and team productivity below their possible frontier.

9. https://collegescorecard.ed.gov

- Insufficient capital stock (non-human capital) reduces individual and team productivity. Underinvestment in capital stock could be due to many factors, including but not limited to tariffs that raise the cost of capital goods to promote labor-intensive jobs, and inefficient or underdeveloped capital markets that undermine financial intermediation.
- The low private cost of unemployment in countries with generous publicly funded unemployment and welfare benefits discourages employment and results in accelerated depreciation of skills (Hartley et al. 2010; Mulligan 2012a; Pavoni, Setty, and Violante 2013).
- A mandatory or encouraged low retirement age and the pay-as-you-go retirement financing model shortens the period over which an employee earns a return from education and discourage lifetime learning (Liebman and Luttmer 2014; Peterman 2012; Steenbeek and van der Lecq 2007; Vogel, Ludwig, and Borsch-Supan 2013).
- Taxes, labor market policies, and other structural policies could also contribute to this phenomenon. Income taxes are generally associated with lower economic growth (Arnold 2008; Heckman, Lochner, and Taber 1998; Norregaard 2013; Peterman 2012, 2015; Tideman 1994). Among others, personal income taxes impose a wedge between private and social returns to investment in human capital. Thus, taxing returns to human capital requires inefficiently high education premiums to justify investment in education. Similarly, minimum wage laws discourage the employment of the least productive workers, who are the most vulnerable to long-term unemployment and the rapid loss of skills (Mulligan 2012b; Neumark, Salas, and Wascher 2013).

The above framework demonstrates that deep reforms are often required well beyond education. They must involve labor market regulations; unemployment, social and old-age, and retirement protection; and incentives for education institutions (Anderson 1992). The desired reforms could reverse misguided policies that stifle human capital development (Heckman and Jacobs 2010). Additionally, the reforms need to involve many public agencies, not only the education ministry.

^{10.} There are numerous non-pecuniary reasons to attend college. In some instances, the monetary return from private investment in tertiary-level education is earned over several generations (e.g., see Economist, The, 2014). However, the focus on monetary returns over an individual's life determines private investment in education in many instances

Mapping Research to Policy Guides

Policy-oriented research must be anchored in an objective and realistic human behavior model to be relevant for policymaking. The Resourceful, Evaluative, Maximizing Model (REMM; Jensen and Meckling 1994) of human behavior provides the recommended foundation for developing and evaluating policies, including in education. The use of alternative models—Psychological (or Hierarchy of Needs), Sociological (or Social Victim), or Political (or Perfect Agent) models—would most likely result in politically-biased and sub-optimal policy recommendations. Moreover, research on human behavior and decision-making originating in neuroscience, psychology, and related behavioral economics and finance literature (Camerer, Loewenstein, and Prelec 2004, 2005; Madrian 2014; Simon 1956, 1978; Thaler 1980; Zgonnikov and Lubashevsky 2013) offers valuable insights into human behavior and human responses to policies.

We demonstrate a relatively simple strategy for generating the comprehensive mappings of diverse issues that need to be addressed in preparing policy reports and briefs for policymakers' consideration.

The process begins with identifying a diverse range of factors that impact particular socioeconomic phenomena, for example, education. This yields terms that are subsequently researched on websites that provide access to diverse reputable research in social sciences. A team of researchers begins by building an inventory of, say, 100–150 academic research papers and quickly reviews them to expand the mapping of the issues in need of more in-depth study. Ideally, the research should become increasingly interdisciplinary and expand into other fields to produce more complete findings.

Subsequently, the research team must draft a more detailed review of the comprehensive interdisciplinary research on the factors that influence a particular area of interest and must consider the design of the policies. Team members can share their findings through informal, initially very brief (2–3 minutes, 2–3 slides) presentations ("speak-athons") and compile summaries of the research. The summaries are then compiled in short abstracts that indicate the lessons that the research papers carry for policies in the specific national setting. The research results and possible policy recommendations are shared for feedback with other staff at the originating agency and then with stakeholders from other public agencies, private organizations, local universities, associations, and think tanks where the ideas can be further refined. Additionally, the process brings together local universities, think tanks, policy research teams, and policymakers. Local universities can draw on the research and public agency staff to offer specialized, policy-oriented seminars or courses for students, thus beginning the virtuous cycle of integrating academic studies with policy-oriented research.

The approach does not require active research, data collection, or analysis, at least initially, although opportunities for active and relevant research can arise rapidly. Its main objective is to review a broad range of existing research on the subject and provide a summary that is beneficial to the research team and policymakers. This approach helps the team members appreciate the breadth of factors that can affect policies and their outcomes and develop critical thinking skills, as they have to sift through often conflicting research results. Moreover, the approach requires local researchers to do all the work, even if external leaders and mentors provide the initial guidance. Therefore, it offers the fastest and surest way to equip them with the knowledge and skills that are necessary to prepare and present policy recommendations, lead policy implementation, and conduct policy impact reviews and policy adjustments.

Disclaimer

This policy brief was developed and written by the authors and has undergone a peer review process. The views and opinions expressed in this policy brief are those of the authors and do not necessarily reflect the official policy or position of the authors' organizations or the T20 Secretariat.



Abu Bakar, Nadiah Annasyitah, Nur Hamizah Ismail, Shalom Grace Reyes Leong, Azam Roselan, Atiqah Yassin, and Roman Zytek. 2013. "The Financial Literacy Challenge." https://www.researchgate.net/project/The-Financial-Literacy-Challenge

Alesina, Alberto F., and Paola Giuliano. 2013a. "Family Ties." NBER Working Paper 18966.

Alesina, Alberto F., and Paola Giuliano. 2013b. "Culture and Institutions." NBER Working Paper 19750.

Anderson, Martin. 1992. Impostors in the Temple: The Decline of the American University. New York: Simon & Schuster.

Armour, Stephanie. 1998. "Big Lesson: Billions Wasted on Job-skills Training." USA Today, October 7, B1.

Arnold, Jens. 2008. "Do Tax Structures Affect Aggregate Economic Growth? Empirical Evidence from a Panel of OECD Countries." OECD Economics Department Working Paper ECO/WKP (2008) 51.

Arrow, Kenneth. 1973. "Higher Education as a Filter." Journal of Public Economics 2, no. 3: 193–216.

Bandure, Romina, and Paul Grainger. 2019. "Rethinking Pathways to Employment: Technical and Vocational Training for the Digital Age." T20 Japan Policy Brief. https://t20japan.org/wp-content/uploads/2019/03/t20-japan-tf7-7-rethinking-pathways-to-employment.pdf

Ben-Porath, Yoram. 1967. "The Production of Human Capital and the Life Cycle of Earnings." Journal of Political Economy 75, no. 4: 352–65.

Bloom, Nicholas, and John Van Reenen. 2010. "Why Do Management Practices Differ across Firms and Countries?" The Journal of Economic Perspectives 24, no. 1: 203–24.

Bisin, Alberto, and Thierry Verdier. 2017. "On the Joint Evolution of Culture and Institutions." NBER Working Paper No. 23375.

Blanchard, P. Nick, and James W. Thacker. 1998. Effective Training: Systems, Strategies and Practices. New Jersey: Prentice-Hall.

Bound, John, Michael F. Lovenheim, and Sarah Turner. 2010. "Why Have College Completion Rates Declined? An Analysis of Changing Student Preparation and Collegiate Resources." American Economic Journal: Applied Economics 2, no. 3: 129–57.

Bruhn, Miriam, Dean Karlan, and Schoar Antoinette. 2010. "What Capital Is Missing in Developing Countries?" American Economic Review 100, no. 2: 629–33.

Butrymowicz, Sarah. 2017. "Most Colleges Enroll Many Students Who Aren't Prepared for Higher Education." The Hechinger Report. https://hechingerreport.org/colleges-enroll-students-arent-prepared-higher-education

Camerer, Colin F, George F. Loewenstein, and Drazen Prelec. 2004. "Neuroeconomics: Why Economics Needs Brains." Scandinavian Journal of Economics 106, no. 3: 555–79.

Camerer, Colin F., George F. Loewenstein, and Drazen Prelec. 2005. "Neuroeconomics: How Neuroscience Can Inform Economics." Journal of Economic Literature XLIII 43, no. 1: 9–64.

Cantrell, Susan, James M. Benton, Terry Laudal, and Robert J. Thomas. 2006. "Measuring the Value of Human Capital Investments: The SAP Case." Strategy & Leadership 34, no. 2: 43–52.

Cappelli, Peter. 2014. "Skill Gaps, Skill Shortages, and Skill Mismatches: Evidence for the US," NBER Working Paper 20382.

Cobo, Cristóbal, Alessia Zucchetti, and Axel Rivas. 2018. "Redesigning Education Landscapes for the Future of Work: Third-space Literacies and Alternative Learning Models." In Bridges to the Future of Education: Policy Recommendations for the Digital Age. T20 Argentina 2018 CARI/CIPPEC. https://t20argentina.org/wp-content/uploads/2018/09/Bridges-to-the-Future-of-Education-Policy-Recommendations-for-the-Digital-Age.pdf

Costin, Claudia, and Allan Michel Jales Coutinho. 2018. "Bridging the Education-Workforce Divide: Strategies to Meet Ever Changing Needs and Mitigate Future Inequalities." In Bridges to the Future of Education: Policy Recommendations for the Digital Age. T20 Argentina 2018 CARI/CIPPEC. https://t20argentina.org/wp-content/uploads/2018/09/Bridges-to-the-Future-of-Education-Policy-Recommendations-for-the-Digital-Age.pdf

Davis, Kimberlee, and Dorothy Bagwell Durband. 2008. "Valuing the Implementation of Financial Literacy Education." Journal of Financial Counseling and Planning 19, no. 1: 20–30.

Dawes, Jonathan H.P. 2019. "Are the Sustainable Development Goals Self-Consistent and Mutually Achievable?" Sustainable Development 28, no. 1: 101–17.

Economist, The. 2014. "The Return of the Stay-at-Home Mother." April 19, 2014.

Fletcher, Mick, and Paul Grainger. 2018. "The Future of Work and Education for the Digital Age: Issues and Options for Financing Post-compulsory Education." In Bridges to the Future of Education: Policy Recommendations for the Digital Age. T20 Argentina 2018 CARI/CIPPEC. https://t20argentina.org/wp-content/uploads/2018/09/Bridges-to-the-Future-of-Education-Policy-Recommendations-for-the-Digital-Age.pdf

Fultz, Elaine. 2012. "The Retrenchment of Second-tier Pensions in Hungary and Poland: A Precautionary Tale." International Social Security Review 65: 1–25.

G20. 2016. "G20 Action Plan on the 2030 Agenda for Sustainable Development." http://www.g20.utoronto.ca/2016/g20-action-plan-on-2030-agenda.pdf

González, Javier, Santiago Cueto, Alejandra Cardini, and Bárbara Flores. 2018. "Financing Quality and Equitable Education in LATAM." In Bridges to the Future of Education: Policy Recommendations for the Digital Age. T20 Argentina 2018 CARI/CIPPEC. https://t20argentina.org/wp-content/uploads/2018/09/Bridges-to-the-Future-of-Education-Policy-Recommendations-for-the-Digital-Age.pdf

Greene, Jay P., and Greg Forster. 2003. "Public High School Graduation and College Readiness Rates in the United States." Manhattan Institute Education Working Paper No. 3. New York: Manhattan Institute for Policy Research, Center for Civic Innovation.

Haltiwanger, John C., Ron S. Jarmin, and Javier Miranda. 2012. "Who Creates Jobs? Small vs. Large vs. Young." NBER Working Paper No. 16300.

Hartley, Gonzalo Reyes, Jan C. van Ours, and Milan Vodopivec. 2010. "Incentive Effects of Unemployment Insurance Savings Accounts: Evidence from Chile." IZA DP No. 4681.

Heckman, James J., Lance Lochner, and Christopher R. Taber. 1998. "Tax Policy and Human Capital Formation." NBER Working Paper No. 6462.

Heckman, James J. and Bas Jacobs. 2010. "Policies to Create and Destroy Human Capital in Europe." NBER Working Paper No. 15742.

Henrich, Joseph, Steven J. Heine, and Ara Norenzayan. 2010. "The Weirdest People in the World?" Behavioral and Brain Sciences 33, no. 2–3: 1–75.

Hurst, Erik, and Benjamin Wild Pugsley. 2011. "Understanding Small Business Heterogeneity." NBER Working Paper No. 17041.

Jacobson, Louis S., Robert LaLonde, and Daniel Sullivan. 2005. "Is Retraining Displaced Workers a Good Investment?" Economic Perspectives. 2Q/2005. Federal Reserve Bank of Chicago.

Jensen, Michael C. and William H. Meckling. 1994. "The Nature of Man." Journal of Applied Corporate Finance 7, no. 2: 4-19.

Kane, Thomas J., Angela Boatman, Whitney Kozakowski, Christopher Bennett, Rachel Hitch, and Dana Weisenfeld. 2019. "College Remediation Goes Back to High School: Evidence from a Statewide Program in Tennessee." NBER Working Paper No. 26133.

Kiriya, Ilya. 2019. "Fostering Human Dimension of the Digital Education." T20 Japan Policy Brief.

La Porta, Rafael, and Andrei Shleifer. 2014. "Informality and Development." NBER Working Paper No. 20205.

LaLonde, Robert J., Jacobson, Louis and Daniel G Sullivan. 2005. "Do Displaced Workers Benefit from Community College Courses? Findings from Administrative Data and Directions for Future Research." Hudson Institute Research Paper No. 05-01.

Liebman, Jeffrey B. and Erzo F. P. Luttmer. 2014. "The Perception of Social Security Incentives for Labour Supply and Retirement: The Median Voter Knows More Than You'd Think." NBER Working Paper No. 20562.

Lyons, Angela C., Josephine Kass-Hanna, Alessia Zucchetti, and Cristóbal Cobo. 2019. "Leaving No One Behind: Measuring the Multidimensionality of Digital Literacy in the Age of Al and other Transformative Technologies." T20 Japan Policy Brief. https://t20japan.org/wp-content/uploads/2019/03/t20-japan-tf7-10-multidimensionality-digital-literacy.pdf

Madrian, Brigitte C. 2014. "Applying Insights from Behavioral Economics to Policy Design." NBER Working Paper No. 20318.

Morgan, Peter J., Bihong Huang, and Long Q. Trinh. 2019. "The Need to Promote Digital Financial Literacy for the Digital Age. T20 Japan Policy Brief. https://t20japan.org/wp-content/uploads/2019/03/t20-japan-tf7-3-need-promote-digital-financial-literacy.pdf

Mulligan, Casey B. 2012a. "Do Welfare Policies Matter for Labour Market Aggregates? Quantifying Safety Net Work Incentives since 2007." NBER Working Paper No. 18088.

Mulligan, Casey B. 2012b. "Recent Marginal Labour Income Tax Rate Changes by Skill and Marital Status." NBER Working Paper No. 18426.

Neumark, David, J. M. Ian Salas, and William Wascher. 2013. "Revisiting the Minimum Wage-Employment Debate: Throwing Out the Baby with the Bathwater?" NBER Working Paper No. 18681.

Nordhaus, William. 2018. "Projections and Uncertainties about Climate Change in an Era of Minimal Climate Policies." American Economic Journal: Economic Policy 10, no. 3: 333–360.

Norregaard, John. 2013. "Taxing Immovable Property: Revenue Potential and Implementation Challenges." IMF Working Paper WP/13/129.

Pallais, Amanda. 2013. "Inefficient Hiring in Entry-Level Labour Markets." NBER Working Paper No. 18917.

Park, Cyn-Young. 2019. "Lifelong Learning and Education Policies to Capture Digital Gains." T20 Japan Policy Brief. https://t20japan.org/wp-content/uploads/2019/03/t20-japan-tf7-5-lifelong-learning-education-policies-digital-gains.pdf

Pavoni, Nicola, Offer Adi Setty, and Giovanni L. Violante. 2013. "Search and Work in Optimal Welfare Programs." NBER Working Paper No. 18666.

Peterman, William B. 2012. "An Extensive Look at Taxes: How does Endogenous Retirement Affect Optimal Taxation?" Federal Reserve Board of Governors, FEDS Working Paper No. 2012-28.

Peterman, William B. 2015. "Taxing Capital? The Importance of How Human Capital is Accumulated." Finance and Economics Discussion Series 2015-117. Washington: Board of Governors of the Federal Reserve System.

Pradhan, Prajal, Luis Costa, Diego Rybski, Wolfgang Lucht, and Jurgen P. Kropp. 2017. "A Systematic Study of Sustainable Development Goals (SDG) Interactions." Earth's Future 5: 1169–1179.

Prakash, Anita. 2019. "Industrialization and Growth in Digital Age: Disruptions and Opportunities for Employment Led Growth in Asia and Africa." T20 Japan Policy Brief. https://t20japan.org/wp-content/uploads/2019/03/t20-japan-tf7-2-industrialization-and-growth-in-digital-age.pdf

Saks, Alan M. and Lisa A. Burke. 2012. "An Investigation into the Relationship between Training Evaluation and the Transfer of Training." International Journal of Training and Development 16, no. 2: 118–12.

Salehi-Isfahani, Djavad. 2010. "Human Development in the Middle East and North Africa Human Development." United Nations Development Programme, Human Development Reports, Research Paper 2010/26.

Simon, Herbert A. 1956. "Rational Choice and the Structure of the Environment." Psychological Review 63, no. 2: 129–38.

Simon, Herbert, A. 1978. "Rationality as Process and Product of Thought." American Economic Review 68, no. 2: 1–16.

Scott-Clayton, Judith E., Peter M. Crosta, and Clive R. Belfield. 2012. "Improving the Targeting of Treatment: Evidence from College Remediation." NBER Working Paper No. 18457.

Steenbeek, O. W., and van der Lecq, S.G. (editors). 2007. Costs and Benefits of Collective Pension System. Springer-Verlag Heidelberg (English edition).

Stodolak, Sebastian. 2020. "Co się liczy w oszczędzaniu na emeryturę (What counts in saving for retirement)." Obserwatorfinansoby.pl, July 20, 2020. https://www.obserwatorfinansowy.pl/bez-kategorii/rotator/co-sie-liczy-w-oszczedzaniu-na-emeryture

Thaler, Richard. 1980. "Toward a Positive Theory of Consumer Choice." Journal of Economic Behavior and Organization 1: 36–60.

Tideman, Nicolaus. 1994. "Land and Taxation." Shepheard-Walwyn in association with the Centre for Incentive Taxation.

Vogel, Edgar, Alexander Ludwig, and Axel Borsch-Supan. 2013. "Aging and Pension Reform: Extending the Retirement Age and Human Capital Formation." NBER Working Paper No. 18856.

United Nations. Sustainable Development Goals. https://sdgs.un.org

United Nations. 2015. Addis Ababa Action Agenda of the Third International Conference on Financing for Development (Addis Ababa Action Agenda). https://www.un.org/esa/ffd/wp-content/uploads/2015/08/AAAA_Outcome.pdf

United Nations. 2015a. "Resolution adopted by the General Assembly on September 25, 2015: Transforming our World: the 2030 Agenda for Sustainable Development." https://www.un.org/ga/search/view_doc.asp?symbol=A/RES/70/1&Lang=E

Urban, Mathias, Alejandra Cardini, and Rita Flórez Romero. 2018. "It Takes More than a Village. Effective Early Childhood Development, Education and Care Services Require Competent Systems." In Bridges to the Future of Education: Policy Recommendations for the Digital Age. T20 Argentina 2018 CARI/CIPPEC. https://t20argentina.org/wp-content/uploads/2018/09/Bridges-to-the-Future-of-Education-Policy-Recommendations-for-the-Digital-Age.pdf

Waldman, Michael, and Ori Zax. 2020. "Promotion Signaling and Human Capital Investments." American Economic Journal: Microeconomics 12, no. 1: 125–55.

Waldman, Michael. 1984. "Job Assignments, Signaling, and Efficiency." Rand Journal of Economics 15, no. 2: 225–67.

Yoshida, Kazuhiro, Shinichiro Tanaka, and Yasushi Hirosato. 2018. "Transforming Education Financing for Inclusive, Equitable, and Quality Learning Outcomes for the 2030/SDG4 Agenda." T20 Policy Brief. In Bridges to the Future of Education: Policy Recommendations for the Digital Age. T20 Argentina 2018 CARI/CIPPEC. https://t20argentina.org/wp-content/uploads/2018/09/Bridges-to-the-Future-of-Education-Policy-Recommendations-for-the-Digital-Age.pdf

Zgonnikov, Arkady, and Ihor Lubashevsky. 2013. "Unstable Dynamics of Adaptation in Unknown Environment: A Dual-System Model." http://arxiv.org/pdf/1305.3657



Roman Zytek

Ministry of Finance and Economy, Autoriti Monetari Brunei Darussalam

Siti Athirah Ali

Laksamana College of Business

Ariadna Bankowska

Independent

Jason Kok

Autoriti Monetari Brunei Darussalam

