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# Defining prosperity



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# Introduction

Our mission at the Legatum Institute is to build an international movement of people committed to the transformation of society and the creation of pathways from poverty to prosperity. Prosperity is far more than wealth; it is when all people have the opportunity and freedom to thrive. Prosperity is underpinned by an inclusive society, with a strong social contract that protects the fundamental liberties and security of every individual. It is driven by an open economy that harnesses ideas and talent to create sustainable pathways out of poverty. And it is built by empowered people, who contribute and play their part in creating a society that promotes wellbeing.

This report defines what we mean by prosperity, using knowledge we at the Institute have built up over many years of measuring and studying prosperity and engaging with over 100 experts from around the world. It unpacks what we mean by inclusive societies, open economies and empowered people.

Alongside this conceptual report, we have produced a methodology report that explains how we measure global prosperity through our annual global Prosperity Index, which can be found via our website: [www.prosperity.com](http://www.prosperity.com).

# Defining prosperity

## What is prosperity?

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Through our extensive research and experience, it has become ever more apparent that the multidimensional nature of true prosperity must be clearly articulated. True prosperity entails much more than wealth: it reaches beyond the financial into the political, the judicial, and the wellbeing and character of a nation — it is about creating an environment where a person is able to reach their full potential.

The following section outlines the definition of prosperity, describing its core components and structures.

### The domains of prosperity

The conceptual framework captures prosperity through three domains, which are the essential foundations of prosperity — Inclusive Societies, Open Economies, and Empowered People.

The **Inclusive Societies** domain captures the relationship structures that exist within a society, between and among individuals and broader institutions, and the degree they either enable or obstruct societal cohesion and collective development. These social and legal institutions are essential in protecting the fundamental freedoms of individuals, and their ability to flourish. This domain consists of the Safety and Security, Personal Freedom, Governance, and Social Capital pillars.

The **Open Economies** domain captures the extent to which an economy is open to competition, encourages innovation and investment, promotes business and trade, and facilitates inclusive growth. For a society to be truly prosperous, it requires an economy that embodies these ideals. This domain consists of the Investment Environment, Enterprise Conditions, Infrastructure and Market Access, and Economic Quality pillars.

The **Empowered People** domain captures the quality of people's lived experience and the associated aspects that enable individuals to reach their full potential through autonomy and self-determination. This domain consists of the Living Conditions, Health, Education and Natural Environment pillars.

It is important to note that the pillars within each domain do not only associate with other pillars in the domain, but interrelate with pillars across the other domains, and each pillar should therefore be understood in their wider context. For example, the Living Conditions pillar looks at the set of basic material conditions present in everyday life that provide the platform for members of society to attain prosperity and wellbeing. Other necessities for wellbeing, such as health, education, and freedom from coercion, are captured in other pillars.

For each of the 12 pillars within the three domains, we identified the core distinct concepts that best define them, and are integral to each of them, comprising a structure which:

- Covers all aspects relevant to the pillar;
- Has conceptual clarity and academic backing;
- Uses a language that speaks to policymakers.

The result is a set of 67 distinct policy-focused elements, organised under the 12 pillars. Each element has been designed to reflect a

discrete policy area that policymakers and others can influence, enabling actionable insight to be generated from the Index to help drive policy and other initiatives.

An infographic that sets out the construction of the 2021 Prosperity Index, and the linking of the 3 domains, 12 pillars, and 67 elements is illustrated on the next page. The pages that follow give clarity and greater detail to the definition of each of the domains, pillars, and elements underpinning this structure.

## Legatum Institute Definition Of Prosperity

True prosperity is when all people have the opportunity to thrive.

Prosperity is underpinned by an inclusive society, with a strong social contract that protects the fundamental liberties and security of every individual.

In a prosperous society:

- People live in peace, free from the threat of violence, oppression, and crime.
- Everyone's inherent dignity is respected, and freedom of speech, worship, and assembly are protected.
- Governing institutions act with integrity, are accountable to citizens, and are subject to the rule of law.
- Stable families and supportive communities instil the values that shape the culture and build the bonds of trust needed for society to flourish.

Prosperity is driven by an open economy that harnesses ideas and talent to create sustainable pathways out of poverty.

In a prosperous society:

- Property rights are protected, so investment can flow.
- Business regulation enables entrepreneurship, competition, and innovation.
- Open markets and high-quality infrastructure facilitate trade and commerce.
- Fiscal and monetary policy are used responsibly to foster employment, productivity, and sustained economic growth.

Prosperity is built by empowered people, who create a society that promotes wellbeing.

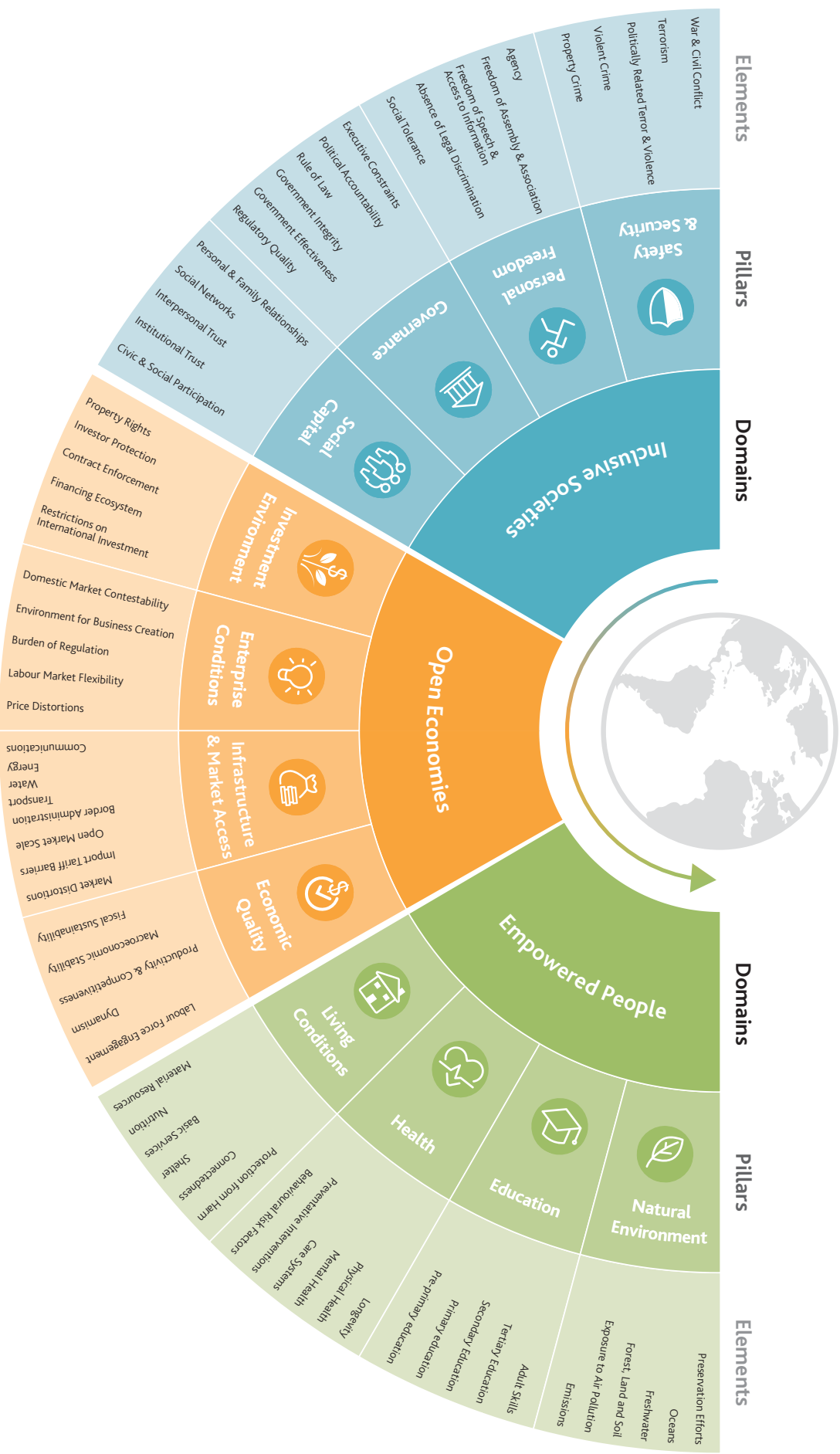
In a prosperous society:

- Everybody is able to build a life free from poverty.
- People take care of their physical and mental health and have access to effective healthcare.
- Learning is valued and everyone receives a high-quality education, so they can reach their potential.
- The natural environment is stewarded wisely, as a legacy for present and future generations.

True prosperity means everyone has the opportunity to thrive by fulfilling their unique potential and playing their part in strengthening their communities and nations.

Because ultimately, prosperity is not just about what we have; it is also about who we become.

*The domains, pillars, and elements of prosperity*



## Inclusive Societies

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Inclusive Societies are an essential requirement for prosperity, where social and legal institutions protect the fundamental freedoms of individuals, and their ability to flourish. This domain explores the relationship structures that exist within a society, and the degree they either enable or obstruct societal cohesion and collective development.

Areas within this domain range from the relationship of citizen and state, to the degree to which violence permeates societal norms, to the interaction of freedoms of different groups and individuals, to the way in which individuals act with one another, their community, institutions, and nation. These issues have been both a practical consideration for the majority of modern human experience, as well as a subject of academic study.<sup>1,2,3</sup>

We examine the fundamental aspects of inclusive societies across four pillars, each with component elements.

**Safety and Security** captures the degree to which individuals and communities are free from war and civil conflict, terrorism, politically related terror and violence, violent crime, and property crime.

**Personal Freedom** reflects basic legal rights (agency), individual liberties (freedom of assembly and association, freedom of speech and access to information), the absence of legal discrimination and the degree of social tolerance experienced in a society.

**Governance** encompasses the extent to which there are checks and restraints on power, and whether governments operate effectively and without corruption.

**Social Capital** captures the personal and family relationships, social networks and the cohesion a society experiences when there is high institutional trust, and people respect and engage with one another (civic and social participation).

The following pages provide a more detailed definition for each of these pillars, and an overview of their relationship to prosperity.

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2. Galtung, Johan. "Violence, peace, and peace research." *Journal of peace research* 6, no. 3 (1969): 167-191.  
3. De Tocqueville, Alexis. *Democracy in America*. Vol. 10. *Regnery Publishing*, 2003.



## Safety and Security

The presence or absence of violent and other criminal activities determines how safe and secure the population is. The lives of individuals and the security of their property are at risk in a society where these activities are present, both through their current prevalence and long-lasting effects. In short, a nation, community, or society can prosper only in an environment that provides safety and security to its citizens.

War and civil conflicts are great destabilisers of even the most basic levels of safety and security. When they subside, peace can be relatively short-lived, with previously conflict-stricken areas often relapsing into conflict within relatively short timeframes. In 2016, of the 259 conflicts identified by the Uppsala Conflict Data Programme, 159 recurred.<sup>4</sup> The effect that crime has on both economic growth and subjective wellbeing is widely explored in the literature. Crime impedes economic growth via the discouragement of investment and capital accumulation, through an undermining of property rights.<sup>5</sup>

Economies have two potentially stable equilibria, as described by Mehlum et al.; “a) *One where crime rates are high and capital stock, labor demand, and income is low.* b) *One where crime rates are low and capital stock, labor demand, and income is high.*”<sup>6</sup> Endemic crime can result in an economy finding a so called ‘poverty trap’, where crime becomes the most effective means of individual gain, but acts as a break on real opportunity for development. Mehlum concludes by establishing the existence of the “*vicious circle of increasing crime and stagnation*”.<sup>7</sup>

In addition to the economic impacts, crime affects the wellbeing of individuals and communities in several ways. The impact of the trauma of crime on the direct victims and their loved ones can be profound and devastating, and Graham (2011) concluded that being a victim of crime always has a negative effect on happiness.<sup>8</sup> Scholars such as Cohen argue that crime has relatively little effect on the sum wellbeing of a community due to ‘adaptation to adversity’, where individuals effectively ‘get used to’ higher levels of crime, and the ‘*risk-fear paradox*’ as coined by Farral, Gray, and Jackson shows that the direct relationship between crime and individual wellbeing is not straightforward; those who are more at risk of crime, and likely to exhibit and experience less fear.

In addition, the detriment to the wellbeing of people may be found through the indirect effects of crime. Crime may have even more acute effects on individual neighbourhoods, and the individuals who reside in or around them. High levels of crime, lawlessness, or gang activity can create ‘no-go’ areas through which residents and locals don’t move that can discourage individual opportunity via the prevention of travel for work or other purposes, and have distinct effects on individual wellbeing, undermining the governance of a nation.<sup>9</sup>

For a society or community to be truly safe and secure, there must be an absence of both domestic and national security risks. The effects of war, civil conflict, and terrorism can be pervasive. The damage done by such events reaches far beyond the event itself; communities must rebuild themselves, cope with grief, and address psychological traumas arising from the atmosphere created. For this reason, the Terrorism element, and the War and Civil Conflict element capture the extent to which such events have destabilised societies over the past five years.

## Elements of Safety and Security

1. **War and Civil Conflict** — the impact of organised conflicts affecting a country, both internal and external, on people, in terms of deaths, injuries, intensity of conflict, and human displacement.
2. **Terrorism** — the deliberate and targeted harm inflicted by non-state actors on a nation’s population, taking into account the number of incidents, injuries, and deaths that result. The costs of attacks on business are also taken into consideration.
3. **Politically Related Terror and Violence** — the extent to which people live in fear of, or suffer from, terror and violence inflicted by the state or other political bodies. Extrajudicial killings, unlawful disappearances, torture, and political imprisonment are all ways in which terror and violence are applied for political means.
4. **Violent Crime** — the level to which violent domestic crime affects the citizens of a country.
5. **Property Crime** — the level to which property crime, such as burglary, organised crime, or the impact of crime on business, destabilises the security of individuals and affects both the wealth and wellbeing of individuals.

4. Gates, Scott, Håvard Mogleiv Nygård, and Esther Trappeniers. “Conflict recurrence.” *Conflict Trends* 2 (2016): 1-4.

5. Josten, Stefan Dietrich. “Inequality, crime and economic growth. A classical argument for distributional equality.” *International Tax and Public Finance* 10, no. 4 (2003): 435-452.

6. Mehlum, Halvor, Karl Moene, and Ragnar Torvik. “Institutions and the resource curse.” *The economic journal* 116, no. 508 (2006): 1-20.

7. Ibid.

8. Graham, Carol. “Adaptation amidst prosperity and adversity: Insights from happiness studies from around the world.” *The World Bank Research Observer* 26, no. 1 (2010): 105-137.

9. Wilson, Ronald E., Timothy H. Brown, and Beth Schuster. “Preventing neighborhood crime: Geography matters.” *NIJ Journal* 263 (2009): 30-35.

## Personal Freedom

The Personal Freedom pillar captures the extent of basic legal rights, individual liberties, and social tolerance in a nation. Our definition of freedom takes root in the school of thought that has permeated modern liberal thinking for the past few centuries, grounded in John Locke's assertion that freedom implies an individual not "be subject to the arbitrary will of another, but freely follow his own."<sup>10</sup> Isaiah Berlin articulated the concept of freedom that underpins the personal freedom as 'negative liberty' (the concept of non-interference by others), whereas 'positive liberty', which is the removal of impediments to one's fulfilment or potential, is not something we consider.<sup>11</sup>

When freedom is restricted, it becomes more difficult for people to live their lives in the ways that they choose. Freedom is important because it underpins personal flourishing, enabling people to pursue their ambitions and follow their own paths in life. With freedom also comes responsibility for actions. When individuals are responsible for their own actions, and free to test new ideas and ways of acting, they can learn from mistakes and all can benefit from the innovations. Societies that foster strong civil rights and freedoms have been shown to enjoy increased levels of both happiness and life satisfaction among their residents, with the satisfaction effect being more pronounced in more developed countries.<sup>12,13,14</sup> The concepts covered within the pillar are considered protected by the majority of countries signatures on international human rights treaties.

A society benefits from higher levels of income when its residents' personal liberties are protected and when it is welcoming of the social diversity that stimulates innovation. There are four pathways through which human freedom can spur economic growth: reduced economic inequality, human development, effective institutions and governance, and the absence of conflict and political instability.<sup>15</sup>

The relationship between free societies and economic progress is questioned more often today, due to the successful development of authoritarian nations such as China or Singapore. There seem to be many paths to development through an economic lens, but Sen argues that human rights are not the primary end of development, but among the principle means; he argues they constitute a necessary condition for income and growth.<sup>16</sup> Civil and political freedoms such as freedom of speech and elections help promote economic security. Uncertainty associated with lack of respect for human rights makes the return on investment more insecure

and volatile. This suggests that disregarding human rights may lead to lower investment rates, lower productivity, and lower growth.

The definition of personal freedom can be separated into those elements that capture freedom for the population as a whole to act in all its forms (including freedom of movement, assembly and association, and speech), and elements that impact specific subsets of the population, whether through *de jure* discrimination or the *de facto* experience of freedom and tolerance.

## Elements of Personal Freedom

1. **Agency** — the degree to which individuals are free from coercion or restriction and are free to move. At its heart, an individual experiences agency if they have the freedom to act independently and make their own free choices. Forced bondage and slavery, unlawful imprisonment, restrictions on movement, and numerous other factors can act as impediments on agency.
2. **Freedom of Assembly and Association** — the degree to which people have the freedom to assemble with others in public spaces to express opinions freely, with autonomy from the state, and to form collective interest organisations.
3. **Freedom of Speech and Access to Information** — the ability of people to express political opinion without reproach and the extent to which the media is censored and is independent from and not influenced by the ruling government. The diversity of media views and access to media are also crucial factors underpinning the freedom of speech and access to information.
4. **Absence of Legal Discrimination** — the level of discrimination in law or by government and whether the law protects individuals and groups from suffering discrimination. This dimension captures multiple factors, including gender, sexuality, religion, ethnicity, and economic background, as well as the degree to which courts and civil justice hold overt or covert bias and discrimination.
5. **Social Tolerance** — the extent to which societies are tolerant of differences within the population, and the level of tension arising over these differences. Societal discrimination and intolerance can engender serious issues within a society, and are a significant inhibitor of an individual's *de facto* freedoms.

10. Locke, John. *Two Treatises of Government: With a Supplement, Patriarcha*, by Robert Filmer. No. 2. *Simon and Schuster*, 1947.

11. Berlin, Isaiah. "Two concepts of liberty." *In Liberty Reader*, pp. 33-57. Routledge, 2017.

12. Veenhoven, Ruut. "Social conditions for human happiness: A review of research." *International Journal of Psychology* 50, no. 5 (2015): 379-391.

13. Inglehart, Ronald, Roberto Foa, Christopher Peterson, and Christian Welzel. "Development, freedom, and rising happiness: A global perspective (1981–2007)." *Perspectives on psychological science* 3, no. 4 (2008): 264-285.

14. Verme, Paolo. "Happiness, freedom and control." *Journal of Economic Behavior & Organization* 71, no. 2 (2009): 146-161.

15. Marslev, K. & Sano, H-O. (2016). "The Economy of Human Rights. Exploring Potential Linkages between Human Rights and Economic Development". *Matters of Concern, the Danish Institute for Human Rights*, 2016.

16. Sen, Amartya. "Development as Freedom (New York: Anchor)." *South Indian ICT Clusters* 227 (1999).

## Governance

A stable and trustworthy state is one of the central components of economic exchange. The more culturally embedded the rule of law and good governance becomes, the more effective they are in promoting and supporting a healthy economic environment. Governance is at its most robust when it has been established over time through natural evolution and is essentially a codification of cultural expectations and behaviours.<sup>17</sup>

The importance of strong governmental institutions to long-run economic growth cannot be overstated; it has been shown that institutional capacity is more important to long-term success than discrete policy choices.<sup>18</sup> Even when controlling for extraneous factors such as culture, there is evidence that economic institutions are one of the main determinants in differences in economic prosperity, and that these effects can last for centuries.<sup>19</sup> Replications of these findings have shown that institutions are more important to long-run growth than either trading or geographic factors.<sup>20</sup>

Economic progress is not possible without the firm foundation of the rule of law. The absence of the rule of law will result in depressed domestic and foreign investment, and cronyism in the business environment, leading people to rely primarily on personal networks and patronage rather than the strength of their own ideas. The rule of law has also been linked to important improvements in personal freedoms.<sup>21</sup> Improvements in governance have a dramatic effect on raising overall economic prosperity. A recent study has shown that a shift to democracy leads to a 20% increase in GDP per capita in the long run.<sup>22</sup> However, once an effective base of trustworthy governance has been achieved, the effects of further improvements to governance are subject to diminishing returns.

The minimisation of corruption is also critical to the functioning of a society. High levels of corruption are associated with higher levels of poverty and income inequality.<sup>23</sup> Corruption will corrode trust, which is critical to ensuring an environment where frictionless (or near-frictionless) transactions can take place. A culture of trust invariably takes time to become established. These attributes are more valuable if good behaviours, such as trust, respect, and diligence are embedded in a

culture rather than imposed from some outside force as part of a treaty or international agreement.

Governance can be conceptually split between the structural and operational aspects of how political and administrative power is checked, and how it is applied. The structural aspects capture how a government and political administration adhere to the law, the extent to which there is effective separation of powers, accountability to the public, and the rule of law. The operational aspects capture the integrity and effectiveness of a government, as well as the quality of its regulations, examining how power is applied.

## Elements of Governance

1. **Executive Constraints** — the level of checks and balances, and separation of powers — especially with respect to the executive. For effective executive constraints to be in place, a government must not only have checks and balances and separation of powers, but be free from military involvement, and effective sanctions must be in place for misconduct within office.
2. **Political Accountability** — the degree to which the public can hold public institutions accountable, capturing the degree of political pluralism, and other mechanisms of accountability.
3. **Rule of Law** — the fairness, independence, and effectiveness of the judiciary (in applying both civil and criminal law), along with the degree to which every citizen is subject to the law.
4. **Government Integrity** — the integrity of a government, encompassing both the absence of corruption, and the degree to which government fosters citizen participation and engagement through open information and transparent practices.
5. **Government Effectiveness** — a combination of the quality of public service provision, the quality of the bureaucracy, and the competence of officials.
6. **Regulatory Quality** — all aspects of the running of the regulatory state — whether it is burdensome and impedes private sector development, and whether it is smoothly and efficiently run.

17. Adkisson, Richard V., and Randy McFerrin. "Culture and good governance: A brief empirical exercise." *Journal of Economic Issues* 48, no. 2 (2014): 441-450.

18. Douglass C. North. *Institutions, institutional change, and economic performance* (Cambridge: Cambridge University Press, 1990).

19. Acemoglu, Daron, and James Robinson. "The role of institutions in growth and development." *Leadership and Growth* 135 (2010).

20. Rodrik, Dani, Arvind Subramanian, and Francesco Trebbi. "Institutions rule: The primacy of institutions over geography and integration in economic development." *Journal of Economic Growth* 9, no. 2 (2004): 131-165.

21. Acemoglu, Daron, Suresh Naidu, Pascual Restrepo, and James A. Robinson. "Democracy does cause growth." *Journal of Political Economy* 127, no. 1 (2019): 47-100.

22. Vásquez, Ian, and Tanja Porčnik. *The human freedom index: A global measurement of personal, civil, and economic freedom* (Washington, D.C.: The Cato Institute, 2018).

23. Gupta, Sanjeev, Hamid Davoodi, and Rosa Alonso-Terme. "Does corruption affect income inequality and poverty?" *Economics of Governance* 3, no. 1 (2002): 23-45.

## Social Capital

Social capital represents the networks and the cohesion a society experiences when people trust and respect one another. Loosely, social capital refers to the factors of effectively functioning social groups, encompassing interpersonal relationships, a shared sense of identity, norms, values, trust, co-operation, and reciprocity, but there is no clear consensus on its exact definition. It can be considered as social organisation facilitating the achievement of goals that could not be achieved in its absence, or could be achieved only at a higher cost; in other words, it is the existence of a certain set of informal rules or norms shared among members of a group that permits cooperation among them.<sup>24,25</sup> Alternatively, it has also been described as the connections among individuals — social networks — and the norms of reciprocity and trustworthiness that arise from them.<sup>26</sup>

A person's wellbeing is best provided for in a society where people trust one another and have the support of their friends and family, and societies with lower levels of trust tend to experience lower levels of economic growth. Thus, the word 'capital' in 'social capital' highlights the contribution of social networks as an asset that produces economic returns and improves wellbeing. For example, it has been argued that Northern Italy developed faster than Southern Italy, because the former was better endowed with social capital - measured by membership in groups and clubs.<sup>27</sup>

The link between social capital and wellbeing in forms from health and education to political participation and good governance has been widely explored.<sup>28,29</sup> The process by which it operates has been described as follows: (1) social capital generates positive externalities for members of a group; (2) these externalities are achieved through shared trust, norms, and values, and their consequent effects on expectations and behaviour; (3) shared trust, norms, and values arise from informal forms of organisations based on social networks and associations.<sup>30</sup>

In general, higher trust environments correlate with higher life satisfaction, subjective wellbeing, and health, and that the frequency of

interaction with friends and neighbours has a strong correlation with higher assessments of subjective wellbeing and health.<sup>31</sup>

The networks of social capital can operate on a range of different dimensions — with different effects. Hence, we capture a range of elements of social capital, ranging from relationships with family and close personal friends, to social networks, and generalised trust. We also consider institutional trust, and civic and social participation.

## Elements of Social Capital

1. **Personal and Family Relationships** — the strength of the closest-knit personal relationships and family ties. These relationships form the core structure that individuals can turn to for support emotionally, mentally, and financially on a daily basis.
2. **Social Networks** — the strength of, and opportunities provided by, ties that an individual has with people in their wider network. These ties are a vital part of social support, and these networks can bolster bridging capital when social and community networks straddle different strata within society. Local social networks depend on building and maintaining relationships with other individuals and families, including neighbours.
3. **Interpersonal Trust** — the amount of trust within a society, encompassing the degree to which people trust strangers and those outside their known social sphere.
4. **Institutional Trust** — the degree to which individuals trust their institutions. Trust in institutions is an important foundation upon which the legitimacy and stability of political systems are built, with the trust of numerous institutions essential for true institutional trust.
5. **Civic and Social Participation** — the amount to which people participate within a society, broadly split into the civic and social spheres.

24. Coleman, James S. "Rational organization." *Rationality and society* 2, no. 1 (1990): 94-105.

25. Fukuyama, Francis. "Francis Fukuyama Article on Social Capital: Global Trends and US Civil Society." (1997).

26. Putnam, Robert D. 2000. *Bowling Alone : The Collapse and Revival of American Community*. New York: Simon & Schuster.

27. Putnam, Robert D., Robert Leonardi, and Raffaella Y. Nanetti. *Making democracy work: Civic traditions in modern Italy*. Princeton university press, 1994.

28. Uphoff, Eleonora P., Kate E. Pickett, Baltica Cabieses, Neil Small, and John Wright. "A systematic review of the relationships between social capital and socioeconomic inequalities in health: a contribution to understanding the psychosocial pathway of health inequalities." *International journal for equity in health* 12, no. 1 (2013): 54.

29. Knowles, Stephen. *Is social capital part of the institutions continuum?* No. 05/11. CREDIT Research Paper, 2005.

30. Steven N. Durlauf, Marcel Fafchamps, 'SOCIAL CAPITAL' *NBER Working Paper* 10485, May 2004.

31. Helliwell, John F., and Robert D. Putnam. "The social context of well-being." *Philosophical Transactions of the Royal Society of London. Series B: Biological Sciences* 359, no. 1449 (2004): 1435-1446.

## Open Economies

Open Economies encourage innovation and investment, promote business and trade, and facilitate inclusive growth. This domain captures the extent to which the economies of each country embody these ideals.

Without an open, competitive economy, it is very challenging to create lasting social and economic wellbeing where individuals, communities, businesses, and nations are empowered to reach their full potential. Trade between countries, regions, and communities is fundamental to the advance of the innovation, knowledge transfer, and productivity that creates economic growth and prosperity. Research shows that open economies are more productive, with a clear correlation between increased openness over time and productivity growth.<sup>32</sup> In contrast, in an uncompetitive market, or one that is not designed to maximise welfare, growth stagnates and crony capitalism thrives, with knock-on impacts elsewhere in society.

One of the biggest opportunities for policymakers is to resist protectionism and cronyism, and to actively reinvigorate an agenda that embraces open and pro-competitive economies, both domestically and internationally, that attracts innovation, ideas, capital and talent. While most policymakers focus on the big fiscal and macroeconomic policy tools at their disposal, the microeconomic factors are sometimes overlooked, and their potential to drive openness and growth is underestimated. With a focus on these microeconomic factors, we

examine the fundamental aspects of open economies across four pillars, each with component elements.

**Investment Environment** reflects the extent to which investments are protected adequately through the existence of property rights, investor protections, and contract enforcement. Also captured is the extent to which domestic and international capital (both debt and equity) is available for investment.

**Enterprise Conditions** encompasses how easy it is for businesses to start, compete, and expand. Contestable markets with low barriers to entry are important for businesses to innovate and develop new ideas. This is essential for a dynamic and enterprising economy, where regulation enables business and responds to the changing needs of society.

**Infrastructure and Market Access** captures the quality of the infrastructure that enables trade (communications, transport, and resources), and the inhibitors on the flow of goods and services between businesses.

**Economic Quality** considers how robust an economy is (fiscal sustainability, macroeconomic stability) as well as how an economy is equipped to generate wealth (productivity and competitiveness, dynamism). It also captures the degree of labour force engagement and the diversity of goods and services.

The following pages provide a more detailed definition for each of these pillars, and an overview of their relationship to prosperity.

32. "Global Index of Economic Openness", *Legatum Institute*, May 2019.

## Investment Environment

Investment is critical for both developing and sustaining an economy. A strong investment environment will not only ensure that good commercial propositions are investable, but also that adequate capital of the right type is available for such investable propositions.<sup>33</sup>

A business proposition is made investable when the assets of the business are protected through property rights, the interests of the investors are protected, particularly in the context of insolvency, and commercial arrangements of the business can be upheld through courts of law. These protections are substitutions for trust, without which additional costs will be baked into the cost of doing business (for example, higher interest rates and provisions for the expropriation of capital).

For capital to be available for investable propositions, there needs to be a pool of savings and a range of intermediaries such as banks, stock exchanges, private equity, and venture capital. In addition, tapping into global markets for international investment is a helpful booster for the access of capital, and in addition, tends to bring with it management expertise and fresh ideas. Financial depth and complexity is robustly and positively correlated with economic growth.<sup>34,35</sup>

A well-functioning financial system is highly effective at mobilising savings and investments that support entrepreneurs and innovations that are vetted by their potential to improve productivity.<sup>36</sup>

The structural aspects of an investment environment reveal two overriding concerns. The first is whether or not an investment is effectively protected. If investors do not have secure property rights, investment is unlikely to be undertaken.<sup>37</sup> Thus, the importance of an effective system of investment protection and property rights.<sup>38,39</sup> Second, it is necessary to have a supporting infrastructure for that investment

consisting of an effective financing ecosystem, contract administration, and an encouraging environment for international investment.<sup>40</sup>

The growth in the sophistication of financial markets over the last four decades has been considerable, and the appreciation of the role of capital in economic growth and prosperity has been growing.<sup>41,42,43</sup> As evidenced from studies in the United States, financial depth and sophistication have become more important than ever for the availability of venture capital, which provides critical early-stage funding to new companies.<sup>44,45</sup>

## Elements of Investment Environment

1. **Property Rights** — how well property rights over land, assets and intellectual property are protected. In addition to the protection of these rights, there must be lawful, efficient, and effective systems in place to register and regulate property.
2. **Investor Protection** — the degree of investor protection, including the quality of corporate governance, minority shareholder rights, and strength of insolvency regimes.
3. **Contract Enforcement** — the efficacy and efficiency of a country's system to enforce the rights of a contract holder. In addition, alternative dispute resolution mechanisms must be accessible and efficient.
4. **Financing Ecosystem** — the availability of money for investment from sources such as banking and bank debt, to corporate debt and more sophisticated financial markets.
5. **Restrictions on International Investment** — the impact of policies that enhance or deter the volume and quality or type of international investment into a country.

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## Enterprise Conditions

A healthy economy is a dynamic and competitive one, where regulation supports business, allowing and encouraging it to respond to the changing priorities of society. In contrast, an economy focussed on protecting incumbents will experience lacklustre growth and job creation. Entrepreneurial activity is one of the key drivers of long-term prosperity, and its importance will only grow as the pace of technological change increases and the number of people involved in that change rises. Given the pace of change inherent to the information age, a society's ability to react quickly to new firm and market-level opportunities is critical to its overall prosperity. This entrepreneurial behaviour is especially important for the employment market and tax revenues.

A country's regulatory structure underpins its enterprise conditions. Areas such as the domestic market contestability, the environment for business creation, and the burden of regulation need to encourage and support enterprise if entrepreneurial activity is to flourish. They are also important in determining how people interact with businesses in any given country.

Where these elements are not in good working order, it is difficult to encourage formal business activity. Taxation, for example, is a critical factor in deciding where and how businesses are structured. If it is not made both simple and reasonable, it will be avoided.<sup>46</sup> The same is true for construction-permitting processes; the majority of buildings in the developing world are constructed without any sort of permit at all, because the relevant regulations are made doubly expensive by corruption.

It is clear that overburdening businesses with tough-to-follow regulations does not necessarily discourage business activity; it discourages formalised business activity that can be monitored and taxed by the state, as people seek ways of circumventing burdensome regulation. Highly restricted labour markets will similarly discourage formal

employment, opening workers up to instability and the potential for exploitation.<sup>47</sup>

The enabling conditions of enterprise can broadly be separated into those aspects which promote entrepreneurship, and those that limit commercial development. These two groups of elements express the factors that might persuade or dissuade an individual from going into business in his or her country.

## Elements of Enterprise Conditions

1. **Domestic Market Contestability** — how open the market is to new participants, versus protection of the incumbents. Market based competition and prevention mechanisms for monopolies are essential to true contestability in any domestic market, and this market cannot be dominated by just a few business groups in the first place.
2. **Environment for Business Creation** — the legislative and policy driven factors that encourage entrepreneurialism. The skill of the labour force is essential to the business creation environment, as is cluster development and the protections for, and ease of, starting new businesses.
3. **Burden of Regulation** — how much effort and time are required to comply with regulations, including tax regulations. Regulation can become burdensome due to the volume of regulations that businesses have to comply with, as well as the complexity of those regulations.
4. **Labour Market Flexibility** — how dynamic and flexible the workplace is for both employer and employee in terms of the flexibility of employment contracts including redundancy costs.
5. **Price Distortions** — captures whether competitive markets are disrupted by subsidies and taxes.

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## Infrastructure and Market Access

Trade enables the movement of goods, services, ideas, capital, and people. The Infrastructure and Market Access pillar captures the quality of the infrastructure that enables trade (communications, resources, and transport), and the inhibiting factors that reduce or restrict the flow of commerce. Where markets have sufficient infrastructure and few barriers to the exchange of goods and services, trade can flourish. Such trade leads to more competitive and efficient markets, enabling new products and ideas to be tested, funded, and commercialised.<sup>48,49</sup>

Unencumbered trade is a vital component of prosperity, delivering benefits to producers, consumers, and society as a whole.<sup>50</sup> Producers with access to good transport and communications infrastructure, and whose products are not subject to market distortions, are more likely to succeed than those whose commercial activities are hampered by regulatory or *de facto* barriers. Consumers benefit from the increased competition that freer trade brings, which tends to improve quality, lower prices, and increase the variety of goods and services available. Finally, society itself tends to benefit from the ideas that flow from the free exchange of information across borders, a critical factor of long-run productivity growth.<sup>51</sup> A study of 16 OECD countries found a robust relationship between a country's degree of openness to trade and its total factor productivity; in those countries, trading links enhanced knowledge flows, which were responsible for 93% of total factor productivity growth.<sup>52</sup>

The infrastructure that enables trade and commerce to operate can be assessed by both the critical enablers of trade and also the inhibitors.

Trade enablers are the things that enhance and make trade in all its forms possible. Chief amongst these is communications, where information technology, flowing through a modern communications network, has become the very lifeblood of industry.<sup>53</sup> Economic production is impossible without the resources of energy and water. Transport, and the infrastructure upon which it operates, is obviously the great enabler of physical trade, but is also vital for services as it allows people to move to seek and build business opportunities. International trade can be enabled by an effective border

administration system and open markets. We also look at open market scale, which is the access a country has to foreign markets.

In addition to the enablers of trade, we also look at the policies and procedures that inhibit trade: import tariff barriers and market distortions, including subsidies, taxes and price continuity as disrupters of fair competition. Protectionism, for example, stifles new ideas and practices, as policies seek to protect incumbents by putting up barriers to outside competition, and the result is typically inefficiency and stagnation with a downward spiral in innovation, growth, and prosperity.

## Elements of Infrastructure and Market Access

- **Communications** — the means of communication and how widespread access to communication is. Infrastructure for communications must necessarily be in place for strong communications within a nation, as well as the actual take up and use of communications by the population.
- **Energy** — the quality, reliability, and affordability of the energy network within a country.
- **Water** — the access to, and use of, water resources.
- **Transport** — the ease and efficiency with which people and goods travel between and within countries. This captures the quality, diversity and penetration of all forms of transport; air travel, shipping and seaport services, and road and rail infrastructure.
- **Border Administration** — the time and administrative cost of a country's customs procedures, alongside the efficiency of this process.
- **Open Market Scale** — the size of the market to which providers of goods and services have privileged access.
- **Import Tariff Barriers** — the fees associated with trading products and services across borders, raising an income for government and making foreign goods more expensive.
- **Market Distortions** — how competitive markets are disrupted by non-tariff barriers to trade. Evaluates the extent of market liberalisation of foreign trade and non-tariff barriers.

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## Economic Quality

Economic Quality captures how well a nation's economy is equipped to generate wealth sustainably and with the full engagement of its workforce. A strong economy is dependent on the production of a diverse range of valuable goods and services and high labour force participation.

Trust in the economic system is underpinned by predictability, which is important for both consumers and businesses. People are better able to adapt to an unpleasant certainty than uncertainty, as shown in the aftermath of the financial crisis.<sup>54</sup> Volatility has also long been shown to negatively correlate with economic growth.<sup>55,56,57</sup>

The ability to produce valuable products, more so than producing the same product faster or at a lower cost, is also vital to economic growth. Acquiring new productive capabilities, thereby evolving a comparative advantage, is one of the cornerstones of economic growth — not just at the forefront of the technological frontier, but also in less-developed economies.<sup>58,59</sup> A dynamic economy means that more ideas are entering the market, with determinants of long-run productivity growth found to be human capital and research and development.<sup>60</sup>

Prosperity is inclusive; hence, everyone must have the opportunity to participate in the labour market, use and develop their skillset, and reach their productive potential. Not only is this important at the level of the individual, but it means that income inequality can be mitigated — this being a key determinant of happiness and subjective wellbeing.<sup>61,62</sup> In addition to the implications for social wellbeing, income inequality also has negative consequences for aggregate economic potential.<sup>63,64</sup>

For a country's economy to be of high quality, it must be robust to shocks, which is captured in the fiscal sustainability and macroeconomic stability elements. This encapsulates both historical stability and the capability of a government to sustain its spending policies into

the future. The capacity for value generation is a central aspect of the economy. Increases in the complexity of products, as well as in the efficiency with which they are produced, are central to long-run increases in growth, and captured within productivity and competitiveness. For this to happen, there must be a churn of businesses, with new, more productive firms entering the market, which underlies the concept of dynamism. Finally, growth of the economy must be inclusive, affording the opportunity for everyone in the nation to participate in the workforce to the fullest extent.

## Elements of Economic Quality

1. **Fiscal Sustainability** — the ability of a government to sustain its current spending, tax, and other policies in the medium-to-long-term. For a government to achieve meaningful fiscal sustainability, the budget balance and debt of the government must be under control, and the country must be deemed as low risk by external investors and credit agencies.
2. **Macroeconomic Stability** — two key elements of the economy — the GDP per capita growth rate, and the volatility of the inflation rate.
3. **Productivity and Competitiveness** — the efficiency with which inputs can be converted into outputs and the level of diversification in the economy. Competition enhances productivity by forcing firms to innovate new ways to reduce cost and time constraints.
4. **Dynamism** — the churn of businesses — the number of new start-ups entering, and failed firms exiting, an economy.
5. **Labour Force Engagement** — the intersection of demography and the workforce, including the rates of unemployment and gender ratios. Participation in the labour force, the level of unemployment, and percentage of the workforce in waged and salaried roles underpin the degree of labour force engagement.

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64. Stiglitz, Joseph E. "Inequality and economic growth." In *Rethinking Capitalism*, pp. 134-155. 2016.

## Empowered People

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Empowered People captures the quality of people's lived experience and the features present that enable individuals to reach their full potential through autonomy and self-determination.

This domain captures the necessary resources required for a basic level of wellbeing, ranging from access to material resources, to adequate nutrition, to basic health services and outcomes, to basic education access and quality, and to a safe and clean environment. Many of these issues are inter-related, and we find the strongest relationship between education and living conditions. Each of the pillars in this domain differentiate countries' performances on these fundamental aspects of social wellbeing to distinguish where greater numbers of people are disadvantaged and less likely to achieve wellbeing.

We examine the fundamental aspects of empowered people across four pillars, each with component elements.

**Living Conditions** incorporates the set of conditions or circumstances that are necessary for all individuals to attain a basic level of wellbeing. This set of circumstances includes a level of material resources, adequate nutrition, and access to basic services and shelter. It also

captures the level of connectedness of the population, and the extent to which they live in a safe living and working environment.

**Health** captures the basic healthcare services in a nation and the health outcomes of a population — including the quality of both mental health and physical health, each of which affects longevity. It also assesses the set of behavioural risk factors that affect the quality of the population's health, and the quality of the healthcare provision through the lenses of care systems and preventative interventions.

**Education** reflects the enrolment, outcomes, and quality of four stages of education (pre-primary, primary, secondary, and tertiary education) as well as the skills of the adult population.

**Natural Environment** encompasses the elements of the physical environment that have a direct impact on the ability of residents to flourish in their daily lives. The extent to which the ecosystems that provide resources for extraction (freshwater and forest, land and soil) are sustainably managed, and the extent of preservation efforts.

The following pages provide a more detailed definition for each of these pillars, and an overview of their relationship to prosperity.

## Living Conditions

Living conditions are the set of basic material conditions present in everyday life that provide the platform for members of society to attain prosperity and wellbeing. If these basic materials are present, then poverty — along a multi-dimensional approach — will be avoided. This outcome is a good in itself, and furthermore provides individuals an opportunity to flourish in society.

Decent living conditions are necessary to meet the basic needs of a population, provide central capabilities, and achieve wellbeing. The basic needs approach, as developed by Doyal and Gough, argues that there are a set of basic universal needs, without which there will be a “*fundamental disablement in the pursuit of one’s vision of the good*”.<sup>65</sup> The capabilities approach, as developed by Sen and Nussbaum, argues a person’s capability to live a good life is defined in terms of the set of functions one is able to do and to which one has access.<sup>66,67</sup> Neither of these are possible without a set of adequate living conditions.

Adequate living conditions not only provide intrinsic worth, but also provide a platform for success. Ensuring basic needs are met is an effective way of maintaining health and furthering education, both of which are key components of human capital and have significant economic benefits to individuals and society. To be productive, individuals should have access to sufficient material resources to provide for themselves and their loved ones, have access to suitable accommodation that is connected to the necessary services, be free from illness or death caused by an unsafe living or working environment, have adequate nutrition and energy intake to be healthy and work effectively, and have sufficient resources to access jobs and technology.

Ensuring all members of society are connected to core activities and services allows individuals the opportunity to include themselves in cultural, economic, and social activities important for human flourishing.

Decent living conditions should address vulnerabilities in society, be they dealing with financial challenges, safety in the living and working environment, or food security.

## Elements of Living Conditions

1. **Material Resources** — the proportion of individuals with income and wealth above the basic level required to survive and attain wellbeing, accounting also for the reliability of income and resilience against economic shocks.
2. **Nutrition** — the availability, adequacy, and diversity of food intake required for individuals to participate in society, ensure cognitive development, and avoid potentially long-term health impacts.
3. **Basic Services** — the access to, as well as the availability and quality of, the basic utility services necessary for human wellbeing. Electricity, water, and sanitation are key basic services that must be easily accessible.
4. **Shelter** — the availability and quality of accommodation, and the impact of the accommodation environment on the health of residents.
5. **Connectedness** — the extent to which individuals are able to engage each other, both digitally and physically. Within the digital aspect of connectedness, cell phones, bank accounts, and digital payments are considered. Within the physical aspect, roads and public transport must provide effective means of physical connectedness, and the physical connectedness of rural residing populations is of particular importance.
6. **Protection from Harm** — the safety of the environment that individuals live and work in. This includes accounting for injuries and accidental deaths from work-placed based activities and from natural disasters.

65. Len Doyal and Ian Gough. “A theory of human need,” *Macmillan International Higher Education*, 1991.

66. Amartya Sen and John Muellbauer. “The standard of living,” *Cambridge University Press*, 1988.

67. Martha C. Nussbaum. “Women and human development: The capabilities approach,” Vol. 3. *Cambridge University Press*, 2001.

## Health

Health has intrinsic worth, but it also has significant instrumental importance in facilitating wellbeing. Good health allows individuals to flourish and to lead more fulfilling lives than would otherwise be possible and it is shown to positively impact wellbeing. Ill-health can cause poor educational outcomes and can negatively affect productivity.

Health is included in the set of goods required for all individuals to attain wellbeing.<sup>68</sup> Several studies have shown the link between good health and wellbeing, with mental health showing a stronger relationship than physical health.<sup>69</sup> Conversely, ill-health has been shown to worsen life-satisfaction.<sup>70</sup>

Health, alongside education, is often considered a key component of human capital, contributing to economic growth. A healthier workforce is more productive as fewer sick days are taken, people are physically and mentally able to work for longer, and there is a greater chance of developing experience.<sup>71</sup> Better health leads to more creativity and innovation, while poor health (such as stress) can lead to a narrowed perspective and lower productivity. Poor health during childhood can affect educational outcomes through worsening cognitive ability, so improving childhood and infant health is of particular importance for productivity outcomes, though reducing the impact of diseases that affect those of working age is equally important.<sup>72</sup>

There are three conceptual ideas within the Health pillar. One element (Behavioural Risk Factors) captures behaviours that affect health outcomes. Two elements (Preventative Interventions and Care Systems) capture the effectiveness of the healthcare system, considering access and coverage to both preventative treatment and ongoing care and treatment. Three elements capture health outcomes (Longevity,

Mental Health, and Physical Health), assessing the mortality of the population and the quality of the physical and mental health of the population.

## Elements of Health

1. **Behavioural Risk Factors** — the set of lifestyle patterns moulded by a complex set of influences that increase the likelihood of developing disease, injury or illness, or of dying prematurely.
2. **Preventative Interventions** — the extent to which a health system actively prevents diseases, illnesses and other medical complications from occurring, to save many children and adults from an early death. Immunisations are a crucial method of preventative intervention, as is effective preventative care.
3. **Care Systems** — the ability of a health system to treat and cure diseases and illnesses, once they are present in the population. For care systems to be effective, a country must have effective healthcare coverage and facilities, skilled health staff, as well as effectively treating common diseases and illnesses.
4. **Mental Health** — the level and burden of mental illness on the living population. Mental health can have a significant impact on an individual's wellbeing and ability to participate effectively in the labour market.
5. **Physical Health** — the level and burden of physical illness on the living population. Physical health can have a significant impact on an individual's wellbeing and ability to participate effectively in the labour market.
6. **Longevity** — the mortality rate of a country's population through different stages of life, as well as maternal mortality, and common life expectancies in later life.

68. Len Doyal and Ian Gough. *A theory of human need*. Macmillan International Higher Education, 1991.

69. Paul Dolan, Tessa Peasgood, and Mathew White. "Do we really know what makes us happy? A review of the economic literature on the factors associated with subjective wellbeing," *Journal of economic psychology* 29, no. 1 (2008): 94-122.

70. Ahmad Al-Windi. "The relations between symptoms, somatic and psychiatric conditions, life satisfaction and perceived health. A primary care based study," *Health and quality of life outcomes* 3, no. 1 (2005): 28.

71. Robert J. Barro. "Health and economic growth," *Annals of Economics and Finance* 14, no. 2 (2013): 329-366.

72. WHO Commission on Macroeconomics and Health, Working Group 1 & World Health Organization. "Health, economic growth and poverty reduction," *World Health Organization*, 2002.

## Education

Education is a building block for prosperous societies; the accumulation of skills and capabilities contributes to economic growth. Education provides the opportunity for individuals to reach their potential, and experience a more fulfilled and prosperous life. A better-educated population also leads to greater civic engagement and improved social outcomes — such as better health and lower crime rates.

In general, better-educated workers have a greater choice of work and their skills are more in demand, leading to rises in individual earnings. Recent research has shown that one additional year of schooling results in a 9% increase in hourly earnings, with higher returns for women.<sup>73</sup>

Improved education ultimately leads to productivity gains in the economy.<sup>74</sup> A labour force that is highly skilled and has the capacity to continually refresh or learn new skills will produce far more than a labour force of the same size that is unskilled. In the workplace, an individual's education will indirectly benefit others, as they are more likely to be productive and may boost the productivity of colleagues through training and management.

Education has been shown to indirectly increase the subjective wellbeing of individuals, as a result of its positive effects on income, employment, health, and crime.<sup>75</sup> People with higher levels of education are less likely to be unemployed due to the demand of their skills in the workforce. There is evidence that a better-educated person will be healthier as they are more likely to have an enhanced knowledge of health issues. Better cognitive skills also enable them to maintain better health, and the secondary effect of higher income allows increased health expenditure, and therefore better health outcomes.<sup>76</sup>

While other institutional, legal, and social structures must be in place as well, education can help to empower marginalised parts of society and reduce inequalities. For instance, a basic set of skills, such as being able to make basic inferences and locate needed information, can provide access to opportunity for the disadvantaged in society. Education can support the development of democracy through greater civic participation and social cohesion, and has been shown to contribute to stronger social identity, more political engagement, greater tolerance

to immigrants, and a cleaner environment.<sup>77,78,79</sup>

Education can be conceptualised functionally in terms of access, attainment, and quality. Instead, we have incorporated these ideas into a framework that organises education by stages. Education has been split into four stages of typical education systems, and the skills of the adult population. Enrolment, outcomes, and quality are identified for each stage of education, and the skills of the adult population are captured by educational attainment.

## Elements of Education

1. **Pre-Primary Education** — enrolment in pre-primary education. Pre-school supports the development of linguistic, cognitive, social and emotional skills.<sup>80</sup> Students who participate in pre-primary education are more likely to make it through secondary education and less likely to repeat grades.<sup>81</sup>
2. **Primary Education** — the availability, quality of, and enrolment in, primary education. The critical formative stage of schooling, providing pupils the opportunity to develop their cognitive, social, emotional, cultural, and physical skills, preparing them for their further school career. Most critically, this includes core literacy and numeracy skills.
3. **Secondary Education** — the availability, quality of, and enrolment in, secondary education. More years of higher quality education has been shown to increase life outcomes in both economic and social terms. Beyond attending and completing school, obtaining good test scores are a strong indicator of cognitive ability and is a strong determinant of better economic performance of a country.<sup>82</sup>
4. **Tertiary Education** — the availability, quality of, and enrolment in, tertiary education. Further education (including technical, vocational, and university-level) is key to social and economic development through the creation of human capital and building of knowledge bases.
5. **Adult Skills** — the skill-base of the existing working-age population, which is a reflection of the historic quality of education

73. Psacharopoulos, George, and Harry Anthony Patrinos. *Returns to investment in education: a decennial review of the global literature*. The World Bank, 2018.

74. Hanushek, Eric A., and Ludger Wößmann. *The role of education quality for economic growth*. The World Bank, 2007.

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79. "The wellbeing effect of education," *Economic and Social Research Council*, 2014.

80. Bakken, Linda, Nola Brown, and Barry Downing. "Early childhood education: The long-term benefits." *Journal of research in Childhood Education* 31, no. 2 (2017): 255-269.

81. Brian Faust. "Education in Algeria: Past successes, challenges and goals," *The Borgen Project*, January 4, 2017.

82. Hanushek, Eric A., and Ludger Wößmann. *The role of education quality for economic growth*. The World Bank, 2007.

as well as providing a base level for the short-term potential of the economy. Adults who are above a threshold level of education are far less likely to be disadvantaged in society and this will

lead to better employment opportunities. Increased skills in the workplace are closely connected to productivity.

## Natural Environment

The Natural Environment pillar captures those elements of the physical environment that have a direct impact on the ability of people to flourish in their daily lives, as well as those that affect the prosperity of future generations.

At the basic level, ecosystems provide the resources for extraction upon which many economies depend. A well-managed rural environment yields crops, materials for construction, wildlife and food, and sources of energy. A healthy climate has an impact on many areas of society; industries such as agriculture rely on healthy soil and favourable weather in order to be fruitful, while recreational activities require that natural resources (such as lakes and reservoirs) are free from pollutants and are well managed. More directly, the quality of people's everyday lived experience is dictated by exposure to environmental health hazards such as air pollution.

Exploiting natural capital in the short-term may well result in short-term economic growth. However, change of ecosystems should be managed to ensure degradation does not affect their long-term value.<sup>83</sup> Ecosystem degradation, by causing floods, increasing infectious diseases risk, and forcing population displacement, tends to affect the poor disproportionately. Therefore, environmental management is linked closely to poverty alleviation.<sup>84</sup>

Ecosystems provide aesthetic, recreational, and educational services to the human experience, contributing to essential aspects of wellbeing; they can form our sense of identity and community.<sup>85</sup> Access to green spaces has a direct impact on mental and physical health and an indirect impact on wellbeing by enhancing interactions between people, and therefore improving social cohesion and creating a sense of belonging.<sup>86</sup> Noise, temperature, pollution, and crowding increase stress and reduce the ability to cope as well as having detrimental effects on cognitive and social functioning.

The elements of the Natural Environment pillar reflect different aspects of the environment, and also preservation efforts, which captures the degree to which the natural environment is being protected for the future. Emissions and exposure to air pollution both cover air quality, but distinguish between the effects the quality of the air has on the lived experience of a population and the contribution of a nation to damaging the quality of the air.

### Elements of Natural Environment

1. **Emissions** — the level of emissions of air pollutants within a country. This captures the long-term effect of pressures on the atmosphere that a given country will have on the lived experience of future generations (broadly through CO<sub>2</sub> and methane emissions), as well as short term effects (SO<sub>2</sub>, NOx and black carbon emissions).
2. **Exposure to Air Pollution** — the level of emissions to which a country's population is physically exposed, and the effects this may have on their quality of life.
3. **Forest, Land and Soil** — the quality of a country's land, forest, and soil resources and the impact this may have on citizens' quality of life.
4. **Freshwater** — the quality of a country's freshwater resources and the impact this may have on citizens' quality of life.
5. **Oceans** — the quality of a country's marine resources and the impact this may have on citizens' quality of life. Both fish stocks and marine ecosystems, and the quality of ocean water itself are key to this element.
6. **Preservation Efforts** — the extent of efforts to preserve and sustain the environment, in terms of land, freshwater, and marine areas, for future generations, and public satisfaction with those efforts.

83. Assessment, Millennium Ecosystem. *Ecosystems and human wellbeing*. Vol. 5. Washington, D.C.: Island press, 2005.

84. Ibid.

85. Ibid.

86. Helliwell, John F., and Christopher P. Barrington-Leigh. "Measuring and understanding subjective well-being," *Canadian Journal of Economics* 43, no. 3 (2010): 729-753.



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