



Global AgeWatch Index 2013

Purpose, methodology and results

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Acknowledgements

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Overview

The Global AgeWatch Index (referred to as “the Index”) is the first analytical framework that uses the latest comparative and quantitative data available internationally to measure and monitor key aspects of the economic and social wellbeing of older people globally. It is inspired by the examples of the latest Human Development Index as well as the 2012 Active Ageing Index of the European Commission and the United Nations Economic Commission for Europe (UNECE)¹ in its selection, development and use of multi-perspective quantitative indicators. As such, we expect the Index to become an important research and analysis framework for practitioners and policy-makers alike, as it will facilitate cross-national comparative research on the quality of life and wellbeing of older people, and help identify data and knowledge gaps on issues of ageing.

The Global AgeWatch Index initiative falls in line with the recommendations of the 2013 report of the United Nations High-level Panel on the Post-2015 Development Agenda, *A New Global Partnership: Eradicate Poverty and Transform Economies Through Sustainable Development* (United Nations 2013). The report calls for a “data revolution”, a new international drive towards improving the quality of statistics available to people and governments around the world. The report affirms that better quality data will be essential for monitoring a new development framework and for holding governments accountable.

The Index is part of HelpAge International’s Global AgeWatch Programme, which, as well as providing data and analysis on population ageing, aims to stimulate training and capacity building on ageing for policy-makers and data collectors. The Global AgeWatch Programme will monitor key data on ageing, expose gaps and provide a range of expert briefings and guidance on key policy issues and development processes, including the post-2015 agenda.² The programme builds on the information and policy recommendations on research and data questions contained in the joint United Nations Population Fund (UNFPA) and HelpAge International 2012 report, *Ageing in the Twenty-First Century: A Celebration and A Challenge*.

The Index is a work in progress. It will evolve with the help of feedback from stakeholders and by the addition of better data as this becomes available nationally and internationally. We have in mind the experience of the Human Development Index (HDI) and the World Economic Forum’s Global Gender Gap Index (GGI): each has evolved in significant ways with time and input (including criticism) from stakeholders and users.

We expect to be able to address these issues by promoting an understanding of the Index and endorsing its use to improve the wellbeing of older populations. This and other valuable work of HelpAge International will help us improve not only the contents and methodology of the Index but also its use by policy-makers and practitioners.

The objective of this paper is to explain the purpose, rationale and concepts behind the Index, describe the methodology, and present key findings. This paper is organised into the following four sections:

- **Purpose:** The first section presents the motivations for the construction of the Global AgeWatch Index.
- **Concept and methodology:** The second section describes the conceptual framework that captures the key aspects of quality of life and wellbeing of older people as well as a methodology to allow their measurement within the four chosen domains. This section also discusses the logic behind the selection of indicators of wellbeing of older people, and the methodology adopted in aggregating the indicators into the domain-specific indexes and subsequently the overall Index.
- **Key findings:** The third section analyses the results and also explores the correlation between the Index and other popular indexes – the HDI, share of the population aged 60-plus, the inequality index and GDP per capita.
- **Conclusion:** The final section synthesises the discussion and describes possible further work and ways forward.

1. The Active Ageing Index is a joint project of the European Commission’s Directorate General for Employment, Social Affairs and Inclusion and the United Nations Economic Commission for Europe, www1.unece.org/stat/platform/display/AAI/VII.+About+the+project

2. Other activities of the Global AgeWatch programme can be found at: www.globalagewatch.org

1. Purpose

The overarching purpose of the Global AgeWatch Index is to promote the development of policies and programmes that will improve the quality of life and wellbeing of current and future generations of older people. The Index has been constructed by assembling accessible, statistical indicators from internationally comparable data sources on a country-by-country basis on the wellbeing of their older people.

The concept behind the Index is that it is necessary for decision-makers in both the public and private sectors to have at their disposal a framework to monitor in a multidimensional manner the wellbeing of older people. Such a framework will prompt policy-makers both to want to formulate policy and to base their interventions on the evidence of indexes of older people's wellbeing, thus ensuring progress towards improving the quality of life and wellbeing of their country's older citizens.

One of the strong motivations for the Index is the lack of age-disaggregated information across countries, leading to a poor understanding of the circumstances of older people in many countries. For this reason, the Index has been constructed to measure issues of core concern to older people using data that is publicly available in comparative international data sets.

The conceptual grounds of the Index are based on our review of literature on the measures of wellbeing of older people, particularly those arising from the seminal work of Amartya Sen on the concept of capabilities (see, for instance, Sen, 1999). It is believed that real progress towards promoting the quality of life and wellbeing of older people can only be made by looking at the multiple dimensions of income security and health status, the opportunities for work and education, and by generating an enabling environment for older people providing social support, personal freedom, physical safety and access to basic public services such as transport.

The methodology involves constructing four domain-specific indexes which are aggregated into the overall Index. Thus, all indicators chosen have been organised under four domains to cover key aspects of older people's wellbeing: (1) Income security (2) Health status (3) Employment and education and (4) Enabling environment. The indicators chosen for these domains represent pertinent perspectives of quality of life and wellbeing of older people for which reliable and internationally comparable recent data is currently available.

The Index builds on the priority issues expressed by older people reported in the 2012 UNFPA and HelpAge report, *Ageing in the Twenty-First Century: A Celebration and A Challenge*.³ It also draws inspiration from the recommendations of the 2002 Madrid International Plan of Action on Ageing (MIPAA) and the Minimum List of Indicators for Tracking Progress in Implementation of the Madrid International Plan of Action on Ageing.⁴ The work for the 2012 Active Ageing Index of the European Commission and UNECE provided impetus and valuable synergies.

Benefiting from UN Economic and Social Council (ECOSOC) general category consultative status, HelpAge International is able to work collaboratively on these issues and the call for key data sets to be disaggregated by age and sex both directly and with a range of UN Member States, regional commissions, UN agencies, intergovernmental agencies and partners in academia.

Based on the experience of similar indexes – such as the HDI of UNDP, and the GGI – one may expect the Global AgeWatch Index to provide important support for advocacy with a wide range of stakeholders, especially in view of the rising importance of population ageing. The Index will be a benchmarking instrument, giving policy-makers an opportunity to identify areas of strength and weakness in comparison with the neighbouring or best performing countries worldwide, not just at the level of individual indicators but also in the aggregated domain-specific indexes and the overall Index.

Although the Index alone will not provide sufficient information to spell out what specific policies and programmes are necessary, it can point to the strengths and limitations of policies and programmes in a particular country. This process will need to be supplemented with more detailed, quantitative and qualitative, national and sub-national level data and analysis.

Underpinning the Global AgeWatch Index are three key concepts: the need for comparative data on ageing, the need to present this data in a way that will engage policy-makers, and the need to help point to areas for future policy actions.

3. UNFPA and HelpAge International 2012, pp. 133.

4. Ibid, pp. 178.

1.1 Comparative data on ageing

Policy-making on ageing requires credible, comparative evidence on the economic and social situation of older people nationally and globally.

Across the world, both the number and proportion of older people in the population are increasing at an unprecedented rate, with the fastest increase happening in the developing world. Policy development and budgetary provisions on ageing have not kept pace with the demographic transition, a situation that challenges global ambitions of a secure and sustainable world, free from poverty and disease. Without policy reforms and institutional arrangements committed to supporting growing numbers of older people across the globe, the benefits of life expectancy gains cannot be fully mobilised for the social and economic wellbeing of people of all ages.

Enjoying a sufficient, regular income and having access to quality healthcare in old age are core concerns of older people. A key debate is that of the size and shape of publicly funded social protection and public health and care programmes. Even though social protection and the concept of a social protection “floor” of income and health guarantees have gained acceptance as an “enabler” for national development, many older people do not yet have regular, decent levels of income or access to quality healthcare. Without policy reforms and adequate planning and budget provision to extend and universalise these provisions, there is a risk that future living standards, not just for the older population but also for the rest of the society, will be affected adversely.

For improved policy-making on ageing in these fields to happen, detailed comparative evidence about the economic and social situation of older people around the world is needed. A global comparative analysis of older people’s situation will also generate valuable information for mutual learning and advocacy in public policy-making on, for example, income and health, and in developing strategies on ageing which also respond to other common issues concerning older people, such as access to the labour market, lifelong learning, access to social support and public services, and physical safety.

1.2 Presentation of data

It is important to present existing data in such a manner that it will engage decision-makers and stimulate a richer policy debate. The UNDP’s Human Development Index, as well as the Active Ageing Index of the European Commission and UNECE, offer good examples in their selection, development and use of multi-perspective quantitative indicators and their aggregation into an index.

At the outset, it is important to emphasise that additional age-disaggregated data is needed to complement and make multidimensional evidence more robust. While we realise that there are limitations in currently available data on ageing, it is also important that what is available in the public domain is used effectively to enable dialogue that will lead to improvements. Without this, the issues of population ageing and wellbeing of older people will remain invisible.

It is also the case that data sets that show data collected for younger age groups are not only incomplete but distort national and global evidence of social issues (see, for instance, Samman and Rodriguez 2013), and this is why all nationally representative data sets should incorporate all age groups. Comparative evidence that is age inclusive needs to be prepared in a way that provides insights for policy-makers. Countries can and do learn from each other’s experiences in building evidence and in bringing about the most appropriate policy reforms.

The UNDP’s Human Development Index (HDI), first presented in the 1990 Human Development Report (UNDP 1990) has been the leader in developing multi-perspective indicators and in bringing them together with a focus on measuring human development. In essence, the HDI represents a measure of the quality of life of the population for a country as a whole, and offers a good example of the development and use of a diverse set of quantitative indicators and their aggregation into a single index for mutual learning and advocacy purposes. However, the limited set of indicators of the HDI as well as their non-disaggregation by age groups does not allow the HDI to be used for measuring and monitoring the wellbeing of older people.

The Active Ageing Index is the only existing multi-country index that specifically covers issues of older people (for more details, see Zaidi et al. 2013). The most recent construction of this index focuses on the 27 Member States of the EU. A comparable active ageing index has been constructed for the United States, with the help of AARP International, to facilitate a comparison between the EU and USA.

The Multi-Dimensional Poverty Index (MPI) is another example of an innovative framework for policy-makers built on the basis of comparative quantitative indicators and their aggregation into an index in a transparent manner to capture a range of dimensions of wellbeing. The MPI is not specifically older age inclusive in its methodology because it is reliant on incomplete disaggregated data from national surveys (see Alkire et al. 2011). The recently constructed Social Progress Index is also relevant; it covers 50 countries and includes a wide range of factors that have an impact on overall social progress, including only non-economic dimensions such as the social, political, and environmental landscape (for more details, see Fehder and Stern 2013).

1.3 Areas for action

The Global AgeWatch Index fills a gap by providing the first analytical framework that uses comparative quantitative data in international data sets to measure the economic and social wellbeing of older people globally.

The Global AgeWatch Index builds on the ideas and methodologies on multidimensional composite indexes, and responds to the need for more accessible evidence on the situation of older people. Being an analytical framework of internationally available comparative quantitative data to measure and monitor the economic and social wellbeing of older people globally, the Index aims to promote improved national policy-making on ageing across a range of domains that are critical to wellbeing in old age. The dashboard of 13 indicators, underlying the four chosen domains, represents diverse aspects of wellbeing of older people identified by older people and policy-makers alike, which are important to older people and for which reliable and internationally comparable data is available.

A note of caution is in order here. The Index will help identify areas in which policy actions are required, but the Index alone will not provide all the information required to identify specific policies and programmes that would be necessary in a national context: robust policy-making on ageing needs more detailed national and sub-national level data and analysis, quantitative as well as qualitative. Dialogue around the Index will, we hope, generate interest in more systematic collection and use of this data as evidence for policy purposes. It is important also to focus on sub-national level data which is even scarcer than national-level data in the majority of countries, and such gaps need to be filled for more effective, evidence-based policy-making. Countries should look outwards for comparisons to evaluate the impacts of policy, and look inwards to encourage and support the development of evidence at the level needed for decision-making.

1.4 Objectives

In short, the Index has three main objectives:

- **It aims to improve the quality of life and wellbeing of older people.** The Index is designed to stimulate debate among the public and policy-makers on population ageing and its challenges, and promote improved policy-making. By focusing on key aspects of older people's wellbeing and a country's comparative position, it will help policy-makers to identify effective strategies for improving the social and economic situation of current and future generations of older people.
- **It aims to highlight successes and shortcomings of strategic responses to population ageing challenges.** A longer-term objective of the Index is to highlight successes and deficiencies of strategic responses of countries over time to the opportunities and challenges of population ageing, and give focus to realising older people's social and economic wellbeing. By raising awareness and understanding of regional and national differences, it seeks to trigger mutual learning about the most appropriate and effective strategies to promote the quality of life and wellbeing of older people. It is expected that this work will support ongoing efforts at the national level to ensure that ageing is fully responded to in development strategies linked to global development goals, including the post-2015 development framework, and to monitor progress across countries in implementing the 2002 Madrid International Plan of Action on Ageing (MIPAA).
- **Finally, and just as importantly, the Index will stimulate demand for and supply of sufficient age- and sex-disaggregated data as necessary to study policy-relevant topics on ageing.** The Index draws on widely accepted indicators in internationally comparable databases and is intellectually defensible, but the results depend significantly on the quality and timeliness of the underlying data of the indicators used.

There are significant gaps in this data; for example, there is currently insufficient sex-disaggregated data across all the domains. The Index has made use of indicators that are collected on a regular basis, which would enable us to provide regular updating of the Index to measure progress and monitor trends. This year we could only include 91 countries as there is data missing in the international data sets. These countries represent a diverse group of countries around the world, from all regions, at different stages of development and with varying extent of wellbeing of older people in different dimensions. Bearing in mind that the international data sets are produced from national sources, the longer-term objective of the Index is to stimulate collection of ageing data and fill the data gaps that exist at national, regional and international levels. A key sign of success of the Index will be that all countries over time produce and compile up-to-date data to calculate values for all the indicators of the Index.

2. Constructing the Global AgeWatch Index

2.1 Conceptual considerations in measuring quality of life and wellbeing of older people

The core conceptual challenge to constructing the Index was to settle on domains that capture the multidimensional nature of the quality of life and wellbeing of older people and for which adequate data is available in international data sets. Insights drawn from a range of sources, including the views of older people themselves, were our reference point. These sources consistently identify regular and decent levels of pension income, good health status and access to good quality, affordable healthcare, capacity to contribute within their households as well as in social networks, and positive engagement with their communities as core determinants of older people's wellbeing.

The conceptual framework underlying the HDI provided us with convincing arguments for focusing on capabilities, resilience and widening of choices as critical dimensions of wellbeing in old age. That said, a lack of consensus about how wellbeing should be defined and measured needs to be acknowledged: the concept of wellbeing has specific meanings for different people, and is also different for women and men at different stages of their lives. Each discipline has its own interpretation of what constitutes the different dimensions of wellbeing, what are the important determinants of wellbeing in each dimension and what weight should be assigned to each of these dimensions. Moreover, attitudes and social norms may lead to different notions of what constitutes the personal wellbeing of older people.

Previous reviews of different conceptions of wellbeing of older people⁵ led us to consider the following approaches:

- **Older people have a right to a minimum decent level of pension income.** One of the foremost demands of individuals is to have a command of an adequate level of economic resources. The right to a minimum decent level of resources, whether cash or another form, forms the basis of the minimum rights or the income entitlement approach (see, e.g., Atkinson 1989). The right to an adequate standard of living is enshrined in the Universal Declaration of Human Rights (Article 25). In a fair and just society, each older citizen should be entitled to a minimum income, related to the minimum standard of living in the country in question. In fact, the higher risks of economic vulnerability in older age in many contexts make it even more important for individuals to be entitled to a minimum pension income, without any social stigma, such as means-testing, being attached to claiming it.
- **People have aspirations for good health in old age.** Good health is a key component of ageing well. It is not only a vital dimension of the personal wellbeing of older people but it is also a strong contributor to other aspects of their wellbeing, such as social engagement in their communities. Healthy ageing is also a principal determinant of how well a country is doing to ensure that policies and programmes are in place to support the quality of life and health of its citizens across the life-course.
- **Coping capacity and resilience attributes of older people are welfare-enhancing.** The insights drawn from the concept of vulnerability and also in reviewing empirical evidence on how experiences throughout the life-course influence vulnerabilities in old age led us to emphasise the coping capacities and resilience of older people in building the Index (see, a.o., Hufschmidt 2011; Lloyd-Sherlock and Locke 2008; Schröder-Butterfill and Mariani 2006; Alwang et al. 2001). The literature emphasises how a combination of risks, exposure to shocks, coping capacities and welfare losses of earlier life combine with temporal

and contextual factors to ascertain vulnerabilities in old age, at the individual, household and community levels (see also Wild et al. 2013; Glaser et al. 2009).

For instance, employment and education status of older people can serve as a proxy for measuring their coping capacities on the basis that lack of employment and education makes people more vulnerable to shocks as they age. Employment of older people, for instance, may be valued principally for its role in closing the pension gap. However, continuing in work (whether paid or unpaid) also allows older people to maintain a sense of purpose, to maintain or create social relationships, and to engage in productive activities. It can also ease the loneliness, isolation, ill health and boredom that retirement from the labour market sometimes brings in some contexts. Educational attainment is another enabling attribute as it provides greater access to social networks and enhances functional abilities within the constraints and opportunities of societies in which older people live.

- **Capability, or freedom, to achieve welfare outcomes forms a preferable basis of wellbeing.** Sen (1980, 1992, 1999 and elsewhere) argues that, although measuring specific outcomes (e.g. the standard of living attained) is important, the capability (or freedom) to achieve such outcomes should be the real basis for assessing one's personal wellbeing. He cites five critical sources of differences between individuals and their contexts: (1) Personal heterogeneities (e.g. health), (2) Environmental diversities (e.g. climate, environment and epidemiology), (3) Economic setting (e.g. access to public goods and services), (4) Social norms (e.g. determining what must be worn to "appear in public without shame"), and (5) Distribution within the household (Sen 1999: 70-71). For our purposes, this assertion on differences in the rate of conversion of resources into wellbeing outcomes is relevant, because these concepts can be linked to individual-level coping capacities as well as enabling attributes of societies and environments.

5. For more discussion, see Zaidi (2008; 2012).

A clear focus is required to measure the multidimensional nature of wellbeing aided by a plurality of indicators.

The International Commission on the Measurement of Economic Performance and Social Progress (Stiglitz-Sen-Fitoussi Commission 2009) makes a set of recommendations to shift the focus of progress measurement towards wellbeing and to recognise its multidimensional nature. Their specific recommendations relevant to our work include:

- We should recognise that the quality of life and wellbeing concepts are multidimensional, with simultaneous consideration of material living standards (income, consumption and wealth); health; education; personal activities including work; political voice; social connections and relationships; environment (present and future conditions); and economic and physical security.
- Assessing quality of life and wellbeing requires a plurality of indicators, and “strong” demands to developing a single index should be “facilitated”.
- Both objective and subjective measures of wellbeing are important. There is a need to go beyond established self-reporting indicators of wellbeing and quality of life, by including measures of “freedoms” to choose the life people value.

2.2 Domains and indicators of the Global AgeWatch Index

The multidimensional nature of quality of life and wellbeing of older people is captured using four domains.

The above considerations led us to choose the following four domains to capture the multidimensional nature of older people’s wellbeing, with each domain consisting of two to four indicators:

1. **Income security**
(using direct indicators of personal wellbeing)
2. **Health status**
(using direct indicators of personal wellbeing)
3. **Employment and education**
(used as a proxy of coping capacities of older people)
4. **Enabling environments**
(using indicators of enabling features of communities in which older people live which have been prioritised by older people).

1. Income security

A regular, decent level of income in old age is important for sustaining quality of life and wellbeing of older people.

Inadequate pension income reduces an individual’s standard of living to below a decent level, especially when the pension is their only source of cash income. Absolute lack of income often leads to other forms of deprivation and experience of discrimination, humiliation and rejection. Lack of income impinges on other social domains, and also combines adversely with other factors that are associated with the ageing process, including frailty and declining functioning.

For these reasons we chose to measure older people’s income security through pension income coverage, poverty rate in old age, and relative welfare of older people. The differences in the standard of living of older people across countries are proxied by GDP per capita.

That said, analyses of older people’s income, while important, capture only a partial picture of their personal wellbeing. Other factors such as health, housing, access to the labour market and lifelong learning, access to public services, social support and physical safety become ever more important in determining wellbeing in old age.

2. Health status

Maintaining health in old age not only has a direct bearing on people’s personal wellbeing but also improves their ability to achieve other aspects of wellbeing.

Health is a core domain in measuring older people’s wellbeing. Advancing age is linked to increasing physical frailty which is associated with rising risks of the onset of ill health and disability. The aspirations of most individuals and societies are to maintain health in old age. Access to quality health and social care has a direct bearing on people’s personal wellbeing as they age. Keeping healthy also affects older people’s ability to achieve other outcomes linked with their wellbeing, such as the standard of living attained from given levels of resources (as implied by Sen’s notion of sources of variations across individuals).

The other critical wellbeing outcome affected by health is the capacity to live independently and on a self-reliant basis. According to the World Health Organization (WHO), health is “a state of complete physical, mental and social wellbeing and not merely the absence of disease or infirmity”; thus, we consider mental health to be an important dimension to be captured within this domain. We therefore decided to measure health status using the three indicators of life expectancy at age 60, healthy life expectancy at 60 and psychological wellbeing.

3. Employment and education

Employment and education stand out as important enabling attributes of older people, as they enhance resilience and coping capacities within the constraints and opportunities of societies in which older people live.

Drawing further insights from the capability approach, as well as the gerontology literature on the concept of vulnerability, we included a domain that could describe elements of the coping capacities and resilience of older people, hence our choice of employment and education. In using these two attributes, the importance of the life-course perspective is also realised, as earlier life experiences can be proxied by educational attainment of older people.

Many older people place importance on their work capacity and engagement with the labour market. The employment rate of older people indicates their access to the labour market and therefore their ability to supplement pension income with wages, as well as access to a work-related support network. Thus, the employment rate is used as a proxy for the economic empowerment of older people.

Educational attainment is another enabling attribute as it enhances older people's social abilities, their access to work and also their functional competencies within the constraints and opportunities of societies in which they live.

4. Enabling environment

The critical elements of the enabling environment chosen are social connectedness, physical safety, and freedom of choice and access to good transport, as these are identified important by older people themselves.

The 2013 Human Development Report introduced the concept of "social competencies", referring to what social institutions in a country can do. These institutions are those aspects of societies and environments that affect individuals but cannot be assessed at the individual level because they are based on relationships often summarised in the objectives of social cohesion and inclusion.

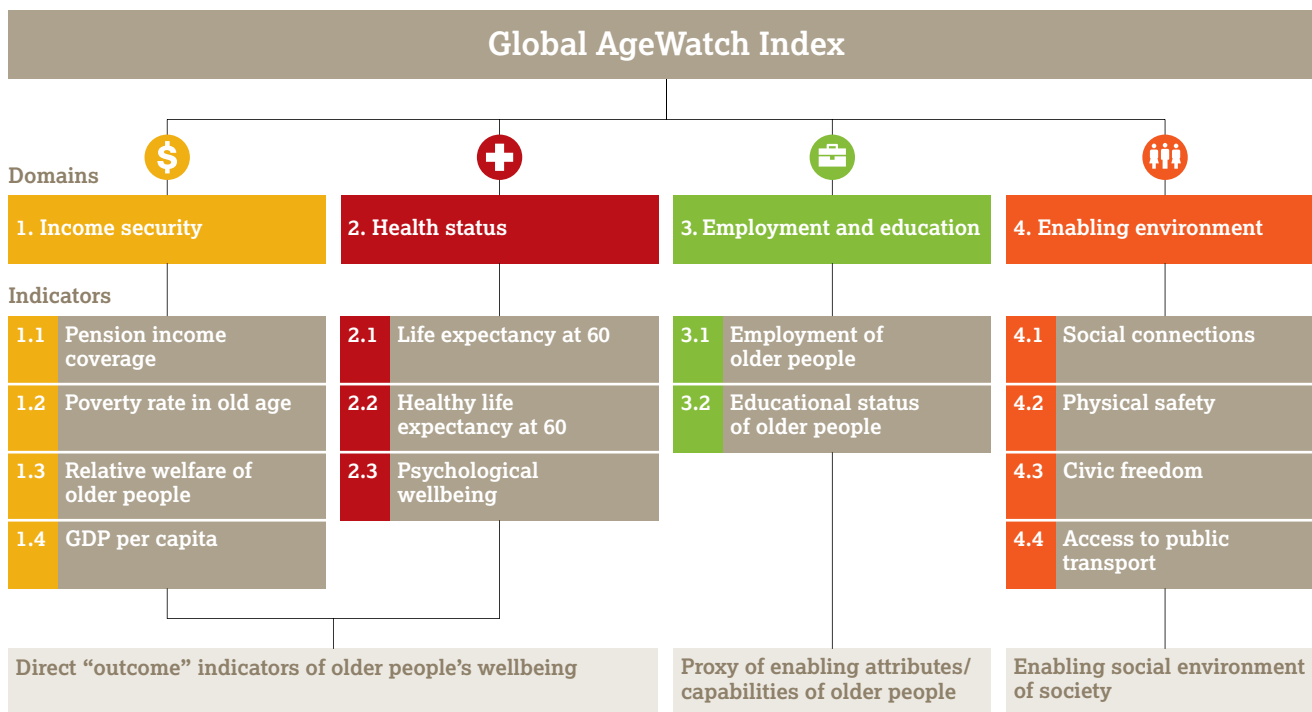
Social cohesion between younger and older generations is an important element in assuring an enabling environment for older people. Social cohesion is also associated with positive attitudes to ageing and to older people by those of different generations, which contribute to an enabling social network and age-friendly environment.

Likewise, policies and programmes that support older people's capacity to be connected with their communities are highly valued. Older people want to be able to live independently; they wish to feel safe in their environment, be connected with their communities and have access to good public transport.

We identified an enabling environment for older people as a combination of their social connections, physical safety, civic freedom and access to public transport.

Figure 1 illustrates the four domains and 13 indicators of the Global AgeWatch Index. To reiterate, income security and health status dimensions are combined with coping capacity attributes of older people and enabling attributes of environments in which older people live to capture core dimensions of wellbeing. It is possible to derive a credible quantitative overall index for older people's wellbeing using the indicators within these four domains. Definitions, objectives and sources of the indicators are given in Appendix A1.

Figure 1: Global AgeWatch Index domains and indicators



2.3 Features of the indicators

The indicators chosen for the Index have a number of important features:

- They provide a view of the current generation of older people. They do this by taking into account the space relativity (similarities and differences between different groups of older people in different parts of the world), rather than looking at how earlier life experiences influence outcomes observed in old age. The exceptions are the indicators on educational attainment and pension incomes which are outcomes of earlier life experiences.
- The Index uses only outcome indicators. It is based neither on process indicators (such as legislation, for example, to protect specific rights in older age) nor on input indicators that measure a country's efforts to deliver a desired outcome (such as social protection expenditures on pension and healthcare). The outcome indicators are direct measures of older people's wellbeing (such as income and health status). In many cases, the outcome indicators also correlate strongly with input indicators (e.g. GDP spent on healthcare is an input indicator which is expected to correlate with healthy life expectancy in old age).
- The Index uses data from publicly available international data sets, specifically data from the World Bank, United Nations Population Division, World Health Organization, the Institute for Health Metrics and Evaluation's use of Global Burden of Disease database, Barro and Lee, the International Labour Organization and Gallup (for details of data sources see Appendix A1.)
- The Index is built on the strength of recommendations of the Stiglitz-Sen-Fitoussi Commission, which state that quality of life and wellbeing is multidimensional and that both objective and subjective indicators are important for measuring this. The Commission also recommends going beyond self-reporting data of quality of life and wellbeing, by including measures of "functionings", "freedoms", "the capabilities of people", and "the extent of their opportunity set and their freedom to choose the life they value" – thus, our inclusion of psychological wellbeing in the second domain, and social connections, physical safety, civic freedom and access to public transport in the fourth domain, which use subjective indicators drawn from Gallup.⁶
- Indicators drawn from the Gallup World Poll Database will remain a subject of debate. We recognise that some observers will question Gallup data for its credibility, sampling, coverage and international comparability. However, we believe that the inclusion of these indicators is important for the additional information they bring to the Index. This view is shared by the developers of the Social Progress Index who have used many indicators extracted from the Gallup World Poll Database.⁷
- For some dimensions of older people's wellbeing in the Global AgeWatch Index, the data required for the indicators is available only from Gallup. For example, Gallup is the only source of international, age-disaggregated data for the indicators that make up the enabling environment domain. Gallup data was also essential for us to capture the mental health dimension so that we could include the psychological wellbeing indicator in the health domain. It was not possible to have a global indicator on mental wellbeing using "objective" data. In our opinion, the Gallup data is valuable and has the potential to improve further by more sophisticated survey methods currently being developed.
- Data for healthy life expectancy is taken from Salomon et al. (2012), which used inputs from the WHO Global Burden of Disease Study 2010, covering 187 countries for the period 1970-2010.
- In most instances, the Index makes use of absolute-level indicators, thus taking a perspective on quality of life and wellbeing of older people that is not relative to the rest of the society. This is principally because we wished to capture how countries differ from one another with respect to older people's wellbeing. For instance, the income security domain indicator of poverty rate in old age reports on the poverty of older people only (although it uses a relative definition of poverty). Similarly, the employment and education status indicators apply to older people only. However, for the indicator of psychological wellbeing, we take account of how well off older people are in comparison with younger people aged 35-49, principally to level off any cultural differences in reporting psychological wellbeing across countries. Another digression from the absolute perspective considered essential is the adoption of the indicator in the income security domain on relative welfare of older people. We used this to capture the important perspective of standard of living differences between younger and older people within a country.

6. See 'Gallup World Poll Database', available at: <http://worldview.gallup.com>

7. The Social Progress Index is developed under the Social Progress Imperative, whose goal is "to advance global human wellbeing". It is led by Professor Michael Porter of Harvard Business School (see Porter et al. (2013) for more details).

- The age group for which data is collected is in most instances 60 years and older (for example, indicators in the income security domain are calculated for this age group, except the first which is for 65 years and older). The exception to this rule was allowed because data was available for a different age group for some indicators (for example, Gallup data is age-disaggregated only for those 50 years and above). Another exception was warranted when we needed to focus on a specific age group for a particular perspective of older people's wellbeing (for example, the indicator of the employment status of older people was calculated for the age group 55-64). Thus, although we have been constrained by lack of synchronised age-disaggregated data on older people's wellbeing, it is defensible to use different age groups if the intrinsic objective of the indicator is captured, despite differences between its age category and that of other indicators.
- Criteria for selecting the “dashboard” of indicators also included the fact that they can be revisited at regular intervals. A starting point for the indicators' selection included the Minimum List of Indicators for Tracking Progress in Implementation of the Madrid International Plan of Action on Ageing (UNFPA and HelpAge International 2012: 178-181). The availability of internationally comparable data for each of these indicators was reviewed (see also Marin and Zaidi (2007) for an early list of indicators devised for the monitoring of MIPAA).

Constraints

Lack of internationally comparable, age-disaggregated data for a critical mass of countries has constrained our choice of domains and indicators.

There is no denial of the fact that the construction of the Global AgeWatch Index was restricted by the lack of internationally comparable, age-disaggregated data for measuring the quality of life and wellbeing of older people. This constrained our choice of domains and indicators.

We considered two choice scenarios. The first was to include all the indicators that were relevant, and thus compromise on the country coverage. The alternative was to include a somewhat reduced set of indicators, but expand the coverage of the Index to very many countries. Since one of the ambitions of the Index is to provide global coverage on measures of older people's quality of life and wellbeing, a choice was made to settle on a reduced set of most pertinent indicators with a maximum coverage of countries. Countries included in the Index are those where there is sufficient data available for all indicators across all four domains. Countries not included are those where data is missing for one or more indicators within a domain.⁸ Our aspiration is to expand the country coverage from the current number of 91 to all UN Member States and also expand the indicator set to include more dimensions of older people's quality of life and wellbeing (such as those capturing the political and civil rights of older people).

We have chosen indicators that are comparable across countries in the main. However, in some cases, the methods adopted in collecting the data (such as the survey methodology of the Household Budget Surveys used for the World Bank database and the subjective surveys used for the Gallup Worldview database) will affect the international comparability of the data. In all such cases, the compromises made have been

unavoidable and the use of such data for international comparisons is common practice. Thus it is fair to say that we have attained the “best outcome possible”, given the data constraints, rather than the utopian “best possible outcome”.

The latest data available is, in the main, two years old; such lag in data availability is common and unavoidable, given the time required for processing survey data. This constraint implies that an improvement or deterioration in older people's quality of life and wellbeing over the past two years will not be captured by a single iteration of the Index and that the Index will need to be updated at regular intervals. Future work of the Global AgeWatch programme will include yearly updating of all the relevant data. We do not expect that updated estimates of life expectancy at 60 (or healthy life expectancy at 60) will be available in a period shorter than two to three years; however, a yearly update can be expected for other indicators such as pension income coverage and poverty in old age.

Other omissions

The Index does not at this stage include a domain on political and civil rights of older people. We wished to include this but we could not, as the Index is a quantitative measure, and no categorical data is available to capture the differing extents to which older people in different countries enjoy various sorts of human, political and civil rights. The Index will be extended to include such a domain in the future, once relevant data becomes available.

Another important exclusion due to constraints on data availability is the sex-disaggregation of the Global AgeWatch indicators. Because data available for the majority of countries is not disaggregated by sex, we could not construct separate indexes for men and women. Sex disaggregation remains on the agenda for future development of the Index.

⁸ The only exception to this rule is that countries were included when they had missing data for only one indicator within the first or second domain, e.g. the pension income coverage indicator is missing for Indonesia, South Africa and Tanzania; and the (relative) psychological wellbeing indicator is missing for Belarus, China, Iceland, Luxembourg, Malta, Mauritius, Mongolia, and West Bank and Gaza. The indicator value of GDP per capita for Luxembourg has been set as missing, to avoid its impact as a statistical outlier.

There are also some other omissions in the indicators across the four domains:

- **Income security domain.** We had wished to capture the differences in the standard of living of older people across countries, either by using the average income (or consumption) of older people (in constant purchasing power standards) or by adopting an absolute definition of poverty (which uses the same poverty line across all countries) to measure poverty of older people. Unfortunately, neither of these indicators was available at the time of the construction of the Index. We decided instead to include GDP per capita as an indicator, mainly to capture differences in the standard of living across different countries. Since we already had an indicator of relative welfare of older people within the income security domain, as well as an indicator on poverty rate in old age, we decided to use these two indicators, along with GDP per capita, to provide a sense of how older people fare in comparison to the rest of the population, and how countries differ in terms of the standard of living of their citizens. The choice of GDP per capita is a compromise,⁹ which we had to make in the absence of a global indicator capturing the cross-country differences in the standard of living of older people.
- **Health status domain.** We had wished to capture how countries have made progress in reducing the incidence of non-communicable diseases (NCDs). However, it was not clear how the prevalence of NCDs, or the incidence of NCD-specific mortality, could be used as an indicator of the health status of older people. Within this domain, we also considered including some other indicators, such as the “years lost due to disability” (YLD) indicator from WHO’s Global Burden of Disease database. However, this was ruled out because a comparable perspective had already been taken into account in the “Health-adjusted life expectancy at 60” indicator, with which YLD is closely correlated.

- **Education and employment domain.** An exclusion that we certainly regret is that we could not identify a global indicator of access to and utilisation of education and training services specifically by older people. Such an indicator was considered important because older people value lifelong learning opportunities, and evidence suggests that these services contribute to improved health and wellbeing of older people as well as their greater participation in social activities. Although it would have been useful to use volunteerism as a proxy of engagement by older people in society, we ruled it out because of differences in capturing voluntary activities in different contexts.
- **Enabling environment domain.** Here, an important exclusion is an indicator on the political participation of older people. Again, this is an indicator for which age-disaggregated data is unavailable for a large number of countries. Another useful indicator would have been access to health services, alongside the indicator on access to public transport. An indicator on intergenerational relationships, which is a dimension of social connections, is also unfortunately missing, due to lack of comparable age-disaggregated data for a critical mass of countries.

2.4 Aggregation methodology

The methodology used in the aggregation of indicators to the domain-specific indexes and then to the overall Index is the same as that used for the latest HDI. It is described in detail in the statistical annex of the 2013 Human Development Report, *The Rise of the South: Human Progress in a Diverse World* (UNDP 2013). The methodology can be divided into the following four steps:

1. First, all indicator values are expressed as positive values, so that the higher the value, the higher the ranking of the country. This means that some indicator values needed adjustment. For instance, the poverty rate indicator value is reversed and expressed in terms of “no poverty risk”.

2. Second, each indicator value is then expressed in “normalised” terms. Minimum and maximum values are used to normalise each of the indicators to fall between 0 and 100, using this equation:

$$\text{Normalised indicator} = (\text{actual value} - \text{minimum value}) / (\text{maximum value} - \text{minimum value})$$

The choice of the minimum and maximum values is made on the basis of the 91 countries covered in the Index (see Appendix A2). For example, life expectancy at age 60 is lowest in Cambodia, Nigeria and Rwanda (equal to 16 years), which serves as the minimum in the range. Life expectancy at 60 is highest in Japan (26 years) to provide us with the maximum value in the range of countries covered. To avoid zero values, the lowest and highest values used in the normalisation calculations are adjusted slightly (e.g. life expectancy at 60 has minimum and maximum values set at 15 and 27 respectively).

3. Third, the geometric mean of the individual indicator values is calculated within each domain. These results give us the four domain-specific indexes. The weight assigned to each indicator within a single domain is not always assumed to be the same (see “Choice of weights” below for more information on the weights).
4. Finally, the overall aggregated Index is calculated as the geometric mean of the four domain-specific indexes (using their normalised values). The weights used for each of the four domains to reach the overall Index are assumed to be the same. The equal weight assumption is justified on the grounds that we do not wish to assign any value judgement of our own to the relative importance of any one domain in the measurement of older people’s wellbeing. However, the choice of equal weighting can easily be changed in future editions of the Index if required.

9. GDP is actually a measure of total national economic activity, even though it is often used as a proxy of standard of living when expressed in per capita terms. The GDP per capita indicator used implies that all citizens, old and young, would benefit equally from the increased economic production in a country.

Indicators within each domain are aggregated to obtain four domain-specific indexes. The rankings for each domain show where each country stands in relation to the best performing country in the same domain. The overall Index that results from aggregating the four domain-specific indexes shows the difference between the situation of each country in relation to the best performing country overall.

Appendix A2 gives the summary statistics on individual indicators and the lowest and highest values for each indicator. There were complications with some indicators when it was observed that the highest or lowest values turned out to be statistical “outliers”. In most instances, the maximum or minimum values were meaningful; however, in other instances they clearly did not reflect reality and we made appropriate adjustments. For example, we excluded using the GDP per capita indicator for Luxembourg for this reason. In other cases, such as the indicator for relative welfare of older people, we restricted the maximum possible value to 110 per cent, to avoid assigning excessive value to some countries where this indicator takes high values. The influence of scale differences on the composite total is reduced by normalisation of the domain-specific indexes at the time of the aggregation to the overall index.

Choice of weights

An important methodological choice in constructing the Index was the choice of how much weight to give to the individual indicators within each domain, as well as how much weight to give to the domains themselves when aggregating the domain values to create the overall Index. A twofold decision was made for this purpose:

- The weights assigned to different indicators within each domain do not have to be the same. The weights depend on our judgement of the relative importance of the indicator within the domain and on the data quality of the indicator in question.
- The overall Index is calculated as the geometric mean of the four domain-specific indexes (after normalisation). The weights used for all the four domains to create the overall Index are assumed to be the same.¹⁰

The weights assigned to the individual indicators in each domain are as follows:

- **Income security domain:** Since the indicators “Poverty rate in old age” (using a relative definition, with the poverty line as 50 per cent of the median) and “Relative welfare of older people” to a large extent capture the same perspective, they are each assigned half a unit weight. A full unit weight is assigned to the indicator “Pension income coverage”. As GDP per capita is a “compromise” indicator designed to capture the standard of living differences across countries, it is also assigned half a unit weight. In percentage terms, the following weights are therefore assigned to the four indicators in this domain: 40 per cent for pension income coverage, 20 per cent for poverty rate, 20 per cent for relative welfare of older people and 20 per cent for GDP per capita.

- **Health status domain:** The “Psychological wellbeing” indicator is assigned half a unit weight, whereas the other two life expectancy indicators each have a full unit weight. This is principally because we believe that the data for the psychological wellbeing indicator is not complete and that this indicator should draw on more information than is currently provided by the data source of Gallup. We are continuing to explore international comparable data sets for this indicator. In percentage terms, the following weights are therefore assigned to the three indicators in this domain: 40 per cent for life expectancy at 60, 40 per cent for health-adjusted life expectancy at 60, and 20 per cent for psychological wellbeing.
- **Education and employment domain and Enabling environment domain:** Each indicator in these two domains has the same weight.

¹⁰ The data on the Global AgeWatch website makes it possible for users to change the weights assigned to a domain and see how the weightings affect the Index values.

3. Results of the Global AgeWatch Index

3.1 Interpretation of the Index values and country rankings

Appendix A3 shows the rankings and values for all countries, both overall and for each domain.¹¹ The values show how near a country is to the ideal value, and show up differences between countries. For example, Sri Lanka's overall index value of 57.3 means that older people's wellbeing in Sri Lanka is 57.3 per cent of the ideal (100), giving it a shortfall of 32.6 percentage points below the best performing country, Sweden (89.9). Thus, the Index provides a measure of the potential that each country has to match the best-performing country in the sample, but it also shows that there is scope for improvement, even in the top-ranked countries.

When comparing the ranking of different countries, one must also take into account the statistical significance of the difference in values between these countries. As a rule of thumb, a 10 percentage point difference between values can be considered as statistically significant. Therefore, the difference in ranking between Sri Lanka (36) and China (35) is negligible because of the small point difference (0.1) between them.

A careful analysis of the indicators can provide valuable lessons on gaps and scope for progress with respect to older people's wellbeing. For example, overall, Sri Lanka (36) ranks well above India (73). However, for income security, India (54) does better than Sri Lanka (67). It is in the areas of education and employment and enabling environments that the gap between the two countries is greatest.

3.2 Discussion of the findings

Stand-out countries

Global ranking of countries sets apart Nordic, Western European and North American countries in the top ten, together with Japan. Many African and East Asian countries, as well as Pakistan, Afghanistan and Jordan come lowest in the ranking.

Appendix A3 shows the overall ranking for the 91 countries covered. The countries that rank at the top are the three Nordic countries – Sweden (1), Norway (2) and Iceland (9) – as well as another three countries from Western Europe – Germany (3), the Netherlands (4) and Switzerland (6) – and two countries of North America – Canada (5) and the United States (8) – and Japan (10).

These countries, as well as Australia (14) and New Zealand (17), fare particularly well in the domains of health status and employment and education. Austria (11), Ireland (12), the UK (13) and Australia (14) are also among the top-ranked countries. Chile (19) and Slovenia (20) are stand-out countries among the top-ranked countries, being in the top 20, above Spain (22) and Italy (27). In contrast, many African and East Asian countries, as well as Jordan (88), Pakistan (89) and Afghanistan (91) are ranked lowest. These countries fare worse particularly in the enabling environment domain.

Country comparisons

Comparing pairs of countries identifies specific areas of strengths and weaknesses in terms of promoting the wellbeing of older people.

Southern European countries, particularly Cyprus (57) and Greece (58), are ranked particularly low in comparison with other European countries. However, these two countries, despite having similar overall rankings, are different with respect to the individual domains. Cyprus does better than Greece in the health status and enabling environment domains, whereas

Greece does better in the income security domain. Both these countries are ranked considerably better than Turkey (70), where the deficit can be seen particularly in terms of employment and education of older people.

Among other European countries, Poland (62) is ranked worse, even though its economy has been growing well in comparison with other large economies of EU countries. Poland does comparatively worse in the health status domain; in particular, the psychological wellbeing indicator places older people (aged 50-plus) in a much worse position than the younger population (aged 35-49).

China and Sri Lanka are ranked 35 and 36 respectively, considerably above India (73). India's relatively worse position is largely driven by a lower life expectancy at age 60 of 17 years (three years less than China and Sri Lanka) and, similarly, lower health-adjusted life expectancy at age 60 (four years less than China and three years less than Sri Lanka). However, an interesting finding is that India scores better than Sri Lanka in the income security domain. India's position in the employment and education domain is also relatively worse.

Useful social policy lessons can be learnt from the fact that Sri Lanka outperforms other South Asian countries in terms of the health status of its older people, despite the fact that it is not the richest in the region. Sri Lanka's position indicates that policy choices can have positive impacts on society as a whole as well as on the wellbeing of older populations, whatever the country's level of overall development. Good social policies introduced in middle-income countries, such as Sri Lanka, offer lessons not just to other countries at a similar stage of economic development but also to more developed countries that can do more to improve the relative position of older people.

11. Rankings and values for the individual indicators are available on the Global AgeWatch website at: www.globalagewatch.org

Human development

A comparison with the latest UNDP's Human Development Index shows that high human development countries mostly do well with respect to the wellbeing of older people.

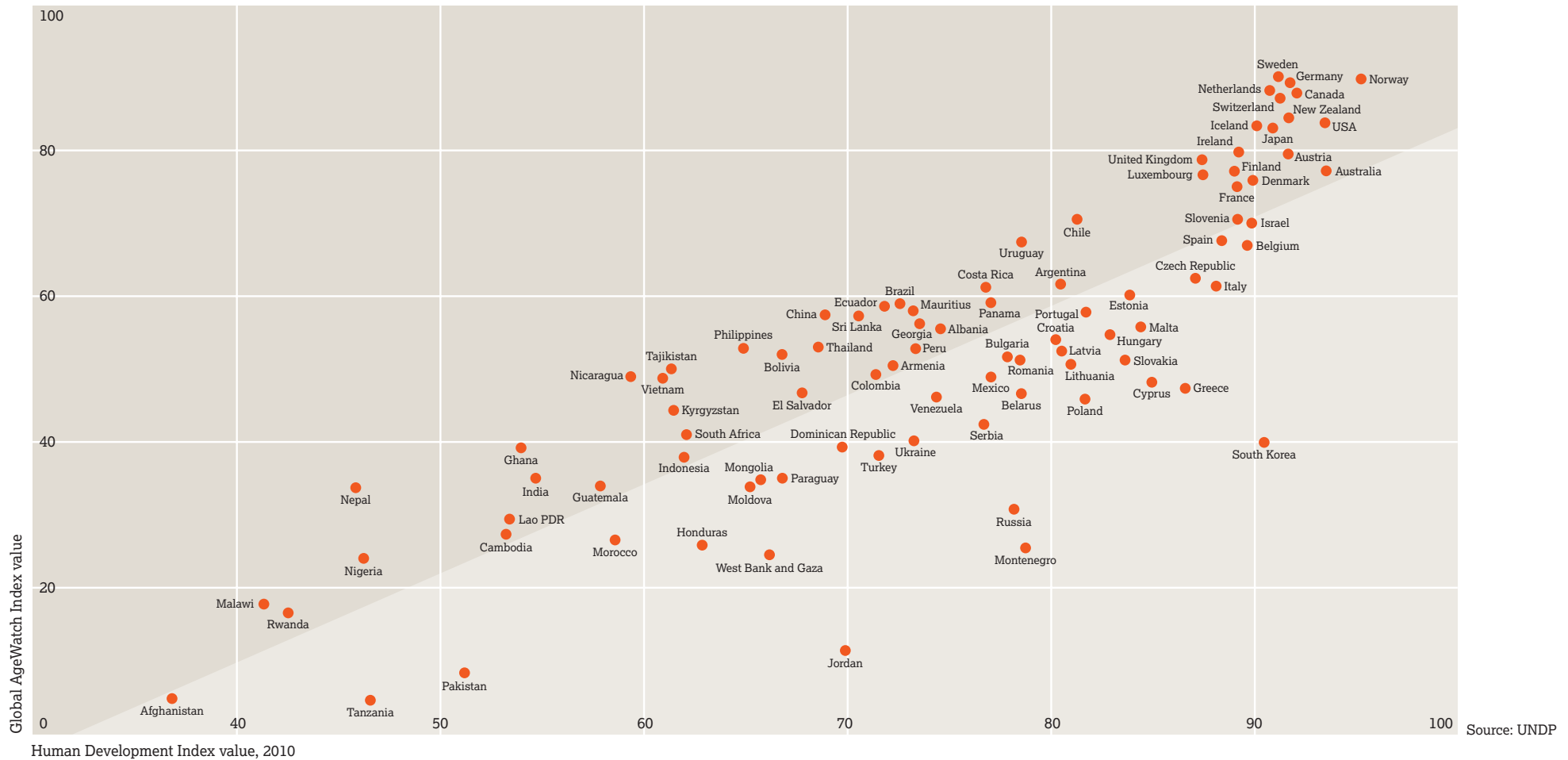
Figure 2 shows that the high HDI countries of Europe and North America – Canada (5) and USA (8) – also do well in

terms of the Global AgeWatch Index. That said, there is no one-to-one relationship, as some European countries – Belgium (24), the Czech Republic (25), Italy (27), Hungary (40) and Greece (58) – score notably worse in the Global AgeWatch Index despite having comparably high HDI rankings.

Sri Lanka does remarkably well in both the HDI and the Global AgeWatch Index (30). Another South Asian

country, Pakistan, on the other hand, ranks at the bottom in both the HDI and the Global AgeWatch Index (89) – worse than many African countries and considerably below Sri Lanka. An in-depth comparison of Sri Lanka and Pakistan could help to identify policy interventions that may be successful in Pakistan to improve its record on human development and older people's wellbeing.

Figure 2: Global AgeWatch Index and Human Development Index



Population ageing

The findings from the Global AgeWatch Index imply that Eastern European countries need to make additional policy reforms, given their current and future challenges linked with population ageing.

A comparison between the Global AgeWatch Index and the most commonly used indicator of population ageing (share of population aged 60 or more) shows how

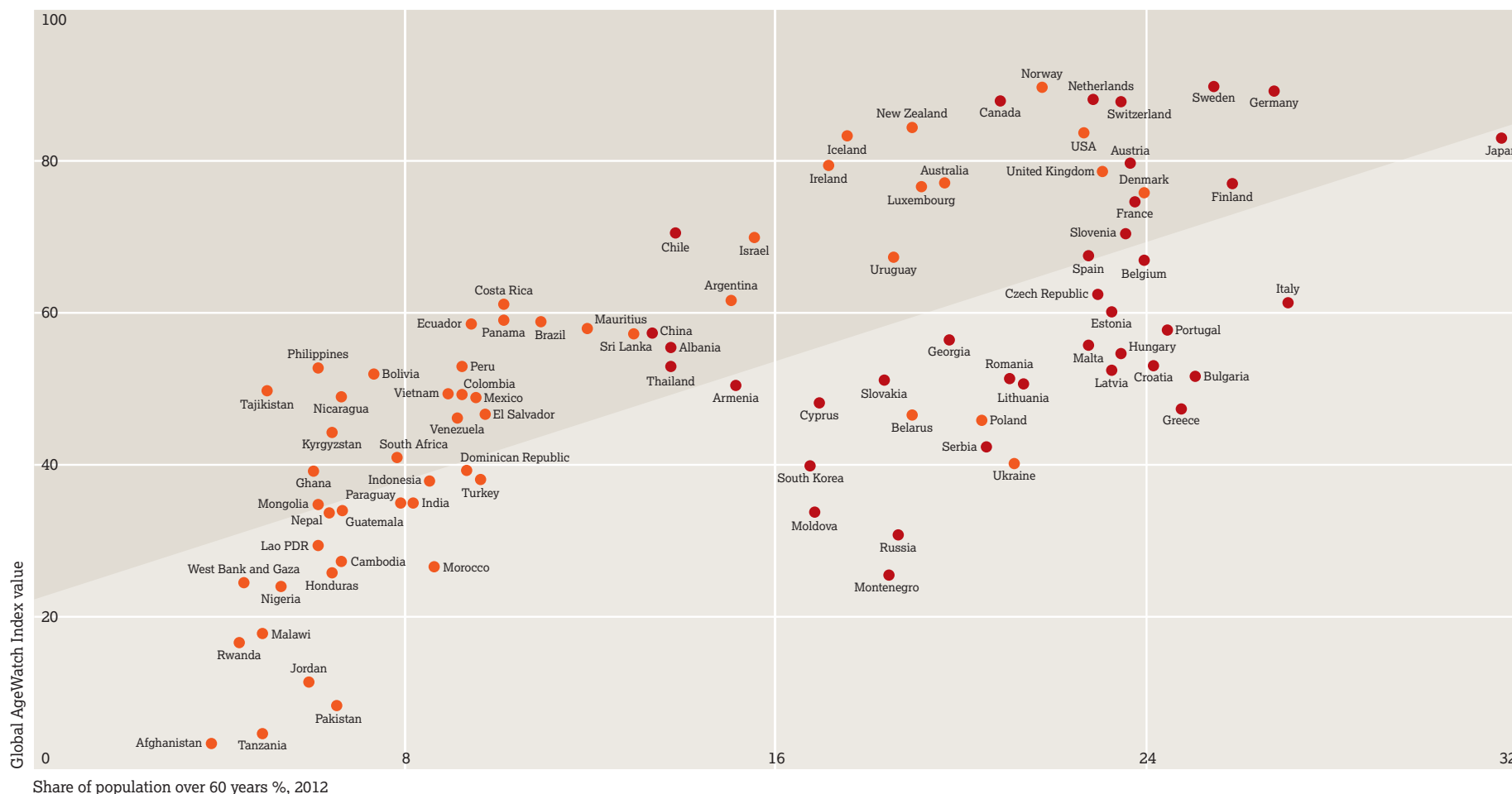
countries facing greater population ageing challenges score in terms of older people's wellbeing (see Figure 3).

Latin American countries – which face a doubling of their older population between now and 2050 – feature strongly in the top 30 countries of the Global AgeWatch Index, where Chile (19), Uruguay (23), Argentina (26), Costa Rica (28) and Panama (30) all appear, and Chile makes it into the top 20. However, this is not the case

with Paraguay (72) and Guatemala (75) as they perform less well than some of their neighbours.

Eastern European countries also face greater population ageing challenges but score low values of the Index, as low as many Central Asian countries. Ukraine (66) and Russia (78) are ranked particularly worse, although both these countries already have a high proportion of older people.

Figure 3: Global AgeWatch Index and proportion of population aged 60-plus



Source: UNDESA Population Division, Population Ageing and Development 2012, Wall Chart, 2012

● Countries in which the share of people over 60 will reach more than 30% by 2050

Relationship with inequality

There is generally a weak correlation between the Global AgeWatch Index and the inequality index.

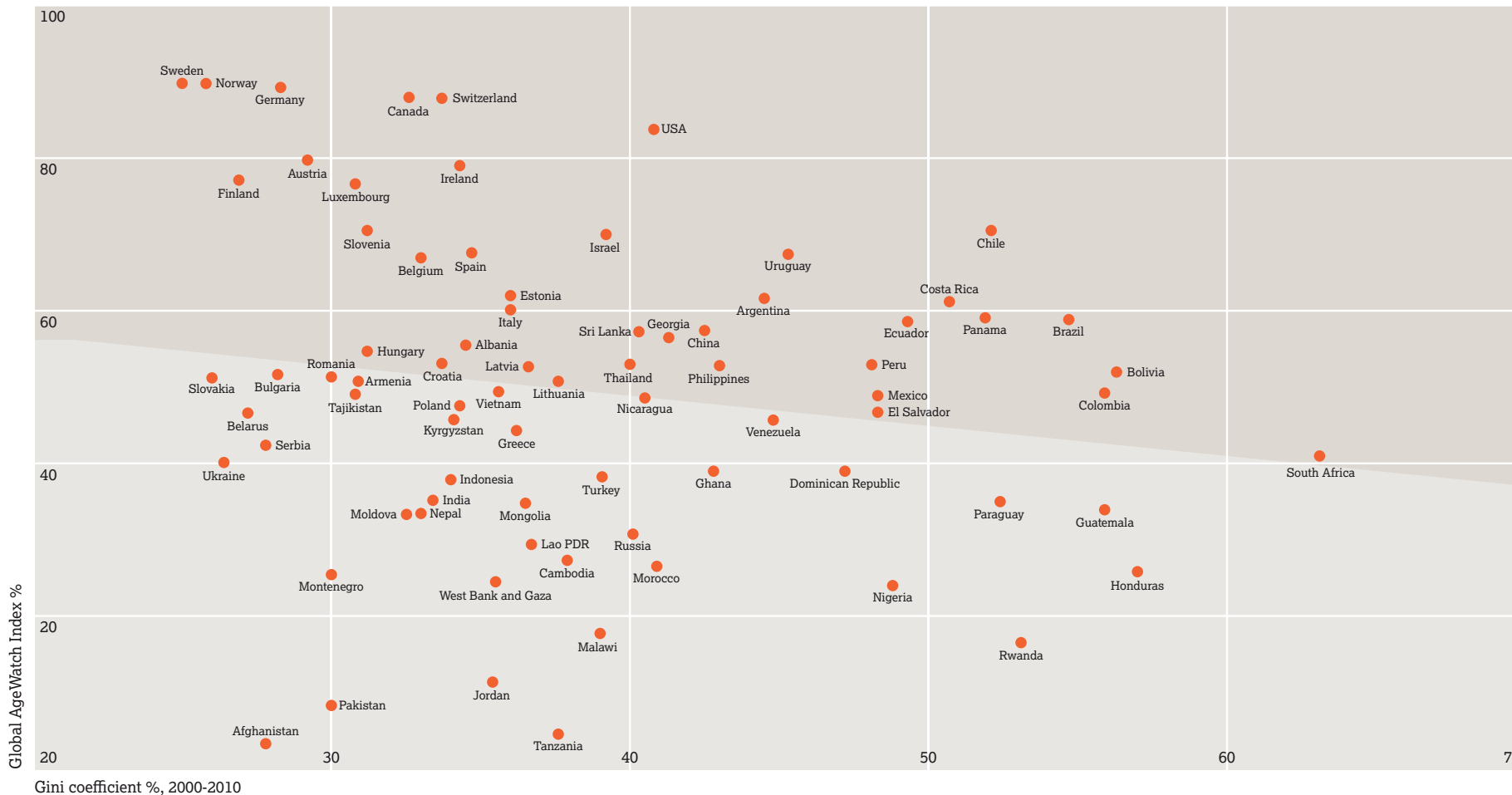
Analysing the relationship between the Global AgeWatch Index and income inequality (as measured by the Gini coefficient) shows that there is generally a weak correlation between the two indexes (see Figure 4).

Nonetheless, low-inequality countries of Europe – Sweden (1), Norway (2), Germany (3) and Netherlands (4) – and North America (Canada (5) and USA (8)) – do well in the Global AgeWatch Index.

Similarly, low-inequality countries of Latin America such as Uruguay (23) and Venezuela (61) perform better in the Global AgeWatch Index than high-inequality countries in

the same region, such as Paraguay (72), Guatemala (75) and Honduras (82).

Figure 4: Global AgeWatch Index and inequality



Source: Human Development Report 2013

Australia, Czech Republic, Cyprus, Denmark, France, Japan, Iceland, Mauritius, New Zealand, Portugal and South Korea are not included because they are not in the GINI data for the Human Development Report.

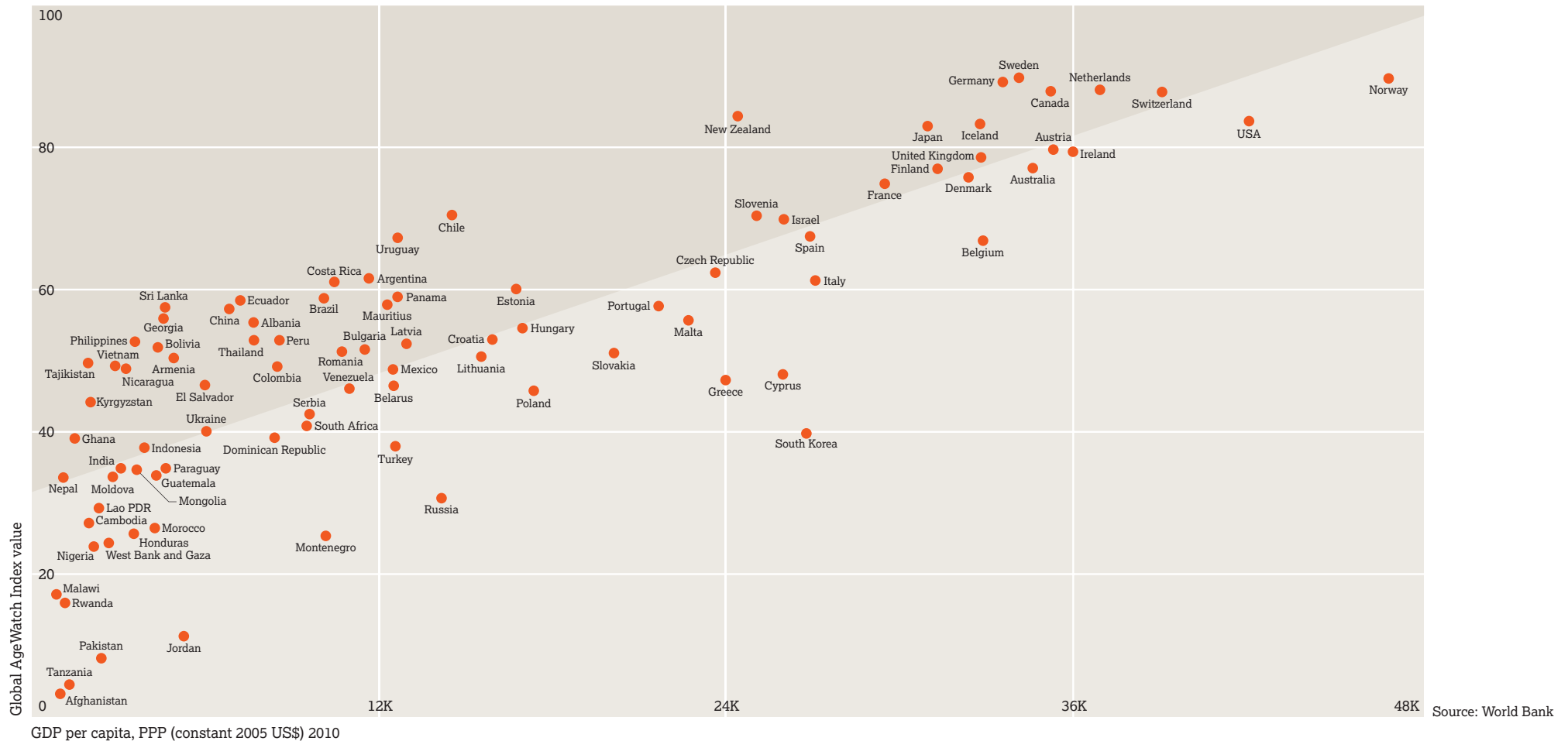
National wealth

Some countries fare much better in terms of older people's wellbeing than warranted by their national wealth (as measured by GDP per capita). In particular, Chile, New Zealand, Sri Lanka and Uruguay can be noted to have addressed issues linked with population ageing and the wellbeing of older people.

The relationship between GDP per capita (a proxy of a country's wealth and standard of living of its people) can be foreseen, not least because one of the indicators in the Global AgeWatch Index is GDP per capita. However, it can be seen from Figure 5 that there is no one-to-one relationship between the two indexes. Some countries fare much better in terms of older people's wellbeing than warranted by their wealth. Chile (19), Uruguay (23) and

Sri Lanka (36), for example, do disproportionately better than their national wealth would suggest. Spain (22) and Italy (27), on the other hand, score relatively worse in comparison with New Zealand (7), despite having similar levels of national wealth. Belgium (20) also falls within this category in comparison with two other European countries – Germany (3) and the United Kingdom (13).

Figure 5: Global AgeWatch Index and GDP per capita



4. Concluding remarks

This paper highlights the purpose of the Global AgeWatch Index 2013 to serve as a framework for research and analysis on the economic and social wellbeing of older people globally.

The context of the demographic transition and the phenomenon of population ageing is well known and makes clear the need for high-quality evidence on which to base policies and programmes aimed at improving people's experience of ageing and the wellbeing of older people. This need has become urgent as the pace of population ageing in many low-income and emerging economies has increased, and thus the issues associated with population ageing are no longer the sole concern of developed economies. Without doubt, the better the evidence, the easier it is to formulate policy responses and, in so doing, persuade policy-makers and educate the public about the need for and the benefits of such policy responses.

The Index is a central part of HelpAge International's Global AgeWatch programme, the core aim of which is to provide data and analysis on population ageing to support policies that deliver the rights of older people. The Global AgeWatch Index project provides quantitative evidence required for policy dialogue and advocacy. It aims to engage key stakeholders in using data on ageing and so influence the implementation of policies that will improve people's experience of ageing and improve the quality of life and wellbeing of older people.

The Index emphasises the importance of making use of currently available, internationally comparable, age-disaggregated data. However, it also exposes the scarcity of current data on older people in many countries and the inadequacy of internationally comparable data sets to capture issues of ageing worldwide. Such data gaps raise genuine concerns about the capacity of governments and other stakeholders to make informed and appropriate policy decisions affecting older people.

This paper describes the conceptual considerations inherent in the choice of the four domains used in the Index. It explains how we drew insights from approaches that emphasise the right to an adequate level of income and the aspiration towards healthy ageing. A review of the capability approach, the concept of vulnerability and the human development framework using a gerontology lens provided the inspiration for adding the domains of enabling attributes of older people (in terms of employment and education) and the enabling environments for older people (such as social connections with friends and relatives, physical safety and accessibility to public services such as transport). In undertaking the empirical work, the choice of indicators for these four domains was restricted by the absence of internationally comparable, age-disaggregated data. Nonetheless, sufficient data was available for 13 of the most pertinent indicators of older people's wellbeing for 91 countries. It is fair to assume that the Index provides the "best outcome possible", given the data constraints, rather than the utopian "best possible outcome".

The results, which are described in Section 3, lead us to identify the contexts in which older people fare well. Results for Western European and Scandinavian welfare states show that a long record of progressive social welfare policies for all citizens across the life-course has paid dividends in raising the quality of life and wellbeing of older people in these countries. Other countries in which non-contributory pensions have become part of social welfare programmes (such as Argentina, Bolivia, Chile, Mauritius and Uruguay), or in which near-universal healthcare coverage and services have been available (such as Bolivia, Chile and Costa Rica) offer the most effective responses to the challenges presented by population ageing. Results for some other low- or middle-income countries, such as Sri Lanka, show that limited resources do not have to be a barrier to providing for their older citizens. Likewise, evidence from other countries, such as in India, Korea, Nigeria and Poland, suggests that a strong economic performance does not necessarily "trickle down" to improve the quality of life and wellbeing of older people.

Over time, the Index will be developed further to capture additional perspectives of the quality of life and wellbeing of older people, ideally based on international data. Specifically, we will seek to include a domain on the political and civil rights of older people, and to include separate results for men and women. Expanding country coverage to include all UN Member States is of prime importance. Including better data will also be a priority, as well as reviewing the indicators used for the Index.

The Global AgeWatch Index 2013 is the beginning of a process that will produce a better understanding of the lives of older people around the world. It presents, for the first time in an accessible way, a set of indicators of key dimensions of older people's experience in a range of different socio-economic contexts. Our hope is that the approach we have taken and the results of the Index will help to ground global, regional and country debates on ageing and the wellbeing of older people with a shared and realistic understanding of these issues, and lead to a better quality of life for older people everywhere.

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Appendix A1: Objectives, definitions and sources of indicators

\$ Income security

1.1 Pension income coverage

Objective	This indicator measures the existence and coverage of the pension system in a country.
Definition	This indicator is what is commonly known as “beneficiaries coverage rate”. It is defined as the ratio of beneficiaries of pension programmes (including non-contributory or zero pillars programmes, both public and private) to the number of people aged 65-plus. Since in some countries the age threshold of 65 is higher than the age at which people become entitled to a pension, it is likely that the indicator value will be in excess of 100% for some countries. To avoid these countries having an additional advantage, an upper threshold of 100 has been imposed on this indicator’s value. This indicator is missing for Indonesia, South Africa and Tanzania.
Data source	World Bank, Social Protection and Labor, Pensions, Performance: Beneficiaries Coverage, http://datatopics.worldbank.org/aspire Except Israel: Review of the private pension system (p.25) www.oecd.org/finance/private-pensions/49498122.pdf Except Cyprus: Results drawn from Pension Watch Year: Latest available

1.2 Poverty rate in old age

Objective	This indicator measures the poverty of older people, using the relative poverty definition.
Definition	Percentage of people aged 60-plus living in households where the equivalised income/consumption is below the poverty line threshold of 50% of the national equivalised median income/consumption (equivalising factor is the square root of household size)
Data source	World Bank, The Atlas of Social Protection: Indicators of Resilience and Equity (unpublished data) ^a http://datatopics.worldbank.org/aspire Year: Latest available OECD, Statistics, Social Protection and Well-being, Income Distribution and Poverty, Poverty rate after taxes and transfers, Poverty line 50% ^b http://stats.oecd.org/Index.aspx?QueryId=47991 Accessed: 29 May 2013 Year: 2010 or latest available Eurostat, At-risk-of-poverty rate by poverty threshold, age and sex (source: SILC [ilc_li02]) ^c Year: 2010

1.3 Relative welfare of older people

Objective	This indicator measures the income/consumption situation of older people in relation to the rest of the population.
Definition	Average income/consumption of people aged 60-plus as a share of average income/consumption for the rest of society.
Data source	World Bank, The Atlas of Social Protection: Indicators of Resilience and Equity (unpublished data) ^a http://datatopics.worldbank.org/aspire Year: Latest available Eurostat: Relative median income ratio (60+) (source: SILC [ilc_pns2]) ^d Year: Latest available OECD, Statistics, Social Protection and Well-being, Income Distribution and Poverty, Median disposable income (constant prices) ^e http://stats.oecd.org/Index.aspx?QueryId=47991 Accessed: 29 May 2013 Year: 2011 or latest available Except China: OECD Pensions at a Glance Asia/Pacific 2011, p.54 Except Russia: OECD Pensions at a Glance 2011, p.342

1.4 GDP per capita

Objective	This serves as a proxy for the standard of living of people in a country. It aims to provide a comparison across countries and complement the age-sensitive indicator, relative welfare of older people. The use of GDP per capita indicator implies that all citizens, old and young, would benefit equally from increased economic production in a country.
Definition	A measure of the total output of a country that takes the gross domestic product (GDP) and divides it by the number of people in the country. GDP per capita was converted to international dollars using purchasing power parity rates (PPP). PPP are in constant 2005 international dollars.
Data source	World Bank ^f http://data.worldbank.org/indicator/NY.GDP.PCAP.PP.KD Accessed: 21 May 2013 Year: 2010

Appendix A1: continued

+ Health status

2.1 Life expectancy at 60

Objective	This indicator measures how many years a person aged 60 can expect to live.
Definition	The average number of years that a person aged 60 can expect to live, if they pass through life exposed to the sex- and age-specific death rates prevailing at the time they are aged 60, for a specific year, in a given country.
Data source	WHO, Global Health Observatory Data Repository http://apps.who.int/gho/data/node.main.688?lang=en Accessed: 10 April 2013 Year: 2011

2.2 Healthy life expectancy at 60

Objective	Healthy life expectancy at 60 measures how many years a person of 60 can expect to live in good physical health.
Definition	The average number of years that a person aged 60 can expect to live in “full health” by taking into account years lived in less than full health due to disease and/or injury.
Data source	Global Burden of Disease Study 2010, The Institute for Health Metrics and Evaluation http://ghdx.healthmetricsandevaluation.org/record/global-burden-disease-study-2010-gbd-2010-healthy-life-expectancy-1990-2010 Accessed: 11 April 2013 Year: 2010

2.3 Relative psychological wellbeing

Objective	Mental health is a critical indicator of wellbeing in later life. This indicator measures self-assessed mental wellbeing and supplements the healthy life expectancy indicator which relies on physical health only.
Definition	Share of people over 50 who answered “yes” to the question: “Do you feel your life has an important purpose or meaning?” Expressed as the percentage of people aged 50+ who answered “yes” to this question divided by the percentage of people aged 35-49 who answered “yes”.
Data source	Gallup WorldView https://worldview.gallup.com Accessed: 10 April 2013 Year: 2011 or latest available

Appendix A1: continued

Education and employment

3.1 Labour market engagement of older people (employment rate)

Objective This indicator measures older people's access to the labour market and therefore their ability to supplement pension income with wages, and their access to work-related support networks. Thus, employment rate is used as a proxy for the economic empowerment of older people.

Definition Percentage of the population aged 55-64 that are employed.

Data source ILO Employment by age and sex, Population
http://www.ilo.org/ilostat/faces/home/statisticaldata/data_by_subject?_adf.ctrl-state=110lx1px7r_420&_afLoop=2593264645623189
Accessed: 22 April 2013
Year: 2010 or latest available

ILO Key Indicators of the Labour Market, Labour force participation rate^a
www.ilo.org/empelm/what/WCMS_114240/lang--en/index.htm
Accessed: 10 April 2013
Year: 2012

Cambodia, Morocco, Vietnam employment rate is from UN data
<http://data.un.org/Data.aspx?q=population&d=POP&f=tableCode%3a321>
Year: 2010

3.2 Educational attainment of older people

Objective Key competencies in the form of knowledge, skills and attitudes improve quality of life in older age. Education is a proxy of lifetime accumulation of skills and competencies that shows the social and human capital potential inherent among older people.

Definition Percentage of the population aged 60+ with secondary or higher education.

Data source Barro and Lee
<http://barrolee.com>
Accessed: 3 April 2013
Year: 2010

Appendix A1: continued

Enabling environment

4.1 Social connections	
Objective	This indicator measures the perceived support available from relatives or friends.
Definition	Percentage of people aged 50+ who responded “yes” to the survey question: “If you were in trouble, do you have relatives or friends you can count on to help you whenever you need them, or not?”
Data source	Gallup WorldView https://worldview.gallup.com Accessed: 10 April 2013 Year: 2012 or latest available

4.1 Social connections	
Objective	This indicator measures how safe people feel in their neighbourhood.
Definition	Percentage of people aged 50+ who responded “yes” to the survey question: “Do you feel safe walking alone at night in the city or area where you live?”
Data source	Gallup WorldView https://worldview.gallup.com Accessed: 10 April 2013 Year: 2012 or latest available

a. World Bank data for the following countries: Afghanistan, Albania, Argentina, Armenia, Belarus, Bolivia, Brazil, Bulgaria, Cambodia, Chile, Colombia, Costa Rica, Croatia, Dominican Republic, Ecuador, El Salvador, Georgia, Ghana, Guatemala, Honduras, Hungary, India, Jordan, Kyrgyz Republic, Lao PDR, Lithuania, Malawi, Mauritius, Mexico, Moldova, Mongolia, Montenegro, Morocco, Nepal, Nicaragua, Nigeria, Pakistan, Panama, Paraguay, Peru, Philippines, Poland, Rwanda, Serbia, Slovakia, Sri Lanka, Tajikistan, Thailand, Turkey, Ukraine, Uruguay, Venezuela, Vietnam, West Bank and Gaza.

b. OECD data for the following countries: Australia, Austria, Belgium, Canada, Czech Republic, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Japan, South Korea, Luxembourg, Netherlands, New Zealand, Norway, Portugal, Spain, Sweden, Switzerland, United Kingdom, United States. Israel: Society at a glance 2011: OECD social indicators, www.oecd.org/berlin/47570121.pdf (p.64).

c. Eurostat data for the following countries: Cyprus, Estonia, Latvia, Malta, Romania, Slovenia. Tanzania data was taken from Mboghoina, T. and Osberg, L., *Social Protection of the Elderly in Tanzania: Current Status and Future Possibilities*, (p.1). Russia and China data was taken from the CSIS Global Aging Preparedness Index (<http://csis.org/publication/global-aging-preparedness-index>). South Africa: LIS (www.lisdatacenter.org/lis-ikf-webapp/app/search-ikf-figures), relative poverty rates – elderly, 50%, 2010. Indonesia: ‘Social assistance needs of poor and vulnerable older people in Indonesia’ (p.79).

4.3 Civic freedom	
Objective	This indicator measures how much control older people feel they have over their life.
Definition	Percentage of people aged 50+ who provided a positive response to the survey question: “In this country, are you satisfied or dissatisfied with your freedom to choose what you do with your life?”
Data source	Gallup WorldView https://worldview.gallup.com Accessed: 10 April 2013 Year: 2012 or latest available

4.4 Access to public transport	
Objective	This indicator measures access to and quality of public transport which is key to older people’s quality of life, enabling them to access services (health, shops) and friends and family.
Definition	Percentage of people aged 50+ who provided a positive response to the survey question: “In the city or area where you live, are you satisfied or dissatisfied with the public transportation systems?”
Data source	Gallup WorldView https://worldview.gallup.com Accessed: 10 April 2013 Year: 2012 or latest available


d. Eurostat: Austria, Belgium, Czech Republic, Cyprus, Denmark, Estonia, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Latvia, Luxembourg, Malta, Netherlands, Norway, Portugal, Romania, Slovenia, Spain, Sweden, Switzerland, United Kingdom.

e. OECD: Australia, Canada, Israel, Japan, Republic of Korea, New Zealand, United States.

f. For Luxembourg, this indicator is kept as missing because it is a statistical “outlier” – thus, for the consideration of maxima, the GDP per capita value for Luxembourg is not considered.

g. Due to lack of age-disaggregated data on employment, the Labour Force Participation (LFP) rate was used instead for the following countries: Afghanistan, China, Ghana, India, Jordan, Lao PDR, Malawi, Nepal, Nigeria, Pakistan, Panama, Rwanda, Sri Lanka and Tanzania. The standardisation of the indicators made it possible for the scale differences between employment rate and the LFP not to affect the comparison.

Appendix A2: Summary statistics of raw data on individual indicators

	Mean	Standard deviation	Maximum	Minimum
 Income security				
1.1 Pension income coverage	68.2	37.0	100.0	3.2
1.2 No poverty in old age (%)	85.4	8.9	98.6	51.4
1.3 Relative welfare of older people	90.3	14.0	110.0	45.1
1.4 GDP per capita (US\$)	14,854	12,235	46,906	780

Health status

2.1 Life expectancy at 60 (years)	20.9	2.8	26.0	16.0
2.2 Healthy life expectancy at 60 (years)	16.0	2.0	20.3	9.2
2.3 Psychological wellbeing (age groups: 50+/35-49)	0.90	0.11	1.09	0.60





Education and employment

3.1 Employment rate (age group: 55-64)	44.8	26.7	99.4	2.8
3.2 Educational attainment (secondary or higher; age group: 60+)	53.2	13.7	79.9	20.9





Enabling environment





4.1 Social connections (age group 50+)	77.9	15.3	97.0	41.0
4.2 Physical safety (age group 50+)	60.9	16.1	94.0	27.0
4.3 Civic freedom (age group 50+)	71.6	18.5	98.0	31.0
4.4 Access to public transport (age group 50+)	56.3	16.4	89.0	23.0

Appendix A3: Rankings and values of the Index (overall and for each domain)

	Overall rank and value		 Income security		 Health status		 Employment and education		 Enabling environment	
	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value
Sweden	1	89.9	8	87.0	7	74.8	5	74.3	5	83.3
Norway	2	89.8	3	91.4	13	73.5	1	85.4	22	76.2
Germany	3	89.3	9	86.1	6	75.2	6	73.7	6	82.8
Netherlands	4	88.2	4	90.9	18	71.3	11	66.2	1	85.6
Canada	5	88.0	26	81.1	2	80.3	9	69.6	9	82.3
Switzerland	6	87.9	28	80.6	1	81.3	12	66.1	4	84.0
New Zealand	7	84.5	43	72.7	3	78.7	7	71.1	13	80.2
USA	8	83.8	36	77.9	24	70.1	2	76.6	16	78.2
Iceland	9	83.4	15	84.7	9	74.2	18	58.5	7	82.5
Japan	10	83.1	27	80.7	5	76.9	10	66.2	19	77.2
Austria	11	79.8	5	88.2	17	72.7	42	45.5	2	85.3
Ireland	12	79.5	24	81.9	14	73.1	32	49.4	3	84.0
United Kingdom	13	78.7	10	85.8	19	71.0	24	53.8	17	78.1
Australia	14	77.2	57	57.2	4	78.2	4	76.3	25	73.5
Finland	15	77.1	14	84.8	21	70.8	27	51.4	18	77.4
Luxembourg	16	76.7	1	98.2	16	72.7	55	38.4	11	81.2
Denmark	17	75.9	21	82.3	40	57.5	20	55.7	10	82.2
France	18	75.0	2	93.2	31	63.6	41	45.6	15	78.8
Chile	19	70.6	42	74.2	10	74.2	23	53.9	39	67.1
Slovenia	20	70.5	22	82.0	32	63.2	51	39.3	12	80.7
Israel	21	70.0	56	58.4	20	70.9	13	63.7	31	69.8
Spain	22	67.6	31	79.7	39	57.6	50	39.4	14	79.1
Uruguay	23	67.4	18	83.3	33	63.1	29	51.1	42	65.4
Belgium	24	67.0	41	74.4	23	70.2	45	41.9	29	70.3
Czech Republic	25	62.5	13	85.4	38	58.5	22	54.2	61	58.6
Argentina	26	61.7	11	85.7	37	59.4	34	48.7	59	59.4
Italy	27	61.4	6	88.0	15	73.0	62	33.1	53	61.9
Costa Rica	28	61.2	60	53.3	11	74.2	48	40.4	34	69.1
Estonia	29	60.2	35	78.0	58	44.5	8	70.7	62	58.4
Panama	30	59.1	55	59.2	25	69.8	46	41.8	48	63.4

Appendix A3: continued

	Overall rank and value		 Income security		 Health status		 Employment and education		 Enabling environment	
	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value
	Brazil	31	58.9	12	85.7	41	56.8	68	31.5	40
Ecuador	32	58.6	58	54.8	12	73.8	49	39.7	44	64.3
Mauritius	33	58.0	7	87.2	56	45.0	66	32.2	26	71.8
Portugal	34	57.8	17	83.4	29	67.4	76	24.6	37	67.4
China	35	57.4	66	46.2	51	52.0	40	45.7	24	74.6
Sri Lanka	36	57.3	67	44.9	45	55.1	37	47.9	27	71.3
Georgia	37	56.5	45	72.1	68	37.7	14	62.9	54	61.6
Malta	38	55.8	37	76.8	27	68.0	77	24.4	41	65.7
Albania	39	55.5	23	82.0	63	39.6	30	51.0	56	60.6
Hungary	40	54.7	19	83.2	57	45.0	39	47.0	65	57.8
Croatia	41	53.1	51	61.3	43	56.5	52	39.1	57	60.0
Thailand	42	53.0	59	53.3	46	55.0	78	22.7	8	82.4
Peru	43	53.0	65	46.7	30	64.2	31	50.0	67	57.5
Philippines	44	52.8	73	37.5	70	36.9	17	58.6	21	76.3
Latvia	45	52.5	33	79.2	62	40.6	15	62.3	77	53.3
Bolivia	46	52.0	48	67.0	60	41.3	25	52.8	64	57.8
Bulgaria	47	51.7	32	79.4	59	44.2	44	44.0	71	56.2
Romania	48	51.4	29	80.6	64	38.6	38	47.1	68	57.1
Slovakia	49	51.2	16	84.1	53	47.8	36	48.6	81	52.0
Lithuania	50	50.7	47	67.6	52	48.2	16	59.5	83	51.6
Armenia	51	50.5	40	75.3	75	33.0	3	76.5	80	52.6
Tajikistan	52	49.8	50	66.2	79	31.3	28	51.1	50	62.4
Vietnam	53	49.4	64	47.5	36	59.8	75	24.9	32	69.7
Colombia	54	49.3	68	44.9	26	69.5	63	32.7	58	59.5
Nicaragua	55	49.0	74	35.8	42	56.7	65	32.5	28	70.8
Mexico	56	48.9	70	41.0	35	60.7	58	36.0	51	62.0
Cyprus	57	48.2	80	22.0	22	70.7	47	40.6	30	70.2
Greece	58	47.4	25	81.2	47	54.1	61	33.4	82	51.6
El Salvador	59	46.7	72	38.9	34	62.7	72	28.2	46	64.1
Belarus	60	46.6	44	72.1	80	31.0	57	37.6	52	61.9

	Overall rank and value		 Income security		 Health status		 Employment and education		 Enabling environment	
	Rank	Value	Rank	Value	Rank	Value	Rank	Value	Rank	Value
	Venezuela	61	46.2	63	49.4	28	67.7	64	32.6	74
Poland	62	45.9	20	82.6	87	23.9	54	38.8	43	64.8
Kyrgyzstan	63	44.3	49	66.8	83	27.5	26	51.7	70	56.3
Serbia	64	42.4	52	60.7	54	47.1	71	28.7	73	54.0
South Africa	65	41.0	46	69.2	74	33.2	60	34.2	75	53.7
Ukraine	66	40.2	39	75.3	77	31.8	35	48.7	86	48.3
South Korea	67	39.9	90	8.7	8	74.5	19	56.3	35	68.3
Dominican Rep.	68	39.3	79	22.3	49	52.3	69	31.3	45	64.2
Ghana	69	39.2	81	21.3	67	38.3	33	48.8	49	63.1
Turkey	70	38.1	30	79.7	66	38.3	84	14.5	60	58.7
Indonesia	71	37.9	83	16.7	65	38.5	59	35.6	20	76.6
Paraguay	72	35.0	86	15.0	44	55.8	53	38.9	66	57.6
India	73	35.0	54	59.4	85	24.4	73	27.9	72	56.1
Mongolia	74	34.8	38	75.7	89	20.6	56	38.3	85	51.3
Guatemala	75	34.0	77	23.5	50	52.1	81	17.7	47	63.5
Moldova	76	33.8	53	59.9	71	35.1	43	44.7	89	45.0
Nepal	77	33.7	62	49.9	82	29.4	79	22.0	69	56.5
Russia	78	30.8	69	43.0	78	31.3	21	55.7	90	44.4
Lao PDR	79	29.4	76	24.1	81	29.9	82	15.8	33	69.2
Cambodia	80	27.3	85	16.4	88	23.2	80	21.2	23	75.0
Morocco	81	26.6	71	39.0	76	31.8	83	14.7	84	51.4
Honduras	82	25.8	88	9.6	48	53.9	74	27.8	78	53.2
Montenegro	83	25.5	34	78.1	55	45.9	89	6.7	87	47.4
West Bank & Gaza	84	24.5	78	22.9	72	34.1	86	10.2	55	60.6
Nigeria	85	24.0	87	14.2	84	26.4	70	30.5	76	53.6
Malawi	86	17.8	89	9.5	86	24.1	85	13.9	63	57.8
Rwanda	87	16.6	82	19.0	90	19.3	90	5.3	38	67.2
Jordan	88	11.4	61	52.7	61	40.9	91	1.6	36	68.0
Pakistan	89	8.3	84	16.7	69	37.7	67	32	91	39.8
Tanzania	90	4.6	91	2.1	73	33.7	88	7.3	79	52.9
Afghanistan	91	3.3	75	24.2	91	7.6	87	9.4	88	46.2

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