

**Projections and Relevant Effects of
Demographic Implications, Changes, and
Trends
(PREDICT)**

Executive Summary

Interim Report Three

**Trends in other dimensions and their interaction
with demographic trends**

Note on the Report

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EXECUTIVE SUMMARY

This report focuses on the interactions between the main population changes projected through 2035 and trends in other dimensions. Moving from the findings of Interim Report 2, the report explores primary trends in the economy, energy, the environment, health, technology, and politics, highlighting the causal mechanisms that underpin their interactions with demographic variables. Key findings include:

- The future global economy will be particularly influenced by developments in education, technological progress, and labor force participation. Over the next three decades, developing nations will become much stronger economically, wealthier, and more central to the global economy, although with different regional and national prospects. Regional trade partnerships will grow, and there will be a shift from Europe, the United States, and Japan, and toward China and India as emerging trade nodes. Global flows and stocks of capital will also increasingly shift toward the developing world, accelerating the displacement of the global distribution of wealth. However, wealth in both developing and developed nations will continue to be concentrated in the hands of a small percentage of the population, and poverty will continue to be a significant, though less dramatic, phenomenon, particularly in Sub-Saharan Africa.
- Population composition will have particularly salient implications for the labor force as the share of the working-age population (15–64 years range) declines, with potentially negative effects forecasted for labor force participation. Flows of migrant workers will substantially alter the distribution of income in sending and receiving economies alike. The shift in the economic balance toward the East and the South of the world will influence urbanization in emerging markets.
- As emerging countries continue to grow, both economically and demographically, non-OECD regions will acquire ever more relevance in global and regional energy markets as well. Different regions, and countries within regions, however, will see their levels of energy security affected in starkly different ways. Although Western Europe's energy demand will likely remain flat in the next 20 years, the region will become increasingly dependent on imported oil and gas; Eastern and Southern Asia (China and India *in primis*) will follow suit. By contrast, thanks to the extraction of shale gas and tight oil, North American countries (and the US in particular) are likely to return to levels of energy security not seen since the 1950s.
- Urbanization will have a direct impact on energy demand: on one hand, urbanized citizens tend to consume more energy; on the other, urbanized countries tend to be more efficient in the allocation of their energy supply, and to consume less energy per unit of gross domestic product. Energy availability can have direct and indirect effects on demography: for example on a country's healthcare levels (thereby affecting mortality and life expectancy), while global patterns of energy production can influence migration flows, as poor workers tend to move from energy-poor countries to energy-abundant ones.
- Climate change is real. By 2035 we expect that some consequences of climate change, such as the increase in extreme weather events, will directly affect human

activities and security in some regions. Other aspects of climate change, like increased temperatures and variations in precipitations, will also have significant indirect effects on many global goods, including basic needs such as food and water, contributing to worsening food security. Overall, the most affected areas will include Sub-Saharan Africa, South-East Asia and South Asia.

- Climate change is expected to have a significant impact on many demographic trends, and in particular on migration and urbanization dynamics. Such an impact could be direct (rising sea levels and extreme weather conditions will force people to migrate away from or to relocate low-lying coastal cities) or mediated by the consequences of climate change on the availability of food, water and land. Other environmental features, such as air pollution, also interact in complex ways with demographic developments, being affected by the huge increase in urban population foreseen in the developing world and registering a significant impact on living conditions in these areas.
- Health is a global issue, both because of the risks of contagion that disregard national borders and because of its impact on every society individually. Communicable diseases such as HIV/AIDS have received much attention in past years especially in Sub-Saharan Africa, through both education and therapy, but the outlook is still uncertain and very dependent on the policies enacted to tackle their spread. At the same time, the toll exacted by non-communicable diseases (NCD) in the developed regions has been increasing in recent years and is likely to do the same in the future also in developing regions creating new challenges for national health systems.
- Health and demography are very closely intertwined. The interactions between severe epidemics and pandemics on the one side, and demography on the other are as relevant as they are multi-faceted, and difficult, if not impossible, to predict. Epidemics affect deaths and mortality, but also births and fertility. From a policy perspective, integrated approaches that strengthen global health governance are needed to prevent and limit the disruptive effects on demography associated with the outbreak of epidemics. Similarly, measures to spread access to health services can affect the composition of the population, primarily in terms of age structure, decreasing child and maternal mortality and guaranteeing prevention and treatment of diseases later in life.
- Technology has been a key driver of societal transformations and economic innovation, as well as changes in the political and military fields in recent decades. Key Enabling Technologies (KETs) such as nanotechnology, micro- and nano-electronics, photonics, advanced materials and biotechnology are deemed to have a fundamental impact in bringing about “product, goods and services” which are likely to have significant impacts in the next two decades. Technological convergence and increased access to technologies also constitute important, and potentially disruptive, factors of change.
- Technology does play direct and indirect roles in shaping demographic dynamics. Indirectly, technology improves life conditions in developing countries, affecting well-being, and in turn life expectancy and other major demographic trends, such as fertility. Technology also has an impact on education, thus affecting health and reproductive dynamics. It can increase the sustainability of agriculture, affecting food and water availability over the long run. Finally, it creates new incentives for

the location of economic activities, which affects migration patterns, and provides new tools for controlling migration fluxes.

- Three potential sets of trends will mark politics in the coming decades, although all are associated with a high degree of uncertainty. The first relates to the nature of actors in international politics, and focuses on the changing role of states, the empowerment of non-state actors and the rising relevance of (mega)cities. The second major trend concerns the power shift that is taking place at the international level, with the emergence of Asia as the new epicenter of economic growth and demographic weight. How rapidly these assets will translate into political and military power, and how peaceful this power transition will be, are the main uncertainties surrounding this process. A third major trend is the decreasing level of homogeneity of the international system. From the multiplicity of actors involved, to the difficulties of spreading democratic governance and the resurgence of religion in the political arena, we expect a more diversified ideological landscape, in which existing and prevailing international norms could be increasingly questioned.
- Politics and demographics interact in different ways. On the one hand, many demographic trends have fundamental political consequences: while a large population is usually considered a crucial asset in terms of potential military power, ageing could significantly affect this potential; conversely, youth bulges could contribute to explaining cases of political instability, particularly when combined with other demographic phenomena such as urbanization dynamics or immigrations flows. Increasing education levels, combined with high youth unemployment and non-responsive regimes, can create further tensions. On the other hand, political events such as domestic conflicts or major wars have profound demographic consequences as they are assumed to alter mortality and fertility patterns and to generate flows of forced migration. Furthermore, political choices and actions at different levels, and by various actors, have the potential to alter demographic projections significantly from expected patterns.