Global Trendometer

Essays on medium- and long-term global trends

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Introduction

The bravest are surely those who have the clearest vision of what is before them, glory and danger alike, and yet notwithstanding, go out and meet it.

Thucydides (2.40.3)

The European Union has just come through some difficult years. A succession of crises, often interlinked, have been the major concern of European leaders for much of the past decade. This experience has driven home the lesson that prevention is better than the cure, and that more can be done to identify and prepare for future challenges. The EU as a whole has worked to enhance its foresight capacity, notably through the work of the inter-institutional ESPAS process (see box below). For its part, the European Parliament is placing greater emphasis on agenda-setting and on horizon-scanning, both to support its work in shaping the future through legislation and to improve the quality of public policy discussion of key challenges and choices ahead.

European Strategy and Policy Analysis System (ESPAS)

The aim of the ESPAS initiative is to strengthen the EU's collective administrative capacity for foresight. It seeks to provide informed, up-to-date analysis of long-term policy challenges and options for the decision-makers within the participating institutions. It is a joint initiative of the European Parliament, the European Commission, the Council of the European Union and the European External Action Service, with the Committee of the Regions and the European Economic and Social Committee as observers. Within the European Parliamentary Research Service, the Global Trends Unit supports this work.

The world is changing. Power relations have been shifting, and this has created considerable stress both between and within countries (NIC 2017). This has in turn prompted greater efforts to anticipate and manage the consequences of such shifts. Countries from Australia to Singapore to France and Finland have developed foresight capacity within the national administration. In the USA, the National Intelligence Council has for many years presented a report on global trends to each new administration (Dreyer and Stang 2013). This is one of the inspirations for the ESPAS initiative.

Increasingly, threats and risks cross national borders, and the European project faces great uncertainties (Burrows and Burwell 2017). This makes EU structures to identify and analyse trends especially relevant. Common analysis and a common perception of both threats and opportunities can lay the groundwork for coordinated responses across the EU and its Member States. Acting together increases our ability to master emerging challenges in Europe.

A number of key events in 2016, both in Europe and in North America, took many by surprise, and prompted a pessimistic tone in some of the reports considered in this publication (Burrows 2016).
fundamental challenge to liberal democratic ideals, and to the rules-based, multilateral order of the post-War period, seemed to be gathering momentum. A year on, confidence is returning, with a perception that 2016 may not after all be a turning point between two eras. Yet careful consideration of many different outcomes, including undesirable and unlikely ones, is called for. As Thomas Hobbes remarked, the capacity for foresight is something that separates humans from beasts.

The Global Trendometer

The Global Trendometer is a bi-annual contribution by EPRS’ Global Trends Unit to the ESPAS process. It draws on general foresight publications, inter alia from the European Union, the US National Intelligence Council, the OECD, the World Bank, the Atlantic Council, and the World Economic Forum, as well as other more specialised foresight work. It also builds on the 2015 ESPAS Report and the proceedings of the annual ESPAS conferences. Key criteria for the selection of trends to be analysed are:

- a change in trend or in perceptions;
- treatment of the subject in the surveyed foresight literature;
- cross-sectoral impact, and
- relevance to the EU.

Foresight aims to mobilise collective intelligence and imagination and to promote long term thinking. It has a well-established methodology, involving many steps. Some feature in this collection, such as horizon scanning, trend analysis, identification of uncertainties and of possible disruptions, and consideration of alternative scenarios. The trends addressed may move in entirely unexpected directions, but that does not render the exercise useless. The process of regularly analysing signs and signals, and of assessing long term implications of today’s decisions under consideration today, has its own value. Not least, it encourages a practice of continuously identifying and challenging untested assumptions.

This issue includes essays on demographics and development, sustainable tax policies, and the risk of protectionism. It also has shorter pieces (vignettes) giving an overview of trends, uncertainties, and possible disruptions in specific areas, ranging from the decline of traditional journalism, to advances in weapons technology, and the need to re-use water. We seek complementarity between editions of the Trendometer. The focus on Sub-Saharan demography follows on from the earlier essay on water scarcity. Analysis of stresses in international trade is a counterpoint to one on shifts in military power. A consideration of redistributive tax policies builds on the earlier look at increasing inequality.

This publication does not offer answers or make recommendations. It presents summarised information derived from a range of carefully selected sources, for the consideration of the membership of the European Parliament. It hopes in this way to contribute to further reflection and inquiry about global trends, and about the opportunities and risks they present for Europe and the wider world.

Eamonn Noonan and Danièle Réchard
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Sub-Saharan Africa: Demography is not destiny... if women are empowered

Summary

This essay aims to draw attention to female empowerment as the sine qua non condition for the Sub-Saharan African demographic transition. It takes as a starting point the patterns and perils resulting from current Sub-Saharan demographics, characterised by persistent high fertility rates in spite of a significant decline in child mortality. There is evidence that the evolution of women's status in these regions will determine whether these current demographic characteristics translate into dire security and economic prospects or result in a demographic dividend for these regions and for the global economy as a whole. As partner, donor and neighbour, Europe will be directly affected. A strong case can be made to integrate the gender aspect more fully into its current policies.

Introduction

In the coming decades, Africa will be the fastest growing world region as regards population. Between 2015 and 2050, the population of Africa will more than double, from 1.2 billion to 2.5 billion people, according to the latest UN projections (UN, 2017, medium scenario). Nigeria will probably reach around 387 million people (191 million in 2017) by 2050, overtaking the United States of America.

Authoritative foresight reports have stressed the formidable challenges and opportunities presented by African population growth. In the light of rapid population expansion, the 2015 ESPAS report suggested that by 2030 “Sub-Saharan Africa could be an area of dynamic growth provided that there is significant and sustainable progress on governance.” It also highlighted the risks related to basic deficiencies in food security and healthcare, including the possibility of very large-scale epidemics (ESPAS, p.29 s.). It underlined the trade opportunities for Europe in the case of an economic take-off in Sub-Saharan Africa (ESPAS, p. 71).

African economic growth now seems to be slowing down. There is increasing awareness that in several African regions, the demographic transition is not happening, or is happening at a slower pace and on a smaller scale than expected. The trend in Africa is differing from what has been observed in other parts of the world. The literature has recently taken a more pessimistic tone: “Africa’s Demographic Transition: Dividend or Disaster?” (World Bank, 2015), “Afrique subsaharienne: une transition démographique explosive” (Leridon, 2015), “a fateful challenge” (Michailof, December 2016).

Demographic transition refers to the gradual move from a phase where both births and deaths are high, to an ultimate phase where both births and deaths are low, with intermediate phases where births outnumber deaths. This is when child mortality decreases and life expectancy increases while the fertility rate remains high, resulting in a “youth bulge”, followed by a phase where the fertility rate declines. The classic model links the intermediate phases to a “demographic dividend”: the working-age population grows, family sizes decrease, and more women are able to enter the labour force. This leads to more investment in health and education per capita, and consequently to productivity gains.
This essay examines risks and potential in several areas in view of atypical African demographic trends. Which scenario will prevail depends on how women’s status evolves, and on whether adequate policies can be put in place.

**A delayed demographic transition endangering Africa with potential global consequences**

**Persistent high fertility rates**

Sub-Saharan Africa is the only region in the world that is still at a very early stage of its demographic transition. Under-five mortality has decreased, but fertility rates remain high; they are among the highest in the world. But there are also notable differences between Sub-Saharan African regions:

- West Africa, around Nigeria and Ghana, has an average fertility rate of 5.73 children per woman. Niger has the highest fertility rate in this group, 7.6 children per woman;
- Central Africa around the Democratic Republic of Congo, with a rate of 6.17 children per woman;
- East Africa, around Kenya and Ethiopia, with a rate of 5.38 children per woman;
- Southern Africa, around South Africa, with a rate of 2.64 children per woman.

We need to examine the trends rather than the current situation. Demographers point to a “demographic enigma” (Leridon, 2015). “Compared to other regions of the world, Sub-Saharan Africa is experiencing an extremely slow decline in fertility” (World Bank, p. 6). A small number of countries, especially in Southern Africa, have advanced far into the transition, while others are experiencing surprising delays in the last 10 years, and seem stuck with very high fertility rates.

The average fertility rate of 5.4 children per woman in Sub-Saharan Africa (2005-2010, World Bank) is expected to fall from 4.7 children per woman in 2010-2015 and to 3.1 in 2045-2050, according to the medium variant projection of the UN (UN, 2017 revision).
**Risks and privilege**

This delayed demographic transition entails tremendous risks, primarily for the African population. For economic growth to match population growth, Sub-Saharan Africa would have to create 18 million jobs per year (IMF, 2015). The most obvious risks of not succeeding in this relate to water and food supply crises, and the long term impact on human development and thus on building resilience: malnutrition in early childhood can impairs physical and cognitive development. The risk then emerges of a major pandemic, which could spread through the region and indeed globally. These risks are even more pressing in “fragile states.” These tend to have the highest levels of fertility, and governance seems unable to address the huge challenges they face. Fragile states are also the most affected by climate change and extreme weather events, particularly drought, and by instability related to terrorism. In areas where economic growth is insufficient to support the population, increased migration outflows are to be expected (NIC, 2017). Migration to the advanced economies represents a minority of these flows. However, this is growing faster than that within the region, and 90% is economically driven (IMF, 2017). Inside the region, migration is likely to speed up the current trend of rapid urbanisation. While this can have positive effects on fertility, the emergence of a younger, more urban and more networked population may strengthen the existing trends of tensions based on religious affiliations and of protests fuelled by corruption, rising inflation, high unemployment and poor economic performance. The rage of the young may increase ethnic tension and religious extremism, particularly of radical Islam and of fundamentalist Christian groups (NIC, 2017). The African Institute for Security Studies lists widespread youth unemployment and a median age of less than 25 as key drivers in creating the conditions for armed conflict (ISS, 2013). The difference in fertility rates between communities might add to these tensions. The rest of the world would be economically affected. The Atlantic Council notes that “a poorly educated African workforce has negative implications for long-term global growth potential”, also for global security (Atlantic Council p. 17). This is especially true for Europe, which remains in many ways Africa’s closest partner.

The risks linked with demographic trends in Africa are high. So is the potential. A youthful and growing population offers Africa a chance to take advantage of its natural resources, assets such as a major part of the world’s remaining uncultivated arable land, and a strategic location on trade routes. As the IMF states: “The rising share of sub-Saharan Africa’s working age population is increasing the continent’s productive potential at a time when most advanced economies face aging populations and a declining share of their working age populations” (IMF, 2015, p. 28). “[It] represents a window of opportunity, which if properly tapped can be transformational. (…) low income countries stand to benefit the most from this transition given that the magnitude of the dividend declines as economies mature” (IMF, 2014, p. 18). Other voices can sound more pessimistic, doubting that any economy could absorb the numbers involved (Atlantic Council, 2016).
Harvesting the economic dividend for African women and with African women

Whether the bleak or the more optimistic scenario prevails will depend on how the rights, status, and protection of women evolve, and how quickly. If women - and girls - are empowered, fertility will decline, dependency rates will be reduced, economic prospects will improve, and the risks related to the African demographic boom could be better mitigated. This is widely recognised not only at world level (Millennium Goals, then Sustainable Development Goals 2015), but also at Africa’s level, as the ambitious Agenda 2063 of the African Union (2013) shows. The IMF, in 2015, states firmly: “the demographic dividend will depend critically on the speed of decline in fertility rates and on the strength of accompanying policies” (IMF, 2015, p. x).

Key drivers of women’s empowerment

There is an overall consensus on how to improve the condition of women:

- Investment in children’s and women’s health. The correlation between high fertility and under 5 mortality is well documented. In Sub-Saharan African countries, the latter has declined sharply. It remains very high in countries such as Chad, RDC, Mali, Nigeria and Somalia, compared to the rest of the world, according to recent data. The adolescent birth rate remains worryingly high in Sub-Saharan Africa, at 99 births per 1,000 women aged 15-19 (2010-2015). Unmet needs for family planning are greatest in Sub-Saharan Africa, according to the Population Division of the UN, at 24 per cent - double the world average in 2015.

- Investments in women’s education. Investment in education is critical in the early phases of transition in order to create a highly capable workforce. Education is also highly correlated with fertility: Sub-Saharan African women with no education have, on average, 5.4 children. Women who have completed primary school have, on average, 4.3 children. Completion of
secondary school correlates with a big drop, to 2.7. For those who go on to college, fertility is 2.2. (Engelman, 2017).

- Evolution of societal norms towards an increased acceptance of gender equality. This applies especially in terms of age of marriage, access to education, paid work, economic and financial assets, but also to women’s participation in decision-making, in their household and also at community and political level.

**Effectiveness of well-targeted policies**

In addressing the question of supporting demographic transition in Sub-Saharan Africa, the Word Bank notes that the effects of a further decrease of child mortality and of female education - both indispensable - are distant in time. Research shows that the average gap in Sub-Saharan Africa between current and desired family size is more than 2 children per woman, and the Bank suggests that family planning has an important role to play. It describes family planning interventions as an attractive option for policy makers, because they can have a near-term impact (World Bank, 2015, p. 19). The Population Division of the United Nations echoes this: “To achieve the substantial reductions in fertility projected in the medium variant, it will be essential to support continued improvements in access to reproductive health care services, including family planning, especially in the least developed countries, with a focus on enabling women and couples to achieve their desired family size.” Kenya and Zambia are positive examples, but there is still a long way to go. Indicators under SDG 3 show little progress, either on the “proportion of women of reproductive age (aged 15-49 years) who have their need for family planning satisfied with modern methods”, or on the rate of early marriage.

There are large differences between the four main Sub-Saharan African areas. This argues for differentiated policy packages that target different sectors and processes, taking account of each country’s stage in the demographic transition and its level of development (World Bank, 2015). Crucially, there is evidence that policies and public actions do matter, provided they prioritize women’s needs. Family planning can be very efficient when the support of political leaders is clear, and when local communities are fully engaged and local realities taken on board. In Ethiopia, 38,000 lay health workers were dispatched on bicycles to rural areas to offer general information and supplies, including related to family-planning; over a three-year period, fertility declined from 4.8 to 4.1. The assumption that economic development in itself brings a solution is unsafe. “Despite perceptions to the contrary, national economic growth alone does not push fertility down powerfully” (Engelman, 2017).

**Return on investment**

The potential benefits of focusing attention on the basic needs of women and their children are potentially startling. Reductions in stunting could potentially increase overall productivity by as much as 4 to 11 percent of GDP per capita in Africa (UNDP, 2016). Fully 38 % of all under-five children are malnourished in Western Africa (Niger 43.9 %); 36 % in Central Africa (RDC 42.7 %); 42 % in Eastern Africa (Burundi 57.7 %); and 35 % in Southern Africa. Enabling women to enter the labour force has the potential to bring further gains in savings and investments in the long run (World Bank). Women reinvest up to 90 % of their income back into their families, improving their family’s health and nutrition and ensuring that their children get a good education (WEF, 2014). Altogether, the UNDP estimates that the cost of gender inequality in sub-Saharan Africa represents approximately US $ 95 billion a year - six percent of the region’s GDP (UNDP, 2016). Remittances
sent by migrants also have a gender-dimension, and remittances from African emigrants exceed official development assistance (IOM, 2006).

African women are not the problem, they are the solution. At an individual level, “demography is not destiny” might be translated as: “fertility is not destiny”.

A muted EU approach to the demographic transition

The Joint Africa-EU Strategy (JAES) does not envisage African demographics as a challenge per se, but the key priority areas identified by the roadmap currently in force (2014-2017) all speak of “harnessing the demographic dividend” and pay due respect to the “gender dimension”. “Protection of civilians, in particular women and children, and participation and representation of women in peace and security processes” comes under “Peace and security.” “Particular attention to gender equality” comes under “Democracy, good governance and human rights.” “Fostering of education, vocational training and entrepreneurship among women and youth” come under “Human development.” “Entrepreneurial potential of women, income opportunities in the agribusiness, capacity of women to provide for the food security” come under “Sustainable and inclusive development and growth and continental integration.” Sexual and reproductive health is mentioned as an element of the strategic objective “human development” in the Africa-EU roadmap 2014-2017 (point 31). Yet it is omitted from the subsequent “key areas for cooperation.” This might reflect the non-ratification by a number of states of the Maputo Protocol on the rights of women in Africa, adopted in the framework of the African Union in 2003.

In European development assistance, nutrition, health care and education, and support for initiatives rooted in civil society are emphasised. These directly serve the goal of empowering women. Yet it remains difficult to measure whether, to what extent, and by what means, EU support specifically addresses unmet family planning needs (e.g. through its contribution to Global Fund programmes, direct support or budgetary support).

The institutions of the European Union, as well as many of its Member States, consistently recall that gender equality, including women's access to health and family planning services, including education and contraception, is a universal human right and is indispensable to achieve sustainable development (Statement by Commissioner Nimica). Most recently, as a response to the new American administration’s decision to cease funding of all overseas aid organisations that provide sexual and reproductive health and rights services, the European Parliament adopted a recommendation calling “as a matter of urgency, on the EU and its Member States to counter the impact of the gag rule by significantly increasing sexual and reproductive health and rights funding (…) using both national as well as EU development funding” (European Parliament recommendation of 14 February 2017 to the Council on the EU priorities for the 61st session of the UN Commission on the Status of Women).

Conclusion

Sub-Saharan African demographics is one of those medium- and long-term issues which needs to be tackled today, in to mitigate serious risks tomorrow. However the extreme complexity of the issue encourages a tendency to avoid it. It touches on cultural and ideological differences; and it involves action across a wide spectrum, from health policy, to education policy to economic development; and there is no ready made solution - approaches have to be tailored to the specifics of area.
African demographics matter to the world. If the fertility rate for every country was just half a child more than assumed by the UN medium scenario, global population would reach 16.5 billion in 2100. The planet’s resources might be overstretched. However, some argue that the real concern is the overuse of resources by the developed world, rather than African population. And even if demographic projections are relatively robust, history presents more than one example of “wild cards” which proved them wrong.

As Robert Engelman has written, “the empowerment of women needs no demographic justification. (...) Even if population growth did not matter, the future of Africa and the world would be better if every African girl and woman were healthy and educated and free to reach for her own ambitious dreams (...) Whether Africa finishes the century with several billion people or something much closer to its current 1.2 billion could make all the difference in its development, prosperity and resilience in the face of inevitable challenges.” (Engelman, 2017). African demographics above all matter to Africa. It faces the risk of not being able to benefit from its privilege of being the sole world region blessed with a growing labour force in the 21st century - its “most precious asset” (EPSC) - with the global consequences that might arise from this shortfall.

The momentum for a comprehensive rethink of Africa’s future, including its demography, is noticeable. The decision of the United States to reinstate the “global gag rule” puts the EU and its Member States in the frontline of the effort to assert women’s rights. In January 2017, the German government published its “Marshall Plan for Africa” and has placed “Accepting responsibility – especially for Africa” on the agenda of the G20 summit in Hamburg in July. During his campaign, the newly elected President of France emphasised Africa as one of his key priorities; and the 5th EU-Africa Summit is scheduled to take place in Abidjan, in November 2017. There are signs of greater preparedness to act on the dictum that if “development is not engendered, it is endangered” (UNDP, 28 August 2016).

Danièle Réchard
The return of redistributive tax policies

Summary

At a time when many people were suffering economic hardship in the wake of the financial crisis, evidence emerged of systematic and large-scale tax avoidance by wealthy individuals and corporations. One consequence has been a vigorous debate on tax fairness. Another has been a new look at the role of taxation in redistributing wealth across societies. The relation between redistribution and economic growth is a particular focus.

This essay summarises the signs of a new approach and the current efforts to reform taxation. It then looks at factors promoting or inhibiting change, and the role of technology in this area. It concludes with a medium term outlook.

Introduction

According to the 2015 ESPAS report, “tax rates on capital and high incomes have fallen steadily since the early 1980s in most OECD countries,” while “the increase in personal wealth, especially that of the richest (top 1 %), has been favoured by taxation and social security policies that are less redistributive.” (ESPAS, 2015) More recently, redistributive approaches have been gaining support, and the trend from the 1980s may be changing. The emergence of issues such as profit shifting and aggressive tax planning have contributed to this, bringing calls for greater tax fairness.

Significant political initiatives have been developed in response to public concerns. Chief among these is the Base Erosion and Profit Shifting (BEPS) project, originally proposed by the G20, and managed under the auspices of the OECD. At EU level, the European Parliament has now set up a third committee of inquiry on tax avoidance (PANA), two earlier committees having already reported (TAXE 1 and TAXE 2). In January 2016, the European Commission presented an anti-tax avoidance package aimed at fairer, simpler and more effective corporate taxation in the EU, and seeking to prevent aggressive tax planning.

Taxation is fundamental to affairs of state, and wide-reaching policy changes can have a major impact on economic, social and political developments both nationally and internationally. The present analysis examines the trend towards reform of taxation with a greater emphasis on redistribution. There is a wide range of possible outcomes, from a reaffirmation of the status quo, to moderate reform, and on to a more systemic overhaul of national and international taxation regimes.

Key terms

**Tax fairness** is a tax platform based on an ideal that aims to create a system of taxation that is fair, clear and equivalent for all taxpayers. Overall, tax fairness looks to limit the amount of tax legislation and rules that benefit one segment of the tax-paying population over another (Investopedia, 2017).

**Base erosion and profit shifting (BEPS)** refers to tax avoidance strategies that exploit gaps and mismatches in tax rules to artificially shift profits to low or no-tax locations.

**Aggressive tax planning** is actively pushing the limits of what is allowed in terms of the law. This may be stretching the definition of a term in legislation to access a loophole, or dressing up an arrangement so that it appears to be something else. It is
distinguished from normal tax planning, which makes use of accepted practices to reduce tax.

**Signals of a new trend**

The 2015 ESPAS report made the point that excessive inequality damages both social cohesion and economic efficiency. Political leaders are increasingly prepared to endorse this viewpoint, and to call for a rethink on taxation. At the World Economic Forum in January 2017, outgoing US Vice-President Biden called for a “progressive tax system” where everyone pays a fair share, as a means to address the present crisis. He stated that the top 1% were not carrying their weight. The UK Prime Minister, Theresa May called on business to do more to spread benefits more widely and to pay its fair share of tax. Italian finance minister, Pier Carlo Padoan endorsed the WEF’s Inclusive Growth and Development Report. IMF Director General Christine Lagarde agreed that more redistribution is needed to reduce inequality.

These statements by political leaders reflect a change in the conclusions reached by specialist studies. The balance of expert opinion is now more open to the view that inequality is an obstacle to growth. A key assertion is that inequality means missed opportunities for investment on the part of an increasing share of the population. This is a challenge to the contrary position that inequality can favour growth by providing incentives to work, invest and take risks. Opinions differ among economists, and empirical findings on the matter are described as inconsistent (Voitchovsky, 569). Thomas Piketty states that “the progressive tax is indispensible for making sure that everyone benefits from globalisation” (2014, 497). Joseph Stiglitz concludes that “far from being either necessary or good for economic growth, excessive inequality tends to lead to weaker economic performance.” (2016, 148) Recent studies from the OECD and IMF lend support to Stiglitz’s position (Ostry, 2014; Cingano, 2014; see also Rechard, 2016).

Quite staggering estimates of the extent of profit shifting have had an impact on the debate. A study commissioned by the European Parliamentary Research Service estimated that corporate tax-dodging costs the EU €50bn - €70bn a year, much of it from profit-shifting (Dover, 2016). Gabriel Zucman (2015) has estimated that 8% of global wealth is held offshore, and that the related tax revenue loss is $200bn a year. The cost to Africa of illegal financial flows (IFFs) has been estimated at between $30 and $60bn a year; it may be greater than the annual amount of development assistance provided to the continent (HPL/IFF, 2015). A more recent estimate gives even higher figures, suggesting a global revenue loss of €500bn annually, with the greatest intensity of losses affecting low- and middle-income countries (Cobham, 2017). One of those involved in the International Coalition for Investigative Journalists has concluded that “the rich and the powerful exited long ago from the messy business of paying tax” (Rusbridger, 2016).

The change of focus in the public debate is based not only on the existence of new research findings on tax fairness and inequality, but also on the wide dissemination of these findings by civil society organisations. The Tax Justice Network has played an important role in spreading information about how tax havens work. An Oxfam report released to coincide with the World Economic Forum attracted huge interest, due to its claim that eight people had as much wealth as half the world’s population (Oxfam, 2017).
The financial crisis has also had an influence, by bringing a spotlight on white-collar crime. After the crisis, Financial Action Task Force (FATF) recommendations and European directives for the first time made explicit reference to tax crimes; such terminology had previously been resisted (Scherer et al, 2017, 34f.).

**Efforts to reform taxation**

There are several initiatives seeking to transform words into action. At international level, the BEPS (Base erosion and profit shifting) initiative was created at the instigation of the G20 and is being coordinated by the OECD. It addresses the problem of corporations artificially separating the allocation of their taxable profits away from jurisdictions where these profits arise, thus greatly reducing corporate income tax payments in the jurisdictions where MNEs operate. This has many negative consequences: it affects competition, distorts investment decisions and reduces overall trust in the tax system (Gurria, 2014).

The key elements of the BEPS approach are

- Establishing mandatory minimum standards for participating countries.
- Reinforcing international standards.
- Promoting common approaches and convergence towards best practices, as a source of future standards.

As the problem is international, the response requires international coordination. The World Bank stresses the need to share information across jurisdictions about financial transactions and about beneficial ownership of assets. It also notes that profit shifting hits developing countries disproportionately.

The European Commission anti-tax avoidance package seeks to be both pro-growth and anti-fraud. It acknowledges that taxation is fundamental both to economic stability and to social justice - and that these two goals are intrinsically linked. Thus it is important both to maintain a pro-business environment which promotes growth and jobs, and to preserve the social contract (Moscovici, 2016). The Commission has also proposed a Directive on Country-by-Country Reporting (CBCR), imposing an obligation on firms to annually publish information on profits and tax paid (Collovà, 2016; Remeur, 2017).

A few large economies have the capacity to influence international practices unilaterally, due to their global economic significance. The USA, not least, can act effectively in advance of international consensus or agreement. The 2010 Foreign Account Tax Compliance Act (FATCA) is an example of this; it introduced a greater degree of transparency and accountability for US citizens, and is held up as a model for other jurisdictions.

**Factors promoting and inhibiting change**

Public policy may or may not move towards greater redistribution. Signals about its likely direction can be found in the contributions of different participants in the policy process.

Redistribution is directly relevant to a major challenge identified by the US National Intelligence Council:
Economic instability will erode governments’ ability to deliver on promises of social welfare. In the developed world – where populations are expected to age and life expectancies will increase – we can anticipate a rise in health care costs while business profits and tax revenues shrink and government debt levels remain high. Public anger over the government’s inability to protect constituents’ interests probably will be aggravated as wealth, technology and social networks enable affluent citizens to opt out of many public goods, such as education and health care, undermining a sense of shared fortunes. (NIC, 2017, 202)

The prospect of a future government expenditure crunch is well known. If authorities begin to see corporate income as a potential source of increased revenues, rather than accepting their decline as a fait accompli, this would be a sign that reformist thinking is gaining ground in official circles. National authorities tend to be sceptical about revenue generated in their territory being free of tax in the same country. Such a view is understandable in a period of austerity, which can lead to higher taxes and reduced services for the general population.

Small and Medium-sized Enterprises have expressed concern that larger businesses may have an unfair advantage in dealing with the complexities of tax law. The European Commission has reported that tax compliance costs for large companies are about 2% of taxes paid, compared with 30% for small and medium sized enterprises (SMEs). This is part of the Commission’s argument for tabling the Common Consolidated Corporate Tax base (CCCTB).

The media has played a significant role in exposing tax evasion, and it continues to investigate the matter. If further evidence of widespread tax evasion emerges, the existing pressure from voters for meaningful reform may well intensify.

A certain amount of pressure can also be expected from the public sector in its own right, and in particular from financial bodies concerned about a sizeable future funding gap for health, education and welfare services. International public sector bodies such as the OECD will also play a role. At present, it is hard to find explicit acknowledgement of a causal link between profit shifting and excessive inequality in OECD publications. New research may change this. There are already some indications of a causal link between changes towards more progressive taxation and greater equality in the first decade of the 2000s in Latin America (Martorano, 2016).

Perspectives and preferences can be very different in the private sector. Businesses are seldom inclined to surrender practices that reduce their tax liability. Representative associations therefore challenge aspects of the EU Commission’s reform package on the grounds that it could hurt business. Business Europe has stated:

*The EU must not act as lone front-runner in implementing the BEPS agreement, and must not undermine the competitiveness of EU industry or damage the EU’s attractiveness as an investment location.* (Guarascio, 2016)

There is also economic analysis that lends some support for the status quo. Acemoglu et al (2012) suggest that different circumstances across countries influence the degree to which there is a strong focus on social insurance, and that the adoption of “a type of ‘cutthroat’ capitalism” can be associated with greater innovation.
The World Economic Forum can be a good barometer of thinking within the private sector, and it remains to be seen if its reports will in fact endorse redistributive approaches to tax policy. It recent major report on Inclusive Growth and Development skirts the issue. It limits itself to saying:

*Larger fiscal transfers are not necessarily incompatible with long-term growth and competitiveness, but neither are they always the primary or most effective available option for broadening socioeconomic inclusion.*

The WEF Global Risks Report for 2017 is similarly reticent on tax and redistribution. It mentions tax evasion only once, in an appendix, as an aspect of illicit trade. On taxation in general, the report simply notes that: “new employment models also hinder the collection of taxes from both employer and worker, reducing the amount governments have available to fund social protections” (WEF, 2017a, 35; 61).

However, there are signals of support for a new approach within the private sector. Opinions on some key questions of economic strategy appear to be shifting. For example, influential figures are now questioning the principle of maximising shareholder value (MSV), which has been a cornerstone of business strategies since the 1980s. At that time, many large corporations departed from an earlier strategy of retaining and reinvesting profits in favour of a ‘downsize and distribute’ approach. The primacy of dividends, on the one hand, and share buybacks, on the other, mean that less was available to invest and to modernise. MSV came to prominence at the same time as political decision makers were retreating from redistributive taxation, and it is tempting to see them as parts of the new economic policy consensus that emerged after the oil shock of the 1970s. In both cases, the course of events in recent years has undermined the supposed economic benefits of the new approach (Lazonick, 2016). A decline of support for MSV may foreshadow greater openness towards redistributive tax policies. The growing interest in sustainable finance is another sign of a rethink within the private sector; there is greater appreciation that short term profit maximisation can be to the detriment of long-term prosperity (Beslik, 2017).

**The role of technology**

The rapid advance of technology has had an ambivalent role in the development of aggressive tax planning. Further advances are likely to impact the international effort to combat tax evasion, but it is hard to say whether they will advance or undermine the task.

It is well known that technology has made it more difficult for a state to impose its own taxation rules on entities and activities within its borders. The digital economy has facilitated the process of profit shifting, by allowing fast and discrete transfers from higher to lower tax jurisdictions. On the other hand, it has become easier to track individual transactions, particularly given the efforts of authorities to uncover and disrupt terrorist financing since 9/11. Financial intelligence (FININT) approaches are likely to become increasingly important (Scherrer et al, 2017). The digital economy is also vulnerable to leaks, and both Luxleaks and the Panama Papers have added impetus to efforts for reform.

It can be argued that the digital economy exacerbates existing issues, more than it creates new ones. But an “arms race” between tax authorities and tax evaders is set to continue. Further innovation will open possibilities that we cannot readily anticipate today. The OECD Task Force on the Digital Economy should give pointers to the opportunities and challenges arising in the coming years.
Outlook

Events in the medium term will reveal whether the trend towards redistribution is advancing or not. The adoption of BEPS internationally, and the adoption of the components of the Commission’s ATAD package at EU level, would confirm the trend. Failure on either front would suggest a continuation of the status quo. A third scenario, a move away from redistributive approaches, would emerge if for example the present US administration overturned its predecessor’s Foreign Account Tax Compliance Act.

Decisions of political bodies will determine the future course. The indications to date are not uniform. Some governments appear to favour cuts in corporate taxes, and remain committed to the theory of trickle-down economics. On the other hand, the European Parliament recently approved a proposal for greater transparency on beneficial ownership of assets. Decisions by countries identified as tax havens to lift bank secrecy would be significant, and proposals to this affect are under consideration.

The adoption of agreed standards on matters such as transfer pricing, profit attribution, and taxing the digital economy will take time and effort. Binding international agreements are hard to achieve, even in an era of relatively robust multilateral cooperation. Reaching agreement may be even more difficult if this multilateral era is drawing to a close.

Tax cooperation is all the more difficult in that it involves an area which states see as central to their own prerogatives, with good reason. Some countries choose to offer very favourable tax conditions to international companies - the “race to the bottom” - on the grounds that they might not otherwise be able to compete for much-needed inward investment. This strategy faces the criticism that it may itself involve unfair competition. At EU level, the degree to which competition law restricts a Member State’s ability to tailor its own tax regime will be tested over the coming years, notably in the Apple/Ireland State Aid case.

Certain key steps are only possible if everyone agrees, including tax havens. This is a high bar, but there are options for dealing with obstructionist jurisdictions. A carrot and stick approach may emerge, combining offers of technical assistance with the possibility of cuts to development aid (Stiglitz, 2016). The establishment of a common EU blacklist of states at risk of money laundering, which takes forward an FATF initiative, would be a sign of growing consensus in favour of reform.

It remains to be seen how far and how fast reform proposals will advance. The prospect of the “Islands” scenario outlined in the NIC report (2017, p. 50) may concentrate minds. In this scenario, many whose socio-economic status had improved up to the financial crisis fall back into some level of poverty. Governments struggle to maintain services to their populace, because tax revenues fail to keep pace with growing obligations.

A tenet of strategic foresight is that unexpected events can disrupt even the best laid plans. Regular and irregular wars, revolutions, shifts towards autocracy, a retreat of democracy, and state bankruptcies may affect individual countries or groups of countries. Catastrophes have been known to trigger major change, but a sudden and unexpected increase in international tensions would surely make it harder, not easier to implement the BEPS agenda.
John Maynard Keynes famously wrote:

The ideas of economists and political philosophers, both when they are right and when they are wrong are more powerful than is commonly understood. Indeed, the world is ruled by little else. Practical men, who believe themselves to be quite exempt from any intellectual influences, are usually slaves of some defunct economist.

Whether the future brings more or less emphasis on redistributive taxation will depend on the balance of opinion between contending philosophies about economy and society.

It has been said that all economics is about the creation of value; all politics is about the distribution of this value. Centuries ago, Benjamin Franklin suggested that “an enormous proportion of property vested in a few individuals is dangerous to the rights, and destructive of the common happiness, of mankind.” If this view prevails, and with it the view that the provision of social services is a contributor, not an obstacle, to economic growth, greater efforts at redistribution can be expected.

Eamonn Noonan
Between Multilateralism and Protectionism: Prospects for International Trade

Summary

For several decades, up to the financial crisis, international trade grew, and trade barriers fell. These trends were complimentary, and were supported by a multilateral framework for international trade. Since the 2008 crisis, there have been signs of a change of course. Trade growth has slowed, and so has the rate of reduction of barriers to trade. 2016 marked the fifth successive year of weak trade growth. Uncertainty about future trade policy has grown, and this in itself seems to contribute to poor growth.

This essay examines signs of a shift in international trade away from multilateralism and towards bilateralism or indeed unilateralism. First, it summarises foresight reports from informed observers. It then examines issues which will influence whether the change in direction will become stronger. It concludes with an outlook to 2035, with particular reference to the situation of the EU.

Introduction

A move from multilateral trade to protectionism would be a major change of course. The entire post-war era has been one of multilateralism and the reduction of barriers to trade. A cohesive international framework centred on the Bretton Woods institutions, GATT and later the WTO laid the basis for decades of economic and trade growth. This reversed the legacy of the Great Depression, which ushered in an era of protectionism, based on bilateral agreements, closed regional trading blocs, and policies favouring autonomy and self-sufficiency. The 1930s ended not with economic recovery, but with the onset of world war.

The 2008 financial crisis brought the most severe global economic downturn since the Great Depression, and the weak performance of international trade since then has prompted concerns of a turn to protectionism. Political movements which link job losses to globalisation have gained ground, notably with the election of Donald Trump to the US presidency. The new US administration has indicated that it will not pursue the Trans Pacific Partnership (TPP), and it has put the Transatlantic Trade and Investment Partnership (TTIP) on hold. The UK decision to leave the European Union risks further fragmentation of trade. Meanwhile, a shared post-crisis commitment not to adopt trade restrictions has not been respected; some emerging economies have resorted to non-tariff barriers in response to deteriorating economic performance (Barone, 2015).

These developments lead commentators to suggest that “the times they are a-changing” (Rudloff and Laurer, 2017), and to speak of “a storm of new protectionism” (Daianu, 2017) or of the “end of the Transatlantic trade consensus” (Korteweg, 2017). Even so, it may be too early to conclude that protectionism is on the rise. Analysis from the OECD suggests that global trade may be suffering a “dizzy spell”, rather than “cardiac arrest”; the trend towards reducing restrictive trade measures has slowed, rather than gone into reverse (Haugh et al, 2016). Major trading powers such as the EU, China and Japan continue to express strong support for multilateralism. Although references to protectionism were dropped from recent G20 and IMF communiqués, the Taormina G7 communiqué reiterated a commitment to fight protectionism - while opposing unfair trade practices, and acknowledging that trade has not always worked to everyone’s benefit.
Contending narratives

The long-standing consensus in favour of multilateralism is now under fire. The view that globalisation is harming entire social strata both in Europe and the USA has become widespread. As the National Intelligence Council (NIC) puts it: “Financial crises, the erosion of the middle class, and greater public awareness of income inequality - all with roots predating the 2008 downturn - have fed sentiment in the West that the costs of trade liberalization outweigh the gains” (NIC 2017, 12). The belief that globalisation has brought factory closures and outsourcing drives support for a reversal of trade policy. There are also fears that the situation in coming years may get worse. A new phase of digitisation means it is increasingly possible to deliver many services remotely. In mature economies, this means that the problem of large-scale job losses may spread from the manufacturing sector to the service sector (Baldwin, 2016; Harari, 2017).

Multilateral bodies continue to vigorously defend the present international trade order. The economic case is compelling: open economies have consistently achieved stronger economic growth than closed economies, and they also have higher wages (OECD, 2017, 4). By contrast, new trade restrictions can make matters worse. The OECD suggests that a major tariff increase by actors such as the USA or China would harm economic growth, particularly for those that imposed new barriers (OECD, 2017b, 9). For the World Economic Forum “trade barriers intended to protect local workers could [...] cause job losses by increasing the cost of inputs for high value added companies” (WEF 2017b, 25).

In recent times, international organisations have devoted more attention to the downside of open economies, and have embraced a more nuanced approach to globalisation. There is now greater acceptance that globalisation has left many behind, and that this must be changed. Hitherto, a narrow focus on per capita GDP as a key metric masked the fact that gains from globalisation were heavily concentrated in the wealthier segments of the population. In response, the concept of inclusive globalisation has emerged. This involves a package of measures giving greater support to those whose livelihoods have been disrupted (OECD, 2014). The resilience of the multilateral trade framework is likely to be enhanced if supports of this kind are funded and delivered effectively; if not, the pressure for a protectionist response is likely to increase.

Global Value Chains and a new focus on fair trade

In the early 1800s, building on the theory of competitive advantage, David Ricardo described the benefits of an international division of labour. This paradigm has been especially influential ever since the Second World War ended. Yet the 21st Century economy is very different from that of the 19th century. Then, the production cycle typically involved a limited number of border crossings. Raw materials came in, and finished products went out; tariff levels at the border were a central concern of trade policy. Now, following a long period of liberalisation and advances in communications and transport, production processes are far more integrated across borders.

The rise of Global Value Chains (GVCs) has brought major changes to the dynamics of trade and of trade policy (Srinivasan, 2014; OECD, 2015; Binder, 2016). Intermediate inputs and services now account for three quarters of international trade. As a result, a border tariff has become a less attractive policy instrument: it is more likely to increase production costs and reduce export competitiveness. The European Commission has taken a clear position on this: “There is no
advantage to be gained from resorting to protectionist measures, even in the difficult economic circumstances of today” (European Commission, 2015, 10).

Governing GVCs calls for strategies beyond the traditional tools of trade policy. Regulation and standards assume far greater importance. What minimum standards should be met in order to qualify for market access? What labour standards, environment standards, and human rights standards are appropriate and enforceable? The debate is moving from one about free trade to one about fair trade.

For the EU, the challenge is to manage a shifting trade policy landscape at a time when the public and political debate on trade has become more strident. It has responded to greater international economic complexity by moving on from classical free trade agreements to new, more complex agreements. Thus the EU-Canada Comprehensive Economic and Trade Agreement (CETA) is broader in scope than a free trade agreement. Trade is no longer capsuled off and separated from all other issues. As a result, the agreement’s economic and political dimensions have both become more complex. The path towards ratification on the EU side also became more complicated, as the allocation of competences between the EU and the Member States varies from sector to sector under the treaty.

In the global arena, many remain sceptical about introducing “soft-law” provisions in trade agreements, but there is greater acceptance that international norms and policy cooperation have their place. ILO labour standards have been included in regional trade agreements. Coherence between environment agreements and trade agreements is seen as desirable (IMF, 2017, 38-39). The successful application of labour and environment standards to international trade is a key 21st Century challenge. At present, conditions vary so greatly that it is often hard to envisage how a uniform standard can be applied universally. An early agreement on what constitutes free and fair trade, and what does not, is not likely. Yet the issue is firmly on the agenda of national, European and global fora.

The European Commission has clearly stated that it sees existing EU standards as the basis on which broader negotiations can commence - but as a floor, and not as bargaining chips: “no EU trade agreement will lead to lower levels of consumer, environmental or social and labour protection than offered today in the European Union” (EC 2015, 21).

A renewed focus on standards of fairness makes the historical experience of the EU especially relevant. In order to advance the Single Market, the EU needed to move from several national standards to one common standard in a wide range of areas. It has achieved remarkable success in doing so. Both the process of negotiating common standards, and the standards themselves, offer models for a similar process on standards in international trade. This is an urgent task, given the prospect that failure to agree standards may well increase support for protectionism.

**Through “Inclusive globalisation” to a new consensus?**

In 2011, the ILO and the WTO jointly agreed that a more inclusive globalisation was needed. This would entail better redistribution policies and social safety nets, active labour market policies, and new industrial policies (Bachetta et al, 2011). Since then, the IMF, the World Bank and the OECD have endorsed the idea (IMF, 2017; OECD, passim). A recent European Commission Reflection
Paper acknowledges that the ample benefits of globalisation are neither automatic nor evenly distributed (European Commission, 2017, 21).

Inclusive globalisation involves both passive and active labour market measures, as well as action in related policy areas. The idea is find alternatives for people laid off from sectors unable to compete in a globalised market. Those who lose jobs in manufacturing tend to be older, less educated, and longer in their former job. They are therefore liable to longer periods of unemployment, and this in turn is associated with worse health outcomes, higher mortality and lower educational achievement by their children. This makes labour market measures especially relevant. The multilateral organisations recommend a systematic approach, with early action on a variety of initiatives to encourage labour mobility across sectors, regions and skills.

There are benefits to a coordinated approach, working on many fronts simultaneously. Policies to stabilise the economy are important, because displacement costs are higher in downturns. Policies to support competitiveness and productivity growth help exposed or competitive sectors to create jobs. Initiatives to improve credit supply open opportunities for self-employment, and for recruitment and retraining of workers. Improved access to mortgage credit is important to assist mobility between regions. Fiscal transfers to disadvantaged regions have a role, although the OECD and other organisations suggest that too much regional aid can create distortions. In general, policy packages should be tailored to particular circumstances, and should take account of education levels, access to financing, and levels of social protection.

“Passive” labour market policies refer to systems involving unemployment benefit, health insurance, early retirement schemes and disability benefit. These are well developed in western Europe. In general, such programmes are expensive, and can have the side effect that significant numbers permanently drop out of the workforce. These measures also tend to cost more the worse the economic situation. Thus hard times may be accompanied by efforts to reduce benefits, rather than to extend them. This is despite that a lack of evidence for the theory that benefits above a certain level are a disincentive to take up employment (Chodorow-Reich 2016; Van der Wel 2015). The affordability of social protection again unemployment is likely to remain a contentious issue in the coming years.

“Active” labour market policies include activation strategies such as assistance with job searching and training. There is a tendency to add conditionality to benefits: for example, to stipulate that benefits will end unless the recipient participates in a job-search or training programme, or in a placement scheme.

The European Commission reports that the European Globalisation Fund (EGF) has been successful in helping transition to new employment for some 140,000 people (European Commission 2017, 17). An increase in EGF funding would be a sign of the EU’s commitment to inclusive strategies. However, there is some concern that evidence for the effectiveness of key initiatives is lacking. Job search programmes, for example, may help participants into employment, without actually increasing the number of available jobs - displacing rather than fixing the problem. There are indications that employers may take advantage of wage subsidy programmes to reduce the pay they offer. Some research casts doubt on the effectiveness of a reemployment bonus. There also seems to be a lack of recent research on such a topical question as what level of minimum wage would risk having a negative effect on employment (IMF, 2017, 31-32).
A mixed record of effectiveness for labour market measures is a problem. If these policies could show a clear record of achievement, it would be easier to persuade people that globalisation could indeed be made inclusive. As things stand, inclusive globalisation can be seen as an aspiration rather than a reality.

**A complex international trade agenda**

For the EU, successful management of international trade is a complex matter. External and internal dimensions interlink. As noted above, inclusive strategies are central. Another challenge is to make the case for open economies in the face of great scepticism. The agenda also involves the upkeep of the international institutional framework, mechanisms to defend against unfair trade, provisions about trade facilitation, and the place of agriculture and of services.

**Communicating the benefits of international trade**

The dilemma of communicating the benefits of international trade to a sceptical public is not new. Thomas Macaulay wrote in 1824 that “free trade, one of the greatest blessings which a government can confer on a people, is in almost every country unpopular.” Trade makes a huge contribution to economic prosperity. The facts and figures documenting this need to be aired, and presented in ways accessible to all. Misapprehensions need to be corrected where possible. Economic problems may be attributed to competition from imports, when the real causes are more complex or closer to home, as in the case of job losses resulting from technological change. Two findings deserve greater attention: Eurofound suggests that offshoring now accounts for only a small part of job losses in Europe (Eurofound, 2017); while OECD data indicates that higher imports do not correlate with increased unemployment, in the long run (Figure 1).

**Figure 1 - Import penetration and unemployment rate, selected OECD countries, 1970-2011**

![Graph showing import penetration and unemployment rate for selected OECD countries](image)

Source: OECD Economic Outlook database

(OECD, 2012, 18)
Continuity and change in the World Trade Organization

In any scenario, international trade needs a framework of laws, including mechanisms for handling disputes. The WTO has provided and managed this framework, and is a bulwark of multilateralism. It is now debating how to adapt to changing circumstances.

One key issue is managing the demands of emerging economies for a greater influence. The rebalancing of national weightings can take time; efforts to reform UN bodies have demonstrated this. It is unclear whether rebalancing would change the overall policy orientation towards multilateralism. For emerging economies in general, export-led growth has been a major contributor to their new prosperity. They may therefore be expected to defend free trade, as President Xi did at Davos this year. On the other hand, they have also been slow to open up their domestic markets, for example as regards public procurement. The degree to which emerging markets remove their own trade barriers will have a strong impact on future trends.

The WTO continues to face the reality of regional trade agreements. Allowing groups of countries move on to more sophisticated levels of economic cooperation is compatible with the WTO framework, up to a point. Continued respect for the Most Favoured Nation principle is a key benchmark. The WTO will continue to insist that regional agreements should be complementary to, and not in competition with, its rules. It remains to be seen whether the development of new plurilateral and hybrid agreements will weaken this essential multilateral provision.

For its part, the EU has every incentive to defend the institutional framework for international trade. Merchandise trade makes up a higher percentage of GDP for the EU than for other leading economies (Figure 2). The EU has largely maintained its share of world trade since the turn of the century; China’s share has increased, while the US share has declined notably. This in turn may help explain the current US emphasis on protection.

Figure 2 - Merchandise trade as % of GDP; EU, China, Japan, USA, 1960-2015

Data source: World Bank
Trade defence

Commitment to free trade does not imply that a state cannot defend itself against unfair competition. On the contrary, WTO rules establish robust trade defence mechanisms, and the EU has invoked these mechanisms more than anyone else. In some sectors, such as steel, the situation is so difficult that global negotiations are needed; hence the 2016 G20 summit created a Global Forum to address excess steel capacity. It is safe to predict that WTO rules will be further tested in the future. The mooted Border Adjustment Tax (BAT) in the USA may be such a case. If it is a step towards taxing business on where a product is sold, rather than produced, and if it is applied regardless of a company’s national base, it may prove positive (Irwin, 2017). On the other hand, if it takes the character of a classical tariff barrier, it may be challenged through WTO rules, or may provoke retaliatory measures. This latter scenario involves significant risk for multilateral trade levels (Hufbauer, 2017).

Trade Facilitation

Administrative reforms can result in trade producing even greater economic benefits. Streamlining customs and borders procedures could save up to 15% of value of the goods traded, improving profits and creating potential for more investment. To this end, a Trade Facilitation Agreement (TFA) was elaborated. It entered into force earlier this year; according to the WTO, rationalisation of customs and borders procedures can save an estimated 15-18% of costs, improving profits and creating potential for more investment. Implementing the TFA could increase global GDP by 1.5% (WEF, 2016).

Another challenge is to tackle practical barriers to market entry. Problems with connectivity, red tape and logistics hurt small business disproportionately, especially outside urban centres. World Economic Forum analysis suggests that as a result, large numbers of businesses miss out on the benefits of globalisation (WEF, 2016).

Investment in supply side capacity is also recommended. Work on digital and transport infrastructure, connectivity, and the overall business environment is complex and costly, and has a long-term rather than an immediate return. But it has the potential for major societal and economic benefits, well beyond an increase in export competitiveness (IMF, 2017).

Managing trade in Agriculture and in Services

The OECD has argued for decades for an opening of agriculture markets. They foresee many benefits from such a reform - while acknowledging that some benefits will only be apparent in the long term. Agriculture remains a notoriously difficult sector for international trade: the Doha Round failed because key partners would not reduce agricultural subsidies. Within the EU, agriculture faces a challenging transition. Long term prosperity will depend on harnessing the potential of technological innovation, improving competitiveness, focussing on quality produce, and preparing for integration into international markets. Internationally, major market reform in agriculture appears impossible without a credible strategy to compensate the losers. A large scale opening of the agricultural sector remains unlikely in the short to medium term.

Prospects for liberalisation are stronger in the services sector, which now accounts for 65% of the global economy, and 70% of jobs and of GDP in the EU (European Commission, 2015). The OECD also points out that barriers to trade in services harm the competitiveness of a country’s
manufacturing sectors. (OECD, 2017) The proposed Trade in Services Agreement (TiSA) is an example of a set of WTO members, including the EU, going ahead with an initiative, while keeping the possibility open of others signing up later. Given the significance of the services sector and the fact that digitisation dramatically increases the opportunities for international exchange, the creation of a new legal framework seems both desirable and necessary.

Outlook to 2030

A fragmented world?

Today, very different scenarios present themselves. One, developed by the National Intelligence Council (NIC, 2017), is called “Fragmented World”:

A dysfunctional Europe is absorbed in regional threats. The United States gives up on the policeman role. Protectionism provides an initial domestic economic boost, but leads to lower global growth over the medium term. [...] There would be little forward movement on free trade, but limited backsliding. The one area in which protectionist forces would prevail is immigration policy. [...] the major emerging countries still apply relatively high tariffs.

If the long-standing consensus in favour of international rules begins to crumble, and if globalisation is considered a major source of job losses, then a return to protectionism becomes more likely. Economic data provides strong evidence that protectionism produces weaker growth in the long run. History also teaches that it is easier to put up barriers to trade than to take them down. A strong move towards protectionism in the near term would take a long time to reverse.

The position of the USA, the world’s largest economy, is crucial. Should it turn away from open trade, the prognosis would quickly become darker. President Trump has frequently stated a preference for bilateral trade agreements, over multilateral agreements, and for balanced bilateral trade rather than trade deficits. The idea is that bilateral negotiations give the USA better scope to leverage its economic strength. At present, it is unclear to what extent this position will be adopted in practice. In other sectors, strong opening statements have not been followed up by action, possibly due to greater appreciation of political complexities. If the view expressed by President Trump is no more than a negotiating strategy, intended to anchor talks to a favourable benchmark, US trade policy may change less than initially expected.

If the next wave of digitisation disrupts employment in the service sector, and if industrial employment continues to decline in Europe and North America, the Fragmented World scenario is more likely. Discontent with the negative impacts of globalised trade remains a cornerstone of political support for greater protectionism.

Recommitment to open trade?

A more positive scenario is a recommitment to open trade as a central pillar of economic growth and prosperity. The reality that economies are deeply interconnected could reassert itself (OECD, 2013). Greater protectionism involves many unpleasant trade offs; this may become more evident as untested new approaches are tried out in practice. If the balance of public opinion is swayed by better explanations of the impact of trade, it may be possible to avoid simplistic and ineffective options being embraced in the first place.
This scenario also involves progress in the direction of fairer trade, with agreements on minimum standards, and on mechanisms to enforce them. The outcome will also be influenced by the degree to which large corporations - whose power has increase in the era of globalisation - embrace and exercise social responsibility. Much depends on the political will to deliver the labour market and other interventions which are needed to make globalisation inclusive.

Prospects for the European Union

The European Union is the world’s largest importer and exporter, and will remain so also after Brexit. As such it has the opportunity to shape events to its advantage. The EU may well be better placed to take the lead on free trade - and on fair trade - than the USA, for example. It is more integrated in the international economy than the USA, and has more to lose from a return to protectionism. It is not impossible that a community of interests between the EU and China could emerge, based on shared support for international trade and multilateral mechanisms; though this depends not least on China’s willingness to open its own markets to international suppliers.

The EU benefits from the existence of international rules, and will actively defend multilateralism (European Commission, 2017). But it will seek new or revised rules in some areas. Weak economic growth has created pressure to revise existing rules, for example on taxation. Technological developments, which are disrupting traditional business models and transforming the international economy, have created an urgent need for new rules in order to manage a new period of transition.

Difficult choices emerge in some major economic sectors. The steel industry will no longer offer levels of employment seen in past decades. At the same time, it is entirely appropriate to vigorously defend the sector against distorted competition due to overcapacity and dumping by other countries. A commitment to open trade does not mean that one renounces trade defence in such circumstances: on the contrary, it is a necessary element of open trade systems.

A neglected advantage is the EU’s tradition of state-sponsored social protection; stronger social security provisions put Europe in a stronger position to make globalisation more inclusive than, for example, the USA. Europe’s determination to maintain its status a world leader in social security will be tested, especially if the recent pattern of slow economic growth persists. A weakening of social protection in Europe is likely to create greater political support for protectionism.

Greater protectionism internationally would have profound economic, social and political implications. Support for maintaining an open economy will depend not only on economic policy but also on social policy. A policy package that supports people and regions through a difficult transition will be more effective if it is adopted and implemented by Member States and EU institutions acting in concert. A tendency to see the economy in strictly national terms, and to favour go-it-alone solutions, may complicate this effort.

In trade, as in other areas, the EU needs to continue to build its capacity to develop and implement strategic policy packages. Close cooperation between the EU institutions, the Member States, and local and regional authorities would increase the chance of a turn not to protectionism, but to a more inclusive globalisation.

Eamonn Noonan
Disappearing sand: A limit on the development of urban infrastructure?

Freya Windle-Wehrle

Background

Next to demographic shifts reshaping European societies, forecasts for Africa and Asia indicate a significant population increase with world population peaking towards 2030. The rising number of people living in urban areas - two-thirds by 2050 - will result in the physical growth of cities. Figures also show that megacities with 10 million people or more will be common by 2025, developing countries leading in this sector holding 95 % of urban population growth.

Urbanisation at this speed requires new physical infrastructure to meet the needs of growing populations, particularly in regions vulnerable to extreme weather events. Residential building, public spaces and institutions, roads and other structures are essential to address the social, environmental and health challenges that arise due to urban sprawl.

The world’s most important building material is concrete, of which 70-80 % is made up of aggregates such as sand, gravel and rock. The coming construction boom will increase demand and competition for concrete as well as other raw materials. What implications will this have for a city’s ability to provide for new infrastructure?

The importance of sand for modern civilisation

The dwindling supply of sand, a primary ingredient not only for infrastructure but also for glass, electronics and aeronautics may prove to be a serious near-future problem. Sand, together with related aggregates, is of strategic importance for concrete production and therefore for building and beautification projects overall. It is considered the second most important natural resource after water. The volume of sand extracted in 2012 alone was enough to build a 27-meter high wall around the equator. As a result, some parts of the world are already suffering from sand shortages, and see an increase of illegal sand mining, sometimes involving violence.

All extraction activities cause significant environmental pressure. They may have a serious impact on biodiversity, seas and water ecosystems, land loss and climate. Particularly in developing countries, livelihoods can by destroyed, with acute cultural and political consequences: In Cambodia, civil society groups demand a total ban of sand exports. In India, illegal sand mining is an open secret. Beaches and dunes disappear in North Africa through pillaging of sand, and East Africa’s coastline is scarred.

In addition, does increasing demographic pressure in Asia force expansion towards the sea: Singapore already holds the world record in shifting sands having grown by 20 % since the 1960s. Artificial islands in the South China Sea and Palm Jumeirah, one of the largest in the world, are another example. Despite all this, the global trend is still towards intensified extraction of a cheap and flexible building material.

How to cater for future demands?

Ironically, desert sand, which covers much of earth, is not suitable for construction; its grains are too fine. Sand saturated with salt water is also unsuitable. Only high-quality angular shaped sand extracted from quarries, beaches or riverbeds complies with building requirements. These locations limit the extent of sand mining that is determined both by geology and by policies applying in areas of high demand, i.e. cities. Its weight generally makes transport further than 35-50 km uneconomic.

New, cheap and flexible substances replacing sand remain to be discovered. Artificial sand and alternative building material has not yet proven large-scale efficiency. Nevertheless, the world is moving into cities, with Sub-Saharan Africa urbanising faster than any other part. Similarly, developing Asia has infrastructure investment needs of $26tn from 2016 to 2030.
Main Trends

The rapid rate of change to an interconnected, global world is unprecedented in human history. From country to country and regions at different rates, cities are mushrooming, turning into spheres of urban mass population with global economic power settling in global megacities. Ineffective governance in territories generating an estimate of 80% of all economic growth could generate a source of instability with resiliency of urban areas becoming a security issue.

This trend shaping future strategic contexts becomes even more salient when looking at indicators suggesting a 5-6% rise in annual sand demand, and a global one of 240 million metric tons by 2024. In 2018, the Asia/Pacific region will remain the largest user, supported by a dominant Chinese market with sand-consuming industries such as the glass sector fuelling consumption. However, forecasts for North America point out an even faster annual pace than any other regional market. Hydraulic fracturing segments and the strength in the US and Canadian oilfield activity will, next to the construction industry, boost sales further.

Uncertainties

- A hazardous shortfall of critical infrastructure may hamper economic development and social well-being thereby causing increased inequalities.
- A global rise in sand prices may hit the economy.
- In the absence of essential building material, a global black market for sand may emerge possibly even resulting in sand wars.
- The magnitude of rapid urban expansion will vary across the world but may create instability. Security challenges might arise due to turmoil over scarce resources.
- Severe implications after climate changes, especially for megacities situated in coastal regions, as infrastructure may be destroyed.

Possible disruptions

- Recycling concrete: Dependency on mining would significantly decrease, reducing serious environmental implications resulting from extraction activities.
- Re-healing concrete that patches up cracks by itself increasing its service life.
- Manufactured sand as a 100% replacement of natural sand. Replicating its properties would let future societies pursue the usage of concrete.
- Smart Living and the development of new, cheaper and more efficient construction technologies and advanced materials may reduce the need for scarce material.
- Green construction becoming mainstream: Environmentally responsible and resource efficient building could create sustainable futures. Dovetailing alternate sources such as wood, adobe, bamboo and steel with nano- or other technologies might be an option.
**Water re-use**

*Anne Altmayer*

**Background**

Water re-use is becoming increasingly important. It is a response to *water scarcity* and drought, at a time of global warming and strong population growth. Freshwater is a scarce resource, as it makes up only 1-2 percent of all water. In addition to the implications for food production, health and environment water scarcity is also constraining economic growth, according to the *World Bank*. The development of alternative sources — including through reuse — can help to alleviate expected shortages both globally and across Europe.

*Re-used water* refers to water that has already been used and undergone treatment processes before intentionally used again. Water can be reclaimed for non-drinking purposes, indirect potable re-use and direct potable reuse. Non-drinking purposes include agricultural use (e.g. irrigation), industrial use (e.g. processing or cooling water), recreational use (e.g. snowmaking or golf course irrigation), environmental use (e.g. groundwater recharge or wetlands restoration), and urban use (e.g. irrigation of public parks, fire protection systems or street cleaning).

Indirect potable re-use refers to the infiltration of treated wastewater into surface waters and groundwater that are used for drinking water. The natural water bodies are used as an environmental buffer. After reabstraction, the water is treated like any other source of drinking water.

Direct potable re-use is intentional usage of treated wastewater for human consumption, without the use of an environmental buffer. The treated water is directly distributed via a water supply network, rather than being mixing with natural ground- or surface water.

A variety of treatment processes, adapted to the requirements of the end usage, are applied to used water. These are referred to as primary, secondary, tertiary and advanced treatment. Primary treatment involves a physical process that eliminates mainly visible material; in secondary or biological treatment, organic matter is removed through the use of microorganisms; tertiary treatment involves chemical treatment, principally in order to remove pathogens as well as nitrogen and phosphorus. An additional *fourth* treatment stage, comprising for instance the use of ozone or activated carbon, is designed to remove micropollutants, such as pharmaceutical residues.

Wastewater re-use is well-established or increasingly important in several places, including Israel, Australia, Singapore, Namibia, the USA, China, Mexico and Europe. At present reclaimed water is more commonly used for non-drinking purposes than for drinking purposes. *Israel* as one of leading countries in water re-use reclaims about 80% of its wastewater for use in agriculture. Within the EU, both Mediterranean and northern Member States reuse water for irrigation, industrial uses or aquifer recharge. *Worldwide*, water re-use for drinking is rare. The *Torreele* facility in Belgium is an European example for indirect potable reuse. It uses effluents from a wastewater treatment plant to recharge a groundwater aquifer, which serves as drinking water supply. The city of Windhoek (Namibia) has practiced direct potable re-use for more than 45 years. Singapore recently launched a drinking water project. *California* provides an example of regulations being developed for water re-use.
Main Trends

Globally, water re-use is expected to grow. The pattern of usage is expected to shift from agricultural irrigation towards municipal applications, such as drinking water supply and industrial use. At present, the highest water demand is from agriculture. Increased global demand is expected to come from manufacturing (+400%), electricity (+140%) and domestic use (+130%), according to the OECD. Urban wastewater reuse still presents the biggest challenge, both as regards public acceptance, technology and economic feasibility.

Water re-use is projected to grow more quickly than other alternative water supply sources such as desalination, according to the JRC.

Decentralised water treatment could become more important, in particular in developing countries. Local systems are adaptable to specific requirements and can be more cost-efficient than centralised treatment if planned from the outset.

In the EU, about 2.4% of the treated urban wastewater effluents are currently re-used. The European Commission sees a potential to increase the current volume six-fold, to around 6 billion cubic metres. Proposals on minimum requirements for water re-use in irrigation and aquifer recharge are forthcoming, and the question of industrial water reuse is also on the agenda.

Uncertainties

> **Public acceptance of wastewater is important.** According to the Joint Research Centre (JRC), negative public perception is a major impediment to water reuse projects. Scepticism about reuse for drinking is accompanied by fear of contamination of food irrigated with reclaimed water. Cultural aspects and consumer behaviour also play a role.

> **‘Emerging pollutants’ are an additional concern.** These include pharmaceutically active chemicals, personal care products, and suspected endocrine disruptors. Conventional wastewater treatment cannot completely remove such substances, and little is known about potential long-term effects on human health and ecosystems.

> **Monitoring and risk assessments are still mainly based on the effects of individual compounds.** The possible cumulative effects of chemicals has recently emerged as a further concern.

> **Water treatment processes can affect mineral concentrations and hence affect the intake of essential elements such as calcium and/or magnesium.**

Possible disruptions

> **Affordability is crucial.** The high cost of advanced wastewater treatment remains unaffordable for many developing countries. Long-term economic viability can also be an issue, if reclaimed water is priced below drinking water to make it more attractive, but not covering the treatment costs. The need for infrastructure to keep the reclaimed water separate from potable water can be an additional financial constraint.

> **A serious health incident linked with reused water could seriously undermine any plans for water reuse.** There is a potential health risk from little-known or unknown pathogens that might occur in wastewater and may not be eliminated by treatment.

> **According to the OECD, improved wastewater treatment is expected to stabilise and restore surface water and groundwater quality in most OECD countries by 2050.** By contrast, the quality of surface water outside the OECD is expected to deteriorate in the coming decades, through nutrient flows from agriculture and poor wastewater treatment.
The digital future of news media

Marcin Ceslik-Grajewski

Background

News media and journalism are undergoing a profound change. Digital technology is revolutionising the way people communicate, thanks to the expansion of large digital distribution platforms, social media and smartphones. The traditional business model, in which revenues from advertising subsidise the production of news, is on the verge of collapse. News is moving towards a digital, mobile and social media environment. The number of professional journalists shrinks, as traditional news providers close down or try to innovate, with mixed results. This is part of a wider trend, in which new technology eliminates a small group of ‘middle-men’ and empowers individuals, for better or for worse. Many analysts believe the digital revolution opens vast opportunities by empowering individuals to participate in news production. Others worry that the decline of the old-style journalism, which emphasises fact-checking, background research and reporting based on independent sources, impoverishes the social debate and facilitates the spread of fake news.

The traditional news media model, which reached its peak in the 1980s and early 1990s, is losing ground. In the United States, newsroom jobs dropped to 32,900 in 2015, 42% down from their peak in 1990. In 2015 alone, U.S. newsrooms lost 4,200 jobs, or nearly 13% of the workforce. From 2004 to 2014, the number of daily newspapers decreased by more than 100, to 1,331. In Europe, printed newspaper circulation declined by 21% from 2010 to 2015, while print advertising fell by 23% over the period. In the U.S., paid circulation of daily newspapers shrank to 40.4 million in 2015 from 62.8 million in 1985. The radio and television news audience is more stable, but it is aging. The traditional news organisations respond with cost-cutting, lay-offs and content reduction, which often makes them less attractive for customers and advertisers. They invest in digital projects while the market consolidates through mergers. However, there are very few examples of established media that make profit from their digital operations.

Although legacy media still produce most of the news content, a small number of large technology companies dominate the distribution of news and digital advertising. The top ten players account for half of time spent on websites and more than sixty percent on apps. In both cases, only one media organisation, the BBC, makes it into the top ten. The role of mobile devices grows. In 2010, mobile media use accounted for an estimated 8% of the time Americans spend using media, compared with 25% for internet access via personal computers. By 2015, mobile media had grown to 25% and overtaken internet access via personal computers, which was down to 22%.

Most news has become commoditised. Government and corporate statistics are easily available, important events are broadcast live, video-streamed or recorded on smartphones and made available on social media. This diminishes the importance of journalistic fact-checking, putting more emphasis on analysis and comment.

The definition of journalism is changing. One current definition describes journalism as “the activity of collecting, presenting, interpreting or commenting on the news for some portion of the public.” The breadth of this definition contrasts with a more narrow approach of Bill Keller, former executive editor of the New York Times, who said in 2009 that “by quality journalism I mean the kind that involves experienced reporters going places, bearing witness, digging into records, developing sources, checking and double-checking.”
Main Trends

The circulation of print news media will continue to decline, leading to closures of newspapers, cost-cuts, jobs losses, consolidation and decline in quality of content.

Few strong legacy companies will prosper in lucrative niches, such as economic news, moving towards digital distribution away from print.

News content will increasingly be taken from social media, notably through smart phones, cementing the dominance of few digital platforms, which will continue to benefit from growing advertising revenues at the expense of legacy news firms.

More news stories will be written by computer programmes, forcing more journalists out for profession and encouraging them to upgrade their multi-media skills.

New forms will take a centre stage, such as data-driven journalism, collaborative journalism and social journalism. Journalists will brand themselves through operating blogs and twitter feeds.

News companies will engage in other activities, such as consulting or public relations, to supplement income.

Television and radio will continue to be major news providers in the medium-term, although their audience will age. They will produce more news on demand, such as podcasts.

Uncertainties

> The circulation of print news media will continue to decline, leading to closures of newspapers, cost-cuts, jobs losses, consolidation and decline in quality of content.

> Few strong legacy companies will prosper in lucrative niches, such as economic news, moving towards digital distribution away from print.

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> More news stories will be written by computer programmes, forcing more journalists out for profession and encouraging them to upgrade their multi-media skills.

> New forms will take a centre stage, such as data-driven journalism, collaborative journalism and social journalism. Journalists will brand themselves through operating blogs and twitter feeds.

Possible disruptions

> The Internet could collapse, its quality deteriorate significantly or become chronically unstable due to, for example cyber-attacks, data overflow or global fragmentation resulting from political or military conflicts. This would deal a blow to distribution platforms providers and social media.

> Massive Wikileaks-style security breaches could convince governments to censor the Internet, with negative implications for digital companies.

> The development of computers programmes capable of writing most news stories, not only highly formulaic ones as is the case now, would probably lead to the near demise of journalism as we know it. The change would be even more radical if artificial intelligence is developed.

> Governments’ anti-trust action could limit the power of digital distribution platform.
The surplus of men in China: A gender issue or a social threat?

Eamonn Noonan with Tara Riva (Trainee)

Background

The Chinese government adopted the ‘one-child policy’ in 1979, with the aim of limiting population growth. It was introduced as a temporary measure, but it ended only in 2016, after a gradual relaxation from 2013.

The one-child policy affected urban families in particular. In rural areas a second child was generally allowed, if the first child was a girl. Since 2016, all families may have two children, including those in cities.

This demographic experiment has had a huge impact on the structure of Chinese society. Above all it affected the sex ratio, defined here as the ratio of male to female live births reported. The sex ratio has increased considerably since the 1980s. The highest rate occurred in 2004, 121.2 boys were born for every 100 girls. This was the highest rate recorded, and compared to the general average ratio of between 105 and 107 male births per 100 female births. As a result, in 2020 China will have around 30-35 million more men than women of marrying age.

The imbalance in the sex ratio reflects the fact that many families showed a clear son preference, and sought to avoid having only female children under the one-child policy. This preference in turn has social, economic and cultural origins. Having a male offspring guarantees the continuity of the family-line, and it is customary in China for males to take care of their parents in old age.

The son preference gave rise to the underreporting of female births and an increase of prenatal sex identification, both by ultrasound and other diagnostic methods. Female infanticide has also been reported. All of these practices, including prenatal sex determination, are illegal in China.

When a female birth is unreported, the individual concerned is alive, but is unregistered in the census or population surveys. Families that did not report the birth of a daughter can have chosen to raise her secretly, to send her to their relatives, or to abandon her. Many of the women concerned declare themselves as immigrants or as adoptees, years later. This explains why the number of 10-14 year olds in the 2000 census was greater than the number of 0-4 year olds in the 1990 census. Unregistered status seriously affects a girl’s prospects. It is a serious obstacle to access to medical services, child care and education.

Prenatal sex-selection also became widespread. For women living in urban areas, the sex ratio for the first birth was 1.13, while in rural areas it was 1.05. In both cases, it increased sharply for the following births. This strongly suggests some correlation between the one-child policy and the practice of sex selection within Chinese families.

Ultrasound B machines were introduced in China in the 1980s, giving access to prenatal sex determination and paving the way for sex-selective abortions. The government has banned their use for this purpose, but this did not have a significant impact on the rate of sex-selective abortions. Couples who strongly desired male offspring bribed medical personnel, while friends and families put pressure on health professionals.

Female infanticide has certainly taken place. It is currently very rare, not least due to the huge social and psychological impact on families. The Chinese press continues to report individual cases. Some children are abandoned; but they tend to be left in an area where they are likely to be found and cared for.

The cultural preference towards a male offspring has led to a social imbalance. There are already a significant number of single men with no marriage prospects. This trend is unlikely to reverse without government action. Even with a policy response, a demographic imbalance on this scale will take decades to correct. In the meantime, the country will have a large cohort of single men, many of whom are poor. It is possible that anger and frustration could find expression in increased crime and violence.

Taken together, China and India have a huge number of missing females: some 62-68 million in total. This may not necessarily be a direct consequence of sex-selective abortion and female infanticide, but it is certainly a significant, and neglected, social problem.
The shortage of women in China, as in India, cannot be explained entirely by reference to female infanticide or sex-selective abortion. However, these factors are likely to be among the main causes of the unbalanced sex ratio. Historical examples exist of a higher sex-ratio than modern China, but they were limited in time or in geographical extent. In China, as in India, this is a concern across the nation. Its dimensions are unprecedented in human history, and it is therefore hard to make specific predictions. Some experts suggest that it will increase the sense of insecurity both within these societies and among their neighbouring states.

Ending the one-child policy was a necessary, but not sufficient, step towards a more gender-balanced society. Removing this policy, in itself, does not change the cultural preference towards male offspring, though it reduces the pressure families experienced when their only child was a girl. In the long run, China will need much stronger efforts to promote gender equality and to tackle discrimination against women.

In recent years, the Chinese government has taken the country’s high sex ratio more seriously. But China and India - the Asian countries mostly affected by high sex ratios - comprise over 38% of the world population. In the long run, this issue may be seen as a global threat, and not just as a regional imbalance. Single men who are unlikely to find a wife are called “bare branches” in Chinese. Historical evidence suggests that “bare branches” have contribute to intra-societal violence in high sex-ratio societies, and that governments in the past, aware of this dynamic, have risked violent foreign policy adventures in order to disperse the bare branches.

There is already increasing anger and frustration among the large cohort of single, poor and uneducated men. When a high sex-ratio coincides with unequal resource distribution and generalised resource scarcity, the level of violence and social disorder is likely to increase. ‘Bare branches’ appear more inclined to resort to violence to achieve satisfaction and to capture resources that allow them compete with other males.

Experts warn of a particular risk of increased violence against women. Women already face the risk of being kidnapped and sold as wives. Without a reversal of the current trend, China is likely to see increasing exploitation of women, including trafficking for sexual purposes.

There is also a notable public health risk. Several studies indicate that a surplus of men - usually young, poor and unmarried - can lead to HIV epidemics and more sexually transmitted infections (STI), also due to greater demand for prostitution.
Automated weapons: making wars “safer”?

Leopold Schmertzing with Kaisa Alliksaar (Trainee)

Background

Many future weapons will depend on artificial intelligence (AI). World Economic Forum warns in its latest Global Risks report that a new global arms race in weaponised robotics and AI is gathering pace. Indeed, countries such as the US, the UK and Israel are already using weapons systems that are capable of detecting, tracking, and in some cases even engaging targets automatically. China and Russia are reportedly to pouring money into research on similar technologies. Completely autonomous weapons have not been deployed yet, but as the UN Human Rights Council has warned, technology is developing rapidly and exponentially, which makes it difficult to determine how close we are to fully autonomous weapons.

A proliferation of lethal automated weapons (LAWs) (that, once activated, can select and engage targets without any human intervention) raises urgent questions about the future nature of war and warfare. The main challenge that such weapons and systems represent is that humans might become completely detached from decisions to kill. As the human cost of taking military action decreases, proliferation of LAWs could lower the threshold for starting a war. Other issues include difficulty in casualty recording due to lack of personnel on the ground and an acceleration of the trend of using covert operations hidden from the public eye.

LAWs potentially call for new regulations concerning international humanitarian law (IHL), because current law is entirely based on human actions and decisions. If a LAW targets civilians by mistake, who will be held accountable? The programmer, the commander, or the person who “pushed the button”? However, legal scholars argue that even an activation of a weapon constitutes human involvement, which shifts the responsibility to the commander, even in the case of the final decision taken by the weapon. Additionally, the principles of distinction, proportionality and precaution continue to apply if a LAW is used in an attack. Still, it is agreed that the bigger the degree of autonomy, the more ambiguities and tensions it raises about IHL’s meaning and application.

Some researchers believe that LAWs lack qualities vital in combat, such as the ability to understand the context of the conflict, situational awareness and a general ability to understand how snap decisions taken on the battlefield could affect the local population or the desired strategic outcome. There are also doubts about whether even an advanced future LAW would match a human in its ability to discriminate targets in complex situations.

On the other hand, there are those who think LAWs will make war “safer” by avoiding both combatant and civilian casualties, provided they could be programmed to strictly follow IHL. Furthermore, unlike humans, LAWs do not feel fear or anger and has no instinct of self-preservation, which is why it has been argued they could be less prone to committing atrocities, in which case their use could even become a future requirement. An LAW can also increase accountability by leaving a digital trail of its actions.

A key question for the future of LAWs is the extent to which a human is involved in the decision-making process. The United States has already asserted that any of its high-tech weapons system would always be subject to human oversight. However, the scale of the human involvement deemed necessary is undetermined with several questions still pending. Will a human simply programme the tactical objective into the system and let it calculate the most optimal course of action on its own? Or is authorisation by a human operator needed for every decision to eliminate a target? Even in the latter case, problems might arise given the potential bias of the human operator to trust the machine's calculations over their own instincts in a situation where there are only (milli-) seconds to decide, and all the information about the situation is provided by artificial intelligence.
Main Trends

It is beyond doubt that large military powers will aim to develop their autonomous weapons capabilities further. Key drivers for this include the desire to minimise the human cost of a military operation and the ability to match the AI capabilities of another superpower.

Smaller powers or non-state actors with little capacity to develop such weapons will in turn have to develop their ability to fight a highly asymmetrical war, which could result in new forms of deception against autonomous targeting.

Once LAWs become common, there is a risk of non-state actors less inclined to abide by regulatory rules to acquire them via transfers or sales.

Achieving tactical victories will become easier for wealthier states, but the increased use of AI will likely intensify the general trends of modern war: lingering intrastate wars with limited involvement of various foreign powers, where there is little reconciliation or post-war reconstruction in sight (Afghanistan, Syria, Iraq, Ukraine).

In the less likely case of two equally advanced states with LAWs going to war with each other, cyber deterrence could become more relevant, if the focus will shift be on attacking the software of the central weapon system, rather than the hardware.

Uncertainties

- Defining the required scope of human control. Will there be an international agreement on limiting the autonomy of LAWs?

- The speed of technological advances in AI in the coming decades. Will it become possible that LAWs prove to be more effective decision-makers on the field than humans? Can they be advanced to the point where they possess human-level intelligence? Could they be programmed to comply with the laws of armed conflict more consistently than humans?

- Whether AI-led weapons actually help states achieve strategic aims, and therefore justify their cost, is also questionable. For example, despite technological superiority, modern superpowers have had difficulty containing terrorist networks who engage in asymmetrical tactics. Also, a LAW cannot answer fundamental questions about how a military intervention could end an incredibly complex civil war for good or establish peace in a volatile region.

Possible disruptions

- A major incident caused by the malfunction or the misuse of an advanced LAW will result in a tragedy that might amount to a war crime. This could force states to reconsider the proliferation of AI weapons or even result in a worldwide agreement, where LAWs would assume a status similar to weapons of mass destruction. However, much like WMDs, there is no guarantee that no state will continue to develop AI-operated weapons in secret.

- A state or non-state actor with diverging interests and values from the West is the first to develop next generation LAWs. This could have major implications on regional power balance and international security. The decline of US military power has long been predicted and another state going through the AI revolution faster could become the final nail in the coffin.
Towards a post-GDP world?
New measures of socio-economic progress

Agnieszka Widuto

Background

GDP is increasingly contested as a measure of well-being. Alternative measurements have appeared around the world in the recent decades. There are many grounds for criticism of GDP. It does not reflect the social and environmental costs of growth. It ignores non-market transactions, such as family care and volunteering. It counts some potentially harmful activities as positive, such as spending on crime or pollution clean-up. Finally, as an aggregate measure, it tends to mask problems of social or regional inequalities within countries.

Since the late 1970s there have been attempts to shift the focus from economic growth towards a more comprehensive vision of development. This was fuelled by the environmental concerns about the limits to growth, and later by the social impact of market liberalisation and globalisation. Research findings (such as the Easterlin paradox) also suggested that long-term rise in GDP per capita rates, above a certain threshold, did not correlate with increased happiness or life satisfaction.

In response, a variety of alternative indexes were developed. The most famous include Bhutan’s Gross National Happiness (GNH) index (1972) and the UN’s Human Development Index (HDI, launched in 1990). The OECD’s Better Life Index (2011) and the EU’s regional Social Progress Index (2016) are more recent. These indexes aim to offer a comprehensive assessment of quality of life and well-being, tracking aspects like health, education, work-life balance, gender equality, personal safety, environmental sustainability and subjective life satisfaction. In a similar vein, the United Nations launched its Sustainable Development Goals in 2015, building on the previous Millennium Development Goals. Other new indexes emerged at the national and regional level, such as the UK’s Measuring National Well-being initiative, the Italian BES (Benessere Equo e Sostenibile) and Germany’s Wohlfahrtsindex.

The ‘Beyond GDP’ high-level international conference in 2007 and the seminal Stiglitz report on new indicators of 2009 accelerated the momentum for such indexes to enter policy-making. Until recently they mainly served to stimulate public debate and improve data collection, but are now entering the implementation phase. This is helped by the spread of evidence-based and results-based approaches to policy-making, and by the development of tools like impact assessments, early warning systems, evaluations and data-based forecasts.

The new indexes are proposed as an alternative to the growth-centred paradigm. Some argue they could change the future model of society and economy. Others point out difficulties: reliability of data, lack of comparable time-series, and lack of consensus on which index to use worldwide. It is also debatable whether the primacy of growth as a policy goal can be adapted to include other measures as benchmarks of socio-economic progress.

The movement towards other indexes faces challenges. Already in the 1930s the Nobel-prize winning US economist Simon Kuznets - recognised as the creator of GDP calculations - warned that ‘the welfare of a nation can scarcely be inferred from a measure of national income.’ He urged policy-makers to distinguish between ‘quantity’ and ‘quality’ of growth. Almost a century later, the growth-centred paradigm is still the economic mainstream, and GDP is a well-established, statistically reliable measure, used worldwide.

The recent election in the US showed that some countries may choose to pursue a growth-centred model over environmental and social concerns. Those who benefit from quantity-based growth can be expected to support its continuation. As such, the formal adoption of new indexes to guide policy decisions would represent a significant shift in political opinion. The alternative measures have the potential to guide the economic and social model in a new direction, but will they overcome key conceptual, methodological, and indeed political difficulties?
Main Trends

**International initiatives** such as the Sustainable Development Goals and various indexes may gain popularity, as increasing inequalities, precarious employment, jobless growth, stress-related diseases and environmental damage add to public pressure to reform the current economic model. By 2035 new indexes are likely to have greater reliability and comparability, having been ‘tried and tested’ as policy tools around the world.

**New business models** such as social enterprises, sharing and collaborative economy may gain a bigger market share. This may shift the focus from quantity-based production and consumption towards purpose-driven activities with positive social, environmental and community impact.

**Increased consumer awareness** is likely to boost demand for ethically produced goods and services. Knowledge of provenance, working conditions and destination of profits is increasingly sought after in areas such as food (‘from farm to fork’), sustainable fashion and ethical investment banking. The recycling, repair and second hand sector are also likely to profit from this trend.

**Continued low growth** in the Western hemisphere may stimulate a shift from a quantity- to quality-based orientation. This could intensify efforts to find a new meaning for concepts like prosperity and high living standards. Together with the trend to emphasize and measure quality of life and well-being, this could lead to regulatory changes fostering a cleaner environment, more cohesive communities and better quality jobs.

Uncertainties

> Can the economy grow indefinitely? Will the pace of growth remain stable? Economic forecasts estimate that the global GDP could grow at around 3% per year over the next 50 years, ranging from around 2% in advanced economies to 5-7% in fast-growing emerging countries. While the Malthusian prophecy on population growth catastrophe did not materialise, there are still open questions about planetary boundaries and finite resources, macroeconomic imbalances (e.g. indebtedness) and the impact of rising social inequalities. Structural reforms and enhanced international cooperation may be able to address some of these issues.

> Will one index become dominant as an alternative to GDP? Or will a variety of indexes be used, customised and adapted to local needs? Currently, the latter seems to be the case, with various indexes being used around the world. International harmonisation efforts may result in a new, credible index with a sufficiently long time series to ‘dethrone’ the GDP.

> Political developments: The recent election iPolitical choices: A political choice for a growth-centred model over environmental or social concerns would hinder the systematic application of new indexes.

Possible disruptions

> **Potential crises and wars:** after the 2008 economic crisis, a prompt return to pre-crisis levels of growth became a policy priority, despite greater awareness that official figures had masked various imbalances and bubbles. A similar effect is possible in case of any future crises, military conflicts or wars.

> **Revolutionary lifestyle changes leading to system changes:** if trends such as minimalism (owning a minimal amount of material goods) went mainstream, this could cause a sharp reduction in demand for consumer goods, and in consequence production. This would result either in lower growth rates or in a forced restructuring of economic activity towards different types of goods and services.

> **Adjustment of GDP calculations (e.g. to incorporate social and environmental externalities):** this could eliminate many of the current critiques and diminish the case for alternative indexes. But it is unlikely; previous such initiatives either failed (e.g. ‘Green GDP’ in China) or did not manage to replace traditional GDP in the policy sphere (e.g. Index of Sustainable Economic Welfare).
The hollowing out of the western middle class

Marcin Cesluk-Grajewski

Background

Aristotle wrote in his ‘Politics’ that “…great then is the good fortune of a state in which the citizens have a moderate and sufficient property; for where some possess much, and the others nothing…a tyranny may grow out of either extreme. Where the middle class is large, there are least likely to be factions and dissensions.” It is the burgeoning middle class that underpinned the open, rule-based democratic order in Western Europe, the United States, Canada and other developed countries in the decades following World War II. This order has been shaken in recent years, facing pressure from populist and xenophobic movements. Some analysts attribute this political and economic instability to hollowing out of the middle class in some developed countries and the accompanying rise of income inequality that, in turn, resulted from globalisation, inadequate regulation, automation and other disruptive forces of technological change.

The middle class is usually defined as people whose incomes hover between 50% and 150% of the national median income, or in other research between 67% and 200%.

From the global perspective, the last 30 years have been tremendously successful in limiting poverty, with about 2 billion people in China, India and other countries lifted out of poverty.

The first decade of this century witnessed an historic reduction in global poverty. The share of poor fell from 29% to 15% over the period. But in 2011, a majority of the world’s population were still in the low-income bracket (56%, compared to 50% in 2001). Only 13% that could be considered middle income by a global standard - though this was almost double the 2001 figure (7%).

Their rise, however, was accompanied by the gradual shrinking of the middle class in richer countries, creating the feeling of insecurity and resentment, although some countries were more affected than others, if at all.

Numerous studies show that the number of individuals in the middle class income bracket has shrunk in the last decades, most significantly in the United States, but also a number of European countries. The 2008-09 financial crisis and the ensuing recession aggravated the situation. Some analysts attribute the process to outsourcing of better-paid jobs, initially from the manufacturing sector then also while-collar jobs, as well as automation of middle-income occupations thanks to technological change, mainly digital.

A 2016 study from Pew Research Center showed that the share of Americans living in middle-income households has fallen from 61% in 1971 to 50% in 2015. The share living in the upper-income tier rose from 14% to 21% over the same period. Meanwhile, the share in the lower-income tier increased from 25% to 29%.

A recent Mckinsey study showed that the share of middle-class American households dropped from 58 percent in 1970 to 47 percent in 2014, as people migrated both to the upper and lower ends of the income scale. Most recently, wages have stagnated. In 25 advanced economies, another study showed, between 65 and 70 percent of households, the equivalent of 540 million to 580 million people, were in segments of the income distribution whose real market incomes - their wages and income from capital - were flat or had fallen in 2014 compared with 2005. This compared with less than 2 percent, or fewer than ten million people, who experienced this phenomenon between 1993 and 2005.

A 2017 recent Pew paper indicated that from 1991 to 2010, the shares of adults living in middle-income households increased in France, the Netherlands and the United Kingdom, but shrank in Germany, Italy and Spain. Overall, the middle-class share of the adult population fell in seven of the 11 Western European countries examined. Analysts point to the role of German reunification as a factor behind the lackluster economic performance in the 1990s.
Main Trends

The middle class in developed countries is likely to continue to shrink as a result of outsourcing and automation. Increasingly sophisticated computer programmes and robots will take over many tasks now performed mainly by humans, in professions ranging from transport to law, accounting and health care.

Stable, relatively well-paid jobs will continue to disappear with the expansion of the economy based on digital platforms that match demand and supply for labour, offering little social security protection. Free lancing specialists’ wages could be volatile. The accompanying stress could make workers less productive and family life more difficult.

Income disparity will continue to widen between the owners of capital, robots and patents, those needed to maintain the digital infrastructure, and highly creative individuals on the one hand, and the increased number of those employed in the less paid services sector on the other. The trend will be amplified in countries where high quality education is available mainly for the richer in society.

The increase in income inequality could lead to further political polarisation, possibly changing countries’ political trajectories. A shrinking middle-class would curb domestic demand, contributing economic slow-down.

At an individual level, staying in the middle class will be more difficult; the development of new skills, also through the life course, will be more important.

Uncertainties

> The pace of economic growth resulting from the global macro-economic situation will be key for the wealth of all social groups.

> Regulatory environment in the areas of taxation, health care and housing will determine income distribution, thereby helping to shape the size of the middle class.

> Production of some manufactured goods is slowly returning to developed countries, and new technologies are emerging such as 3-D printing, but it is unclear how many working places the new, generously automated factories will generate.

> Demographic trends and migration policies are likely to determine the pace of economic growth, including distributable income. Aging societies tend to invest less and to be risk-averse in economic activity. The growth of decline of the middle class is likely to influence levels of social cohesion and its counterpart, social tension.

> The level of government investment in education will influence the number of well-paid jobs.

Possible disruptions

> The development of artificial intelligence may thoroughly reshape the labour market, eliminating numerous well-paid jobs, while creating only few highly paid ones.

> Another financial crisis and prolonged great recession would impoverish many, with unpredictable economic, social and political consequences. A possible collapse in the rapid expansion of China and India would affect the developed economies, with low and middle income earners hit hardest.

> The introduction of the Universal Basic Income would rewrite many economic and social patterns.

> The expanding new world of work, based on digital platforms, would at some point require a deep overhaul of the current social security and pension systems.
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