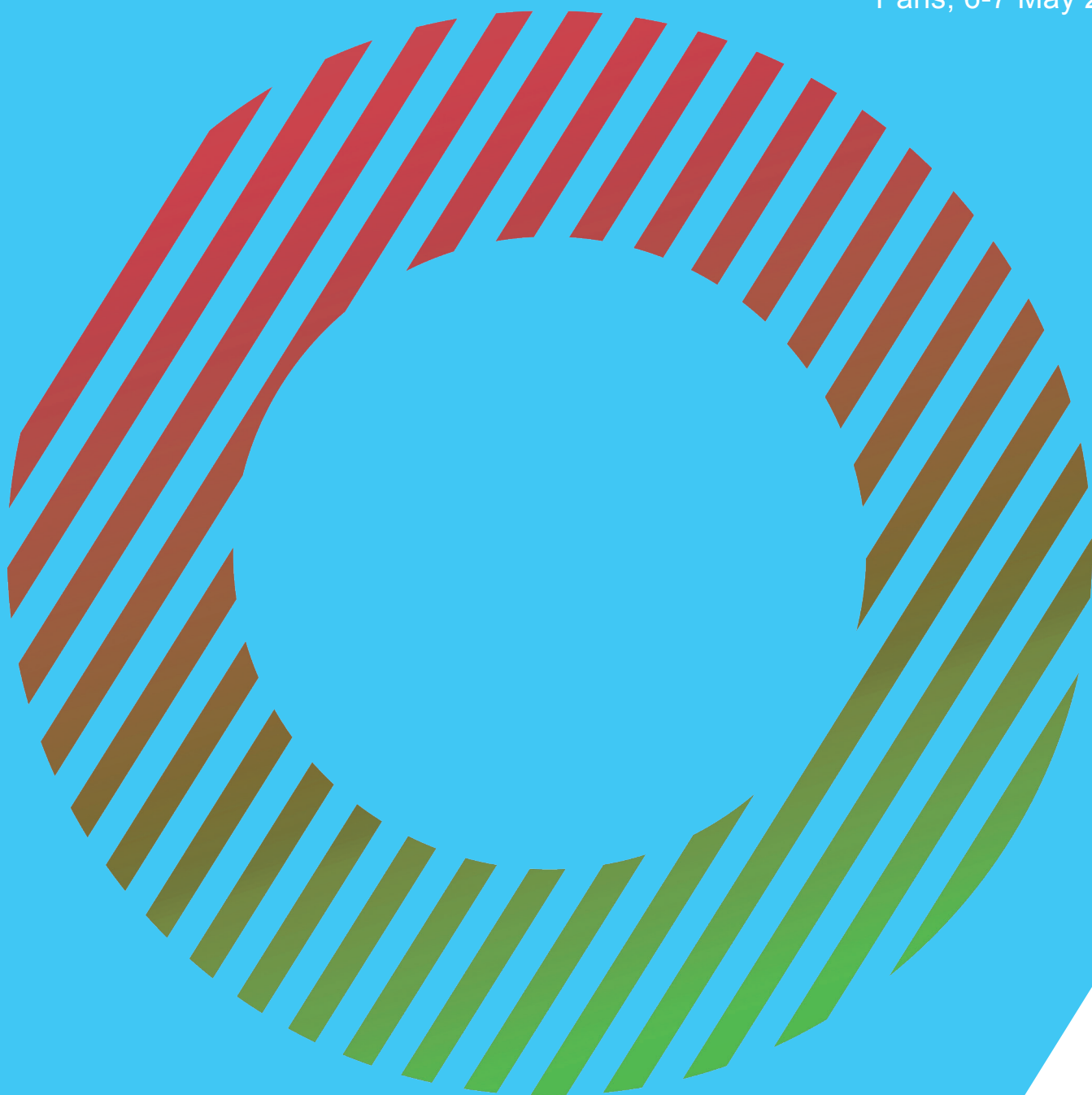


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NEW APPROACHES TO ECONOMIC CHALLENGES (NAEC) SYNTHESIS

**New Approaches to Economic Challenges
(NAEC)
Synthesis**



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INTRODUCTION

1. In the sixth year after the onset of the greatest financial and economic crisis of our lifetimes, we are still wrestling with its dire consequences. The crisis erupted in the context of a series of global trends, including a demographic transition and rising inequality, as the more mobile factor of production (capital) was able to earn higher returns, while labour – and particularly low-skilled workers – saw its income share in GDP diminish. Together with the deregulation of financial markets and rising global integration, these trends pushed down real interest rates and created an environment that encouraged credit growth. This, in turn, facilitated the build-up of global imbalances in savings and investment, as well as excessive debt accumulation by households, firms and some governments. Missing structural reforms in many countries, high levels of public debt and deficits as well as ill-designed macroeconomic policies also contributed significantly to these problems.

2. By and large, policy makers and economists failed to grasp the importance of the structural and financial tensions that were building up in many countries and the global economy. Group thinking sometimes precluded hearing diverse and diverging views, while lobbying by interests groups has in some cases prevented necessary reforms. Meanwhile, prevalent economic models and analytical approaches often favoured a silo approach in policy making, and disregarded the mechanisms leading to imbalances, preventing from fully grasping the complexity of the global economy and the interconnectedness between and within economies. The focus on economic growth indeed often downplayed other policy objectives, resulting in growth being considered as an end in itself, rather than a mean to improve the well-being of the population. Consequently, issues such as inequality and environmental harm were sometimes treated as secondary effects to be addressed at a later stage. Focusing on few policy objectives prevented a balanced analysis of the trade-offs and synergies between different policy options and a thorough understanding of the unintended consequences of policy decisions.

3. In the financial sector, the crisis erupted against the backdrop of macroeconomic imbalances and a range of additional structural weaknesses, including flawed incentives across a wide spectrum of financial market participants. While there were numerous signs of trouble ahead of the crisis (*e.g.* balance-sheet imbalances, spikes in asset prices, and declines in risk *premia*), many analysts, OECD included, were looking at and interpreting evidence with analytical approaches and models which failed to adequately reflect the behaviour of economic agents. The sense of complacency also led to a failure to understand the inter-linkages between the financial sector and the real economy and how these could lead to unsustainable imbalances, as well as the consequences of insufficient structural reforms, under-regulation and excessive public debt. This caused many to miss the onset and the magnitude of the problems and to underestimate the severity of their impact. Indeed, the costs of this financial crisis have been quite large, and the synchronicity of the crisis in all major advanced economies further magnified its impact and duration.

4. Governments' efforts to counter the effects of the crisis and stimulate the economies during the depth of the crisis were well-placed, but sometimes worsened the already substantial fiscal imbalances. In some countries public finances were increasingly constrained, which led to a period of fiscal consolidation, in the presence of economic insecurity and high unemployment, along with other pressing economic and social challenges. Room for manoeuvre is even more limited, as many of the traditional policy tools, such as monetary policy rates, are at or near the zero lower bound, and the extraordinary measures introduced as a consequence have both benefits and shortcomings. Meanwhile, trade and investment have yet to return to pre-crisis levels.

5. It is in this context that the OECD launched the initiative on New Approaches to Economic Challenges (NAEC) in 2012. NAEC is an organisation-wide reflection on the roots and lessons from the

crisis with the aim to catalyse a process of continuous improvement of the OECD analytical frameworks and policy advice. NAEC was also launched as part of a broader effort to build an inclusive and sustainable agenda for growth and well-being. It aims at defining more effective policy options that align growth, social, environment (*i.e.* low-carbon use and resource efficiency) and other policy objectives. NAEC will preserve and further develop the unique capacity of the OECD to conduct cross-country analyses of reforms, which should lead to a focused number of internally-consistent recommendations that improve societal well-being. In doing so, NAEC should also be instrumental in addressing the legacies from the crisis, including low economic growth, high unemployment, high inequality and low trust. Indeed, while the recent crisis reflected systemic vulnerabilities in the financial sector, we will need to be equipped to deal with future systemic vulnerabilities that may originate elsewhere and might be transmitted through other channels.

6. To achieve its objectives, NAEC has a measurement agenda with the aim to gather new data and information. It will also adopt new, extended analytical tools to provide better policy advice, while seeking to reflect the institutional capacities of countries to effectively implement necessary reforms. In this effort, NAEC draws upon the OECD multidisciplinary expertise, across Directorates, Committees and Working Parties, as well as on its existing comparable data and policy recommendations, taking advantage of the results from other horizontal initiatives, such as the Green Growth Strategy, the Development Strategy, and the Skills Strategy. It also draws on the cumulative experience of OECD member and partner countries in various interconnected policy areas.

7. A NAEC Interim Report was presented at the 2013 Ministerial Council Meeting (MCM), which outlined 29 specific projects that are being undertaken as part of NAEC. These projects were organised around three pillars: (i) Reflection and Horizon Scanning; (ii) Policy Trade-offs and Complementarities; and (iii) Institutions and Governance. As the projects have been evolving, the 2013 MCM gave the mandate to deliver “substantive elements of a Synthesis” of the project outputs to the 2014 MCM.

8. This report presents a first Synthesis on NAEC. It takes stock of progress of various projects highlighted in the NAEC Interim Report, but should be considered as work in progress because several projects have yet to come to fruition, given their specific timelines. This NAEC Synthesis presents key findings of more advanced projects and proposes directions for taking the work forward. While the emerging findings may still evolve as ideas are debated and tested by existing OECD committees and bodies, as well as influenced by other ongoing NAEC work streams, this report serves to launch the process of continuous updating and improvement of the OECD analytical framework and policy advice.

9. The structure of this report is as follows. Section 1 discusses the main lessons from the crisis, the response that followed, current economic challenges, and challenges going forward, the latter being largely based on the long-term trends identified and analysed in the OECD@100 project. Section 2 outlines new policy themes and tentative recommendations that are emerging from NAEC projects. These recommendations should not be taken as definitive and might evolve as discussion within and across Committees continues. Although the report presents emerging policy advice, some of which based on cross-country analyses of best practices, it is far from complete and gaps will be filled as the NAEC initiative advances and is being mainstreamed in OECD work, particularly regarding its sustainability dimension. Section 3 discusses implications for the OECD, both in terms of policies, as well as analytical tools and methods that need to be further developed to better advise governments on how to deal with the increasingly interconnected and complex global economy.

1. Reflection on the crisis and long-term global trends

10. The global financial and economic crisis and the ensuing Great Recession signalled that existing arrangements for attaining economic stability and other economic and social objectives were no longer adequate. In response, over the past years substantial work has been undertaken within the OECD and outside to better understand the factors that led to the crisis and to draw lessons for the future.¹ While global integration has been an engine of growth, the crisis in particular highlighted that the level of interconnectedness between countries as well as policy areas was not fully understood, and its impact, both positive and negative, underestimated. The extent to which increased interconnectedness, both in the financial sector and the real economy, could facilitate a quick propagation of shocks was in particular underestimated.

11. To fully understand the impact of the crisis and resulting challenges for policy making, it is also necessary to take a long-term perspective and recognise the role of several global trends that have been building up for decades. They include the opening up of trade and capital accounts in OECD countries in the 1980s; a further integration of large and fast-growing emerging economies (EEs) in the world economy; technological change; deepening specialisation and international division of labour; population ageing, migration and other demographic shifts; high income inequality and polarisation in most OECD economies; and mounting environmental challenges, including the impacts of climate change, air pollution, as well as natural resource constraints (such as water scarcity).

12. These developments constitute an important challenge for policy making and call for timely policy responses. To reflect on the crisis and the global long-term trends mentioned above, this section first looks back at what went wrong, and summarises key shortcomings in our analysis and decision making before the crisis. It then highlights some immediate policy responses to the crisis, as well as the changes in long-held views that it caused. Following, this section discusses current policy challenges that remain to be addressed, including how global long-term trends and the rise in interconnectedness and complexity may make these challenges more acute. In light of the extensive work that has already been undertaken by the OECD in these areas, as well as the extensive scholarly literature, this section does not aim to go into depth, but rather seeks to highlight some core issues that provide the backdrop for NAEC.

1.1 Looking back: what has gone wrong?

13. When looking back at the crisis, several developments in the financial sector and the real economy are important to note to better understand what has gone wrong. This section discusses the impact of the increasing financial market integration and interdependence. It describes how “excess elasticity” of the monetary and financial regimes in advanced economies caused a build-up of unsustainable financial imbalances, while the lack of policy convergence and co-ordination between OECD countries and EEs led to global imbalances. It then argues that these imbalances were not interpreted as imminent threats to broader economic stability, leading to an inadequate regulatory and policy response. The section also examines the rising inequality in the run-up to the crisis.

14. The lack of structural reforms in some countries, the lack of effective frameworks tackling excessive public deficits in many countries, too complacent and ill-designed macroeconomic policies (in particular monetary ones), as well as the missing policy convergence in the euro area also contributed to these imbalances. These developments will also be highlighted briefly at the end of this section, as these factors have been already extensively underlined in economic surveys.

1. See Annex III and IV in OECD (2013a) for a selective bibliography. Work is also ongoing as part of NAEC project A1 “The crisis: Drawing lessons from history and past policy experiences”.

1.1.1 Increasing financial market integration and interdependence followed the deregulation in OECD economies in the 1980s and 1990s

15. Major changes in the structure and operation of large, internationally active financial institutions occurred in the wake of a deregulation wave in OECD economies in the 1980s and the 1990s. Financial market deregulation led to a greater integration of banking activities across countries, increasing the complexity and interdependence of the financial system (Hyun, 2012), and in turn raising new challenges for regulation in controlling leverage and new financial products. While financial innovation might be useful to meet the needs of different financial consumers and improve market liquidity, the underlying risks were not appropriately appreciated and addressed by the regulatory and supervisory bodies.

16. A spate of regulatory changes in the 1980s and 1990s (including the removal of the Glass-Steagall Act by the Gramm-Leach-Bliley Act in 1999, the Basel II “consensus” approach to regulation, and the removal of leverage controls on investment banks) gave institutions greater scope for financial innovation, while the design of regulatory capital requirements created similar incentives. The development of the internet also played a role in accelerating interconnectedness and in facilitating a greater scale and scope of trading (Hope, 2010; Kirilenko *et al.*, 2010). At the same time the preference of debt over equity, resulting partly from changes in the tax regulation, contributed to the build-up of excessive leverage ratios. The interaction between financial innovation and regulatory changes at a time of very low interest rates led to a number of fundamental weaknesses, eventually resulting in a systemic crisis. These weaknesses included: an underpricing of risk², linked in part to the too-big-to-fail status of major banks; excessive leverage, linked in part to regulatory arbitrage; insufficient regulation of the shadow banking system; moral hazards linked to incentives for banks to irresponsibly grant loans; and counterparty risk, linked to the excessive creation of high-risk derivatives-based financial products.

17. The deregulation and financial product innovation led to a significant rise in the weighted leverage of Global Systemically Important Financial Institutions (GSIFI), from around 21-times capital in 1999 to 34-times on the eve of the crisis. Banks effectively gamed the system by carrying out “risk-weight optimisation” through a combination of: (i) bias of portfolio choices towards assets carrying less capital requirements; (ii) manipulation with their own models of the valuation of the riskiness of assets; (iii) transformation of the assets’ riskiness and shifting of their ownership with derivatives; and (iv) securitisation and creation of special purpose vehicles – often situated in low tax, low oversight jurisdiction – to move products off balance sheet. The too big to fail phenomenon reinforced the confidence to operate at such high levels of leverage, thus facilitating further the under-pricing of risk.

18. Moreover, the 2000s have been characterised by the proliferation of the use of derivatives, in particular interest rates swaps and credit default swaps. The notional value of derivatives rose from around 3 to 12 times of world GDP in the decade preceding the financial crisis. When the crisis hit, these derivatives’ Gross Market Value suddenly rose from 21% to 58% of world GDP, revealing a huge shortage of capital and eligible collateral in the world financial system. Indeed, from 2005, the global bank interdependence also sharply rose in an unprecedented way, reaching a peak in the Lehman crisis. This has been associated with rising counterparty risk, as showed by the increase of collateral required to cover the Gross Credit Exposure of derivatives, which more than quadrupled from above USD 1 trillion in 2006 to around USD 4 trillion at the peak of the crisis. In a situation of high uncertainty, banks could not borrow that much money, nor could they absorb it through their liquid assets and/or capital, thus triggering an intervention by central banks.

2. The underpricing of risk has also been visible with regard to environmental and climate change risks.

19. The interdependence between banks has been further reinforced through re-hypothecation, in which the cash taken as collateral in a derivative transaction is lent through the repo market for new derivatives transactions. Collateral is thus re-used a number of times, building more leverage into the financial system and increasing its vulnerability to shocks.

1.1.2 Meanwhile, rising global imbalances contributed to excess liquidity and low interest rates but were not seen as a threat to financial stability

1.1.2.1 The lack of policy convergence led to rising global current account imbalances

20. The rising integration and interdependence of financial markets was accompanied by a rise in global imbalances. Indeed, most OECD countries opened up from the 1960s to the 1980s and, by the beginning of the 1980s, had liberalised exchange, capital controls and domestic markets. Globalisation has been key for productivity increases and thus growth, by allowing countries to specialise their production and trade (including through global value chains, GVCs), and by encouraging international trade. Openness to trade has also made economies more agile and adaptable, by making them less constrained by the limits of domestic markets. This increased interconnectedness called for increased international policy co-ordination and co-operation.

21. However, the opening up of capital markets has not been followed in many EEs. The growth in the size of these economies thus contributed to growing global imbalances in savings and investment, as evidenced by a much higher savings-investment correlation in EEs than in most advanced economies. Indeed, the trade and investment liberalisation and the opening up of capital accounts in OECD member countries led to a rise in both inward and outward foreign direct investment (FDI). This allowed EEs to export into large global and open markets, providing a powerful opportunity for growth. Meanwhile they kept domestic savings very high through financial repression, to some extent in an effort to hedge against capital flight as a reaction after the 1997 Asian financial crisis (Obstfeld and Rogoff, 2009). These imbalances could have been corrected by a real currency appreciation or by inflation in EEs, but this has been prevented in some cases by exchange rate management and contained by capital controls.³

22. With the accelerated integration of EEs in the world economy (their share is likely to rise further to around two third of world GDP in 2060⁴), these distortions have become increasingly problematic. While low interest rates triggered a misallocation of resources and fuelled house price bubbles in some economies, ongoing technological change combined with some outsourcing of industrial production to EEs triggered a shift in the composition of labour demand in OECD member countries (OECD, 2013a). This has helped strengthen productivity in advanced economies, and was also important for multinational enterprises (MNEs) to serve rapidly growing markets in EEs. Absent adequate policies to detect and respond to pressures on the interest rate and to facilitate the reallocation of labour and structural adjustment, these distortions gave rise to the emergence of structural current account imbalances. Due to financial repression and underdeveloped social security systems in EEs, excess savings have been accumulated – primarily in Asia and major oil exporting economies. The lack of major advances in policy co-ordination on labour standards might have also contributed to the build-up of the savings glut.⁵ The

3. See also section 2.1.3 on structural reforms and their role in reducing risks of financial shocks.

4. See OECD (forthcoming, b): “*OECD@100: Policies for a Shifting World*”, working draft, available on OLIS at [ECO/CPE/WP1\(2014\)2](#).

5. The analysis of the economic consequences of labour standards implementation is hampered by a lack of comparable data, which makes it difficult to establish the direction of causality and the magnitude of impact.

resulting explosion of liquidity at the global level “gave rise to a ‘boom’, which eventually led to the financial ‘bust’ of 2007” (White, 2013). Excess liquidity was funnelled back to OECD member countries, in particular to the US Treasury market. This affected the exchange rate of the US dollar and put pressure on real interest rates, keeping long-term Treasury rates artificially low.⁶ This in turn affected the entire risk and term premium components of other assets (Bernanke *et al.*, 2011).

23. The global current account imbalances may thus have contributed to the low interest rate environment that preceded the crisis and that fed a search for yield by investors (Merrouche and Nier, 2010). The emergence of a significant global carry trade also played a role. International macroeconomic policy regimes could not tackle these destabilising dynamics, and in some instances even worsened them, by holding policy rates at too-low levels. This gave further impetus to the search for yield, putting upward pressure on exchange rates in EEs, which was resisted with further reserve accumulation feeding back to advanced economies. Meanwhile, the lack of structural reforms in EEs has also contributed to these imbalances. Consequently, current account imbalances continued to expand with little corrective action.

1.1.2.2 “Excess elasticity” of the monetary and financial regimes led to the build-up of unsustainable financial imbalances

24. However, the focus on the role of global current account imbalances as explanation of the crisis is being reconsidered. A complementary view puts the focus on global financing patterns by looking at gross flows and trends in international banking activity. According to this view, the roots of the crisis can be traced back to a global credit and asset price boom on the back of aggressive risk-taking, highlighting the lack of sufficiently strong anchors in international monetary and financial systems. This resulted in “excess elasticity”, defined as the degree to which the monetary and financial regimes constrain the credit creation process and the availability of external funding more generally. Weak constraints imply high elasticity, which facilitates expenditures and production, but also accommodates the build-up of financial imbalances, whenever there are imperfect information and externalities (Borio and Disyatat, 2011).

25. This “excess elasticity” explanation shifts the attention from current account balances, a national-account concept, to gross financing flows, including all transactions involving only trade in financial assets, which constitute the bulk of cross-border financial activity. It is supported empirically by the fact that the expansion of gross flows has been spectacular since the late 1990s and the bulk of risky investment undertaken in the US in run-up to the crisis originated in the private sector and in Europe. The role of Asia, and in particular that of China, was not significant in this respect. Moreover, gross capital flows collapsed during the financial crisis, driven by flows between advanced economies, while net capital flows were not severely disrupted. This dominant role of flows from Europe is further evidenced by the fact that European residents held almost half of foreign holdings of US securities before the crisis. Similarly, holdings of US privately issued mortgage-backed securities were concentrated in advanced economies and offshore centres. Finally, consolidated balance sheets of banks, based on the nationality of the institutions, highlight the prominent role of European banking and the vulnerabilities in their funding patterns, largely associated with their investment in US assets. In a nutshell, the analysis based on gross flows puts European banks at the centre stage and to some extent reflects better the financial strains that exploded during the crisis.

26. The “excess elasticity” explanation also shifts the attention to anchors that can prevent credit expansion and external funding from fuelling a build-up of unsustainable financial imbalances. The spotlight turns to monetary regimes and financial regimes. The policy implications then concern how to address the “excess elasticity” of the overall system, rather than the “excess savings” in some jurisdictions.

6. The significant increase in oil price up to mid-2008 has also impacted interest rates.

1.1.2.3 These imbalances were not interpreted as signalling threats to broader economic stability

27. The imbalances did not go unseen, but against the backdrop of a relatively stable inflation outlook they were not interpreted by many observers as posing imminent threats to broader economic stability. Price stability was deemed to be the key objective of monetary policy and thus central banks focused on the fight against inflation. The view that price stability is necessary for macro stability transformed into a belief that it was not only “necessary” but also “sufficient” for economic stability.

28. In this regard, monetary policy appeared to be generally successful in the years prior to the crisis, with low and stable inflation and generally well-anchored inflation expectations. This outcome was reinforced by the impact of the increased globalisation, a *de facto* positive aggregate supply shock that helped to damp inflationary pressures over several years (Pain *et al.*, 2006). However, it arguably contributed to excessive policy accommodation in the lead-up to the crisis, which might have contributed to increases in asset prices (Ahrend *et al.*, 2008).

29. At the same time, financial markets were viewed as efficient and forward-looking, enabling policy actions to be transmitted through longer-term interest rates, asset prices and inflation expectations (Bean *et al.*, 2010). Limited attention was paid to financial intermediation, or to the possible impacts of monetary policy on risk-taking (Borio and Zhu, 2008). Implicitly, risk was viewed as being allocated to those who could best bear it, with monetary policy confined to “cleaning up but not leaning against” asset price bubbles and their aftermath.

1.1.3 Flawed incentives and mispricing of risk fed a misallocation of resources

30. The assumption of financial market efficiency proved much too optimistic. In fact, the financial system was characterised by flawed incentives across a spectrum of market participants. Problems included overly optimistic assumptions bred by the long period of high growth, low real interest rates, and subdued volatility. They also included a critical lack of transparency and understanding of underlying risks, stemming in part from the use of complex products and off-balance sheet vehicles. Put simply, risk was mispriced and this mispricing fed a misallocation of resources. This misallocation caused a significant growth of the financial sector in absolute and relative terms, and resulted in a dramatic expansion of financial intermediation in most OECD member countries from the 1980s. Moreover, much of this growth was not linked with the financing of real activity. At these high levels of financial intermediation, additional financial expansion, particularly via bank finance, may tend to reduce GDP growth (OECD, forthcoming, a).

31. In the run-up to the subprime mortgage crisis, broader use and acceptance of securitisation, derivatives and repo financing supported the originate-and-distribute model of credit intermediation, whereby loans are originated or acquired, pooled off-balance sheet and rapidly transformed into various structured products, with the loans serving as the underlying collateral (Brunnermeier, 2009). At the same time, investors reacted to a long period of low yields on traditional assets, reflecting the global savings glut and lack of investment demand, by moving out of the credit risk spectrum in search of higher yield. This search was evident in strong demand for new and higher risk assets such as collateralised debt obligations and other structured finance products. Originators responded to the strong appetite for high-yielding assets by developing a range of new loan products.

32. To facilitate the process, underwriting criteria⁷ were relaxed to generate loans that were quickly converted into securities. In other terms, middle and low income borrowers who had previously faced

7. Gramlich (2007) indicates that nearly half of US subprime loans originated from unregulated lenders, which were ‘state-chartered’ but not federally supervised independent mortgage companies.

limited prospects for homeownership gained access to credit. Housing wealth in some countries was being used to substitute for income constraints or relative declines in income, via increased access to credit. Reckless lending and borrowing, combined with distorted incentives of intermediaries, were thus at the heart of the subprime crisis (Ben-David, 2011), resulting in credit being extended, in some cases, to borrowers who were either insufficiently informed about or had insufficient income to finance the liabilities they assumed. This process was greatly eased by the role of asset backed securities that in some cases created suboptimal incentives for banks to properly assess the risk of default (Purnandam, 2009). In the end, record numbers defaulted, which triggered the global financial crisis.

1.1.4 *An inadequate regulatory response failed to rein in increasing leverage and risks*

33. The mispricing of risk and the resulting misallocation of resources was not anticipated nor addressed by regulators in a decisive and timely fashion. In particular, the regulatory changes of the 1980s and the 1990s permitted financial institutions to increase their leverage and to develop a more fragile liquidity structure (Cabral, 2013). Further, insufficient oversight made complex financial innovations possible that allowed households to pledge ever larger fractions of their house value as collateral, which made them more sensitive to price fluctuations in the housing market (Sà *et al.*, 2011). Consequently, the likelihood of being hit by financial market turmoil was higher for countries with a low level of credit market regulation and the prospects for more pronounced impact were greater (Rose and Spiegel, 2011).

34. The inadequate regulatory response to increasing risks can be explained by several factors:

- First, regulators were focusing on the health of individual financial institutions, without having a good understanding of the system as a whole. Regulators were also not able to fully grasp neither the growing complexity of financial products nor the complexity resulting from the growing interconnectedness between financial institutions. Furthermore, in the same vein as banks, they relied on models based on historically low mortgage default and delinquency rates, leading to an underestimation of risk (Brunnermeier, 2009). Moreover, as some banks were considered to be of systemic importance, moral hazard led to excessive risk taking of bankers and investors.
- Second, lobbying has been instrumental in favouring a “lighter” touch in regulation (Igan *et al.*, 2009). Regulatory capture can also explain to some extent why regulators believed that banks’ risk control systems dealt adequately with tail risks, or bought in the argument that higher capital requirements would *de facto* lead to less lending and lower growth. The crisis resolution legislation (Mian *et al.*, 2010), the failure to recognise the magnitude of possible bad loans and unwillingness to make lenders pay for bad loans, can be attributed to a great extent to legislators being influenced more by lobbying of the financial industry than by the interests of the public.
- In addition, the lack of co-ordination across various jurisdictions and the difficulty of addressing global systemic risks from a domestic regulation standpoint have been another major impediment to an adequate regulatory response. With the presence of banks acting globally, emerging tail risks could not be adequately addressed (Acharya and Schnabl, 2009).
- More fundamentally, no one had strong incentives to look too closely at the fragility of the financial system. Growth was sustained through easy and cheap credit. Adverse incentives thus prevented earlier interventions to avoid the excessive growth in credit and leverage ratios.

1.1.5 Incomplete convergence within the euro area facilitated a housing boom in the periphery while institutional weaknesses precluded dealing effectively with asymmetries

35. During the same period, incomplete business cycle convergence within the euro area resulted in a situation whereby, for some of its member countries – including, in particular, Ireland and Spain – monetary policy rates set to be consistent with conditions in the euro area as a whole, were persistently and significantly below what they should have been at a national level. The extra liquidity that was caused by these low interest rates facilitated strong house price increases in the countries in question.

36. After the introduction of the Euro, capital flows from “rich” to “poor” economies within the euro area increased substantially (Schmitz and von Hagen, 2011). The large capital flows from core to peripheral Euro countries drove the convergence of long-term interest-rates before the crisis and triggered the sovereign debt crisis when these flows suddenly reverted. In particular, evidence suggests that the capital inflows had driven down saving rates in that region (Chen *et al.*, 2013). This interacted dangerously with the capital market liberalisations that had been introduced in preparation for the Euro, alleviating the access to credit (Jaumotte and Sodsriwibon, 2010). Leverage ratios thus increased substantially.

37. Meanwhile, the institutional weaknesses of the euro area precluded dealing with these asymmetries in an effective way. Due to the lack of a banking union and the fragmented supervisory and resolution mechanisms, banks depended on their respective home countries. The result was that each country had to deal separately with its internationally active banks, a factor that skyrocketed the liabilities-to-GDP-ratio in many cases and tied the risk perception about governments and banks to each other.

38. These developments were paralleled by insufficient fiscal discipline and lack of structural reforms in many OECD countries in the years before the crisis. Permanent structural deficits were allowed to continue and public debt remained at high levels, in spite of the evident need for adjustment. Furthermore, fiscal policy was mildly pro-cyclical in the euro area (Fatas and Mihov, 2009), as well as in OECD countries with high public debt and government deficits (Egert, 2012). The lack of fiscal adjustment and of structural reforms to deal with long-term challenges may have prolonged and deepened the crisis.

39. In the past five years, however, governments have made significant efforts to tackle the euro area fiscal, financial and external imbalances and strengthen fiscal and financial institutions. This includes the extension of fiscal and the introduction of macroeconomic surveillance mechanisms as well as first moves towards a common European financial market supervision. Also, in particular, Southern European countries conducted structural reforms to enhance competitiveness and improve the functioning of labour markets and some product markets, which should be helpful in unwinding intra-European imbalances. In spite of these significant efforts, there is further scope for reforms across the euro area to further narrow intra-area imbalances and strengthen the recovery.

1.1.6 Rising inequality in the run up to the crisis

40. The last three decades have seen a rise in income inequality in both OECD member countries and a number of EEs, which seems to have been accompanied by a rise in wealth inequality. This rise in inequality has not been stopped by the crisis; to the contrary. This section discusses the rise in inequalities prior and during the crisis, the factors driving it, as well as its social and economic consequences.

1.1.6.1 The rise in inequalities

41. The rise in inequality, and particularly in income inequality, within OECD member countries over the last three decades has been well documented (*e.g.* OECD, 2008; OECD, 2011b; Atkinson and Piketty, 2010; Piketty, 2014). Despite major progress in reducing poverty, this rise has been accompanied by persistently high or even further growing income inequality in a number of emerging economies, with

the exception of a few (including Brazil, Mexico and Turkey, where inequality declined from very high levels). These trends suggest a possible convergence towards higher global levels of inequality (OECD, 2011b).

42. Higher income inequality derived to a big part from a widening distribution of wages and salaries, which account on average for about 75% of household incomes. In particular those at the top of the income distribution have captured a disproportionate share of economic growth in many OECD countries. The increased income inequality has sometimes been accompanied by lower inter-generational social mobility, and greater polarisation in educational and health outcomes.

43. The rise in inequality of wages and salaries happened at the same time as shares of labour compensation in national income declined in many advanced economies. The median labour share of national income in 30 developed economies with available data indeed fell from 66.1% to 61.7% between 1990 and 2009 (OECD, 2012a; Karabarbounis and Neiman, 2013). This results from productivity gains no longer translating into broad rises in wages and salaries in many countries. Much of the decline in labour shares can be explained by total factor productivity growth and capital deepening, largely due to the decline in the relative price of capital goods⁸. The decline is also linked to rising corporate savings – which have been widespread across OECD countries – and a decreasing strength of labour market institutions (OECD, 2011b; TUAC, 2014). Some tentative evidence also links the development of wage shares in national income to current account imbalances (Behringer and van Treeck, 2013; and Annex 5 of OECD, forthcoming, b). More generally, the declining share of wages in national income can also be linked to the capture of the political agenda by top earners (see paragraph 51).

44. Inequality rose during the years of relatively high economic growth. Over time, the ability of tax and benefit systems to contain the increase in market income inequality has declined in most OECD countries (OECD, 2011b; Immervoll and Richardson, 2011). Top marginal tax rates have declined in most OECD countries, often significantly. Moreover, the abolition or decrease in net wealth taxes and inheritance taxes, as well as the variation in statutory tax rates on capital gains on shares across OECD member countries, have reinforced the rise in the share of top incomes. Important factors also include the “winner takes it all” mechanism, particularly in markets characterised by network effects related to information technology. A spectacular rise in the pay of bankers and top executives has also played a role in stretching incomes at the top end of the distribution (Philippon and Reshef, 2012).

45. In this context, it is crucial to not only consider flows, but also stocks. Wealth distribution within OECD countries is even more concentrated than income distribution, but some countries with lower income inequality report higher wealth inequality (OECD, 2008).⁹ Explanations for the high wealth inequality can be found in the rise of financial markets in the aftermath of the financial market deregulation in the 1970s, a lighter taxation of top incomes and wealth, and in some countries the rising importance of inheritances and *inter vivos* gifts (OECD, 2008; Jantti *et al*, 2008; Bonesmo Fredriksen, 2012).

8. Karabarbounis and Neiman (2013). This is consistent with the idea that the spread of new technologies (such as information and communication technologies, ICT) has created not only major advances in innovation and invention of new capital goods and production processes, thereby boosting productivity, but has also caused a replacement of workers with machines in certain types of jobs.

9. Wealth inequality however is notoriously difficult to measure and might be distorted by the fact that wealth-equivalent guarantees entailed in some social systems (such as Pay-as-You-Go pension systems) are usually not taken into account.

46. This rise in inequality has not been stopped by the crisis; to the contrary. Inequalities in income before taxes and transfers rose more between 2007 and 2010 than they had in the previous 12 years in most OECD countries (OECD, 2013b). During the early years of the crisis, social spending offset the greater inequality in market incomes. However, with sluggish jobs, growth and fiscal consolidation programmes implemented since then in many countries, the underlying rise in inequalities of market incomes is being transferred to disposable household incomes. This creates a growing risk that the most vulnerable will be hit harder (Ball *et al.*, 2011; Koutsogeorgopoulou *et al.*, 2014).

1.1.6.2 The impact of rising inequalities

47. This rise in inequalities can have serious social and economic consequences. The idea that growth benefits automatically ‘trickle down’ evenly to all sectors of society has been disproven. Similarly, it has been shown that inequality and lack of social mobility go hand in hand. There is consistent evidence that high levels of income inequality are associated with lower social mobility, making it harder for talented and hard-working people to get the rewards they deserve (OECD, 2011b). In particular, intergenerational earnings mobility is low in countries with high inequality and much higher in countries where income is distributed more evenly (OECD, 2008; Causa and Johansson, 2009).

48. Recent evidence suggests that the relationship between growth and inequality depends on the level of inequality, on the source of inequality, and on which part of the distribution is affected by the increases in inequality. The profile of inequality is particularly likely to be a brake on growth if the incomes of the lower and middle-classes fall behind the rest. Different types of disadvantages may also accumulate at the individual level (*e.g.* socio-economic, family background, individuals with disabilities), thereby amplifying their impact on people’s life. They may alienate individuals and vulnerable social groups from economic life, which stifles economic growth in the long term and creates societies with a weaker sense of common purpose and lower capacities to undertake collective action (OECD, 2014a). In turn, at the societal level, inequalities weaken social cohesion, foster discontent, and sap trust in markets and institutions.

49. Higher inequality of opportunity, which can *e.g.* stem from low intergenerational earnings mobility, results in significantly lower growth. This results, for example, from the fact that people with a low income are unable to invest in human capital. In fact, especially in developing countries, the link between inequality and growth is increasingly found to be negative when the focus is on inequality at the bottom end of the income distribution, where obstacles to mobility are more likely to play a role. On the other hand, when higher inequality reflects shifts at the top end of the distribution, or higher returns to individual efforts, then the consequences for economic growth tend to be positive. That said, inequality driven by the very top of the income distribution – the top 1% or even 0.1% - seems not to be associated with stronger incentives to work harder and innovate, but rather with financial excesses. Emerging results from NAEC also show that some structural reforms might reduce to some extent inequality of disposable household income in the long term. This is the case, for example, of reducing regulatory barriers to domestic competition, trade and FDI, and stepping-up job-search support and activation programmes (OECD, forthcoming, d).

50. A single measure of ‘inequality’ cannot distinguish between these distinct sources of inequality, namely, inequality of opportunities and inequality of returns to effort. A differentiated discussion of the sources and measures of inequality would help to better understand the costs of rising inequalities and the policy instruments to mitigate them. More research on the interdependencies between inequality and economic policies is thus timely and warranted.

1.1.6.3 Rising inequalities and the crisis

51. A critical question remains as to whether rising inequality also helped to precipitate the crisis. Two channels through which this could have occurred have been proposed. The first is that the concentration of wealth led to a ‘capture’ of the policy making process (Olson, 1982; Acemoglu and Robinson, 2012; Deaton, 2013; Rajan, 2010), so that signals of a financial and economic system under stress were ignored, because measures to burst asset bubbles and correctly value risk were not in the interests of those with most incomes and wealth.

52. The second channel is that high levels of inequality could themselves lead to financial excess and instability. Rising inequality and stagnant incomes in the lower deciles encourage workers to borrow to maintain their consumption growth. As these households become increasingly indebted, they continue to borrow more to maintain their consumption. This increases leverage and eventually a shock to the economy leads to a financial crisis. This mechanism can be reinforced if the government reacts to growing inequality by ensuring that low-income segments of the population could borrow previously unimaginable multiples of their income, *e.g.* to finance housing and thereby fuelling a housing bubble (Bertrand and Morse, 2013). There is some evidence supporting this hypothesis for the US, although it appears to be less relevant elsewhere (Kumhof *et al.*, 2013; Cynamon *et al.*, 2014; Mian and Sufi, 2011).

53. What can be asserted, however, is that the rise in inequality has certainly complicated the response of policy makers to the crisis. The sight of large amounts of public funds being used to shore up financial institutions at the same time as fiscal consolidation measures were implemented has been politically and socially very difficult, as fiscal consolidation often led to cutting entitlements to benefits and raising taxes for all members of society, including those hard pressed by cost-of-living increases.

54. However, greater inequality is not inevitable. These challenges highlight the urgency of designing and implementing more inclusive models of economic growth. OECD work shows that the traditional policy strategy of maximising GDP growth and dealing with the possible “side effects” of growing market income inequality via taxes and transfers only later is becoming less effective in most countries. Instead, efforts should be made to promote a more inclusive growth and to mainstream efforts to tackle inequality of opportunity into policy making. The latter will need to encompass effective policies that focus on low-income households and on preventing the middle-class from falling behind. Some countries have managed to narrow inequality by adopting comprehensive policy packages in a range of domains: social, education, innovation, regulation¹⁰, health, etc. To inform effective policy making, the OECD is currently developing an inclusive growth framework (see Section 2.2), which will aim to identify measures in various policy areas that can reduce inequality, assess their trade-offs and synergies, and target them the circumstances of advanced, emerging market and developing economies.

1.2 *Response to the crisis*

55. This section discusses some of the immediate policy responses that the crisis led to, as well as the changes in long-held views about the functioning of the markets and policy design that it caused.

1.2.1 *Immediate policy response to the crisis*

56. The extraordinary impact of the crisis triggered unprecedented policy interventions. These included a macroeconomic stimulus from 2007 to 2010 and, at least in European countries, a simultaneous

10. Work on regulation and inclusive growth is ongoing as part of NAEC project C5 “Promoting inclusive growth through better regulation”.

switch to fiscal austerity thereafter. At the same time, monetary policy – especially in the US and the UK – moved to an unprecedented expansionary stance, pushing interest rates to or close to the zero lower bound and introducing unconventional monetary policy measures, such as quantitative easing.

57. Public debt levels significantly increased across several OECD countries during the crisis. According to IMF estimates, one third of the increase of public debt/GDP ratios was caused by factors other than deteriorating primary balances. These factors included the deterioration of the differential between interest rates and GDP growth, and the cost of support to failing institutions and sectors, including bailouts of financial institutions. Substantial efforts were made to support financial institutions, including through the provision of credit and liquidity to the financial system, bank recapitalisation using public funds, deposit guarantee extensions and efforts to move troubled assets from banks' balance sheets to newly-created asset management companies (Pain and Röhn, 2011).

58. The subsequent worsening of risk classification of government securities further pressed the balance sheets of financial institutions, prompting additional capitalisation needs (Grauwe and Yuemei, 2013). This contagion and its contribution to unsustainable practices were substantially underestimated in the early stages of the crisis, leading to limited consolidation progress in the middle of it. As a result, reduced fiscal space in advanced economies, owing to high levels of debt, has become one of today's most acute macroeconomic challenges (see section 1.3). Part of the difficulty was also in the failure of conventional measures of cyclically-adjusted balances to take asset price effects into account, as pre-crisis asset price booms tended to paint excessively optimistic views of the underlying structural balances.

59. However, it turned out that fiscal retrenchment did not work as expected and improvements in fiscal balances and debt ratios were constantly overestimated. This has been attributed by some to an underestimation of fiscal multipliers and to the dependence of fiscal multipliers on the state of the economy. Moreover, synchronised adjustment programs in several countries magnified the effect of the downturn (Goujard, 2013). Recent OECD work suggests that an underestimation of interdependencies between countries as well as of the adverse effects of an impaired banking sector were even more important factors contributing to systematic forecast errors (Pain *et al.*, 2014). This also led to a wrong assessment of fiscal variables and in some cases to an excessive fiscal consolidation.

60. These findings are particularly problematic given the tentative evidence that problems of hysteresis might have increased during the crisis. Consequently, the supply side of the economy could be endogenous to current demand, as shown for the US (Reifschneider *et al.*, 2013). Similar effects might be possible in other economies. Countries that have experienced a housing boom, as Spain, have to cope with a large fraction of the unemployed having expertise that is no longer required (Dolado *et al.*, 2013).

61. A number of important policy questions emerge from these developments. They call for a further investigation of financial-fiscal transmission mechanisms and how this should influence fiscal policy. They also require further investigation of the extent to which hysteresis is present in OECD member countries and an analysis on the effects of unconventional monetary policy. Indeed, while successful at the moment, the long-run effects of unconventional policy measures, as well as the short-run effects of an eventual tapering of these measures, need to be closely monitored. To get out of this crisis, one of the biggest challenges is to exit from non-conventional measures without causing massive new disruptions. Finally, some of the immediate policy reactions to the crisis have left economies with old unsolved and sometimes even worsened problems, together with new and acute ones. They leave policy makers with little room for manoeuvre, in a state of general distrust, with very limited fiscal and quite low political ammunition.

1.2.2 *Changes in long-held views*

62. The crisis also led to a questioning of the belief that advanced economies had achieved sufficient resilience to avoid major systemic crises. To the contrary, it highlighted how the exposure of governments to contagion from the financial sector was underestimated. It also stressed the lack of preparedness to deal with sudden adverse economic shocks in a co-ordinated and credible manner, even if the international community reacted better to this crisis than to previous ones. It highlighted the important role of risk and uncertainty, as well as the necessity for policy frameworks to be flexible and adaptable to shocks. The crisis also emphasised the limits to regulatory capacities, and how fragmented regulatory frameworks have generated information and implementation gaps. Moreover, it showed that fiscal and monetary policies alone are not sufficient instruments, even more so when interest rates are close to the zero lower bound.

63. More fundamentally, the assumption that markets are always self-correcting and that macroeconomic imbalances would self-correct have been cast into some doubt. It also has cast doubt on the belief that it might be sufficient to wait until bubbles burst and to clean up after the event. The severity of the crisis and the permanent harm it has done to potential output has shown that inflation targeting by central banks, while necessary to ensure price stability, might not be sufficient to guarantee broader economic stability. This is because it ignores disruptions that develop in credit intermediation, which moreover fosters pro-cyclicality in the economic and financial system through its influence on asset prices and spending behaviour. The crisis also highlighted that conventional and widely-used macroeconomic models lack a reasonable integration of money and credit. They are thus unable to fully grasp the interaction between the financial system and the real economy, and consequently to understand the vulnerability of the global economy to shocks. In addition, by downplaying the herd behaviour of markets, many mainstream macroeconomic models cannot predict nor prepare for crises.

64. Some key axioms or hypotheses of the prevalent economic paradigm have also been rebutted. The crisis confirmed the conjecture that people do not necessarily act rationally, at least not in the sense implied by conventional economic reasoning, and that the way firms are financed is not neutral. Attention has thus been drawn to attempts to model human behaviour in a more sophisticated way. Untangling flawed from useful existing methods and using them along with emerging approaches to define a new common language of economics will be a key task for the future.

65. Regarding the functioning of financial markets in particular, the crisis has shown limits to the benefits of size and integration in financial groups. The structure of the network inherent in the originate-and-distribute intermediation model meant that mistakes in the pricing of fundamental risks in one market could have large consequences for the global financial system. In short, the interconnections in the financial system left it much more vulnerable to collapse. As discussed in section 1.1, financial innovation and deregulation led to high-risk derivatives-based financial products on a massive scale. This in turn raised counterparty risk, so that problems in one bank multiply through the system. This leaves governments forced to perpetuate too-big-to-fail strategies or see a total collapse of the financial system.

66. The crisis has also underlined the difficulties arising with the increasing importance of capital markets in credit intermediation relative to direct lending by banks and other traditional lenders. The process entails credit, maturity, and liquidity transformation. In a traditional banking intermediation model these activities would be performed by a single bank. Now multiple entities are direct participants in different stages of a complex chain running from loan origination to distribution of securities backed by the loans. Through this chain, the credit intermediation is decomposed into a more complex, wholesale-funded, securitisation-based lending process. But this process is free from the volume constraints imposed by bank capital and from funding constraints, until the crisis hit and both constraints became binding.

67. If financial markets have a key role to play in easing liquidity constraints, the crisis also put an end to the illusion that they could offer easy short cuts to the problem of restrained social mobility by allowing poor households to buy a home through safe mortgage contracts. This raises the issue of transparency and financial consumer education and protection.

68. Quite importantly, the crisis also underlined the significance of “trust” and “confidence” for a good functioning of the economy. System-wide financial crises have indeed often occurred in the wake of a widespread loss of confidence in many cases prompted by the failure of a major financial institution (*e.g.* Lehman Brothers). But in efforts to preserve confidence, policy makers must balance the short-term need to restore confidence against the potential to foster increased moral hazard and unsustainable extensions of the financial safety net, which contributes to the erosion of market discipline and ultimately might erode trust in institutions and society.

69. Overall, the crisis has also accelerated the recognition of the implications deriving from the fact that the global economy is interconnected and complex. It put to the forefront the representation of our economic system as complex and adaptive, pointing at the importance of non-linearities which make forecasting inherently difficult. It also underlined that studying network robustness could help in understanding systemic risk and improving the robustness of the financial system, using concepts such as modularity (separation of speculative activities from ordinary commercial activities), redundancy (reserve requirements), diversity (trading strategies) and controlled shut-downs (Orell, 2010).¹¹

1.3 Current policy challenges

70. Several reforms after the crisis have gone in the right direction. For example, the crisis and ensuing recession have acted as a catalyst for a range of structural reforms. In particular, the depth of the labour market crisis has provided an impetus for structural reforms aimed at raising labour utilisation (OECD, 2012b). The need to consolidate public finances and the financial pressure arising from mushrooming sovereign debt have given another impetus to reform. The crisis also led to reforms to enhance financial regulation and supervision in order to improve the stability of the financial sector, such as a new set of banking standards which is currently being negotiated. This includes the introduction of a European Banking Authority in the EU, first steps towards a common supervisory system in the euro area and the introduction of a broad set of macro-prudential measurements (such as the introduction of a Financial Stability Council) in the US. Some jurisdictions such as Switzerland also have mandated capital requirements over and above those dictated by Basel III (White 2014). Further, there has been a clear acceleration of reforms designed to help lift potential growth, regain price competitiveness and restore fiscal sustainability (OECD, 2012b). A stronger co-ordination of macroeconomic policies in general has also been achieved.

71. However, we are still in a context of a weak and uneven recovery and fragile situation in emerging economies (EEs), with high levels of unemployment, an unfinished agenda of banking reforms in Europe, low growth of trade and investment, remaining low credit in several countries, etc. Much remains to be done to rebuild trust, fight high unemployment and underemployment, tackle inequality, reduce public debt, deal with large central bank balance sheets and outstanding guarantees in the short and medium term, and to encourage innovation and growth in the longer term.

72. Economic growth in many regions remains below pre-crisis levels (OECD, forthcoming, i) and inequality is on the rise. Productivity growth is an essential precondition for fiscal consolidation and macroeconomic stability. Some argue that there is ample scope for innovation, as well as for young and

11. For a specific application to the financial sector, see also Markose (2012).

small firms, to improve productivity (Bryniolfsson and McAfee, 2011). In this context, R&D investments are an important element but not the sole driver of innovation as complementary assets such as software, human capital and appropriate organisational structures are needed to make innovation successful (OECD, 2013s). However, others argue that the recent growth slowdown is largely structural, as there was virtually no economic growth before 1750, and the rapid progress made in the past 250 years may have been a unique episode in human history (Gordon, 2012). Better understanding the reasons behind the current slowdown in productivity growth is crucial to develop policies that can raise its levels over the long term¹². This includes ensuring a strong rate of productivity growth at the frontier, *e.g.* due to ongoing technological progress, and the continued catch-up of economies with the productivity frontier. However, if the slowdown in productivity growth were to be permanent, it would be a key challenge for governments to adapt to lower levels of economic growth.

73. Openness to trade is one important structural reform area that remains under-exploited. A main channel through which trade affects growth in incomes is by stimulating productivity from both export and import competition. At the sectoral level, more productive firms expand as trade drives more resources towards them; at the same time, relatively unproductive firms contract or exit from the market altogether. Studies of openness also show that increased competitive pressures induce organisational change and production upgrading, which in turn boost within-firm productivity. The successful conclusion of the WTO Bali package is a step in the right direction, and there is a need to keep building on the momentum beginning with the implementation of the Trade Facilitation Agreement and doubling efforts to take the remaining issues in the Doha Development Agenda forward. Trade and the development of global value chains (GVCs) are constrained by remaining barriers in manufacturing and agriculture, lack of progress in opening services markets, and a range of behind-the-border restrictions.

74. Moreover, inequality is on the rise again, especially in countries facing persistently high unemployment and sharp fiscal consolidation (see section 1.1.6). In many countries, the labour market still bears the scars of the crisis, with stubbornly high levels of unemployment and underemployment, as well as rising long-term unemployment. The lack of demand has hit job creation hard, with youth, the low-skilled and immigrants having been hit the hardest. Even the countries that have weathered the crisis better than others, *i.e.* without a major increase in unemployment, face worrying tensions, largely associated with the quality of jobs for some vulnerable groups. Lessons on how to absorb and overcome the unemployment consequences of the crisis underline the importance of active labour market policies, especially training programmes and higher spending on public employment services to make resources devoted to job-research assistance commensurate to the increased task. They also show that temporary and targeted cuts in payroll taxes can be helpful, and call for enhancing vocational training (Serres *et al.*, 2012). In this context, labour sharing arrangements over the short and medium term, as implemented in Germany or Austria turned out to be effective in preventing people from losing their job and skills¹³. However, these might not be a suitable approach for other labour markets or in the long term. Meanwhile, in emerging economies, informality in the labour market and larger segments of people living in poverty are still major policy challenges.

75. Meanwhile, current government debt levels in relation to GDP imply large debt servicing obligations over the long term. The massive fiscal efforts to bail out banks (see section 1.2.1) as well as insufficient fiscal discipline in the years before the crisis (see section 1.1.5) left many OECD governments facing an era in which public finances are increasingly constrained. The problems are partly a consequence of the stimulus to reduce the impact of the crisis in the shorter term, followed by a sometimes large

12. NAEC Project B15 “Ensuring productivity growth and innovation in the long run”.

13. They might also have prevented some necessary longer term adjustments, such as downsizing in the European automobile industry.

revenue shortfall linked to the recession. In some cases, this situation was on top of already high levels of debt of several countries that entered the crisis without having ensured that public finances are on a sustainable path. In other cases, governments failed to take into account the implications of rising private sector imbalances, and the associated revenue streams from such activities, for the sustainability of fiscal policy. For some countries, already weak public finances will face an additional sustainability challenge, given the impact of population ageing on public pensions, long-term care, and the long-term increases in health spending.

76. Substantial efforts have been made to strengthen fiscal frameworks, especially in some euro area countries. This has been reflected in an acceleration of politically-sensitive reforms designed to assist the fiscal adjustment process, with respect to both labour-utilisation (retirement schemes and welfare systems) and labour-productivity (public sector reforms and privatisation programmes) (OECD, 2012b). However huge budget deficits remain and debt dynamics will have to be corrected as economies recover, in a way that is not detrimental to long-term growth. A strong commitment to structural reforms in advanced and EEs alike will play a key role in restoring public finances. This can also help in mitigating the potential negative impact of spending cuts on equity (Cournède *et al.*, 2013) and of a debt reduction on the recovery. Moreover, financial constraints can impact the scope for long-term, growth-enhancing public investments in infrastructure, education, innovation and research. In this context, the methods of estimating potential growth based on the production function may benefit from a review in order to avoid potential pro-cyclical estimates, which could lead to over- or underestimations of potential growth. This would enable to focus policy discussions on a longer-term or cyclically-adjusted analysis of effects.

77. As a result of fiscal pressures, many countries find themselves in a delicate situation, which leads to further financial instability and destabilising policy feedbacks. The “zero rate conundrum” is a perfect example. Low official rates to address the economic slowdown result in zero or sub-zero real rates and add to the distortion, while they might not have much impact on the real economy in an environment of pronounced uncertainty. But short-term rates serve as a major determinant of the cost of leverage of banks and investment banks as they tend to finance their activities in the overnight and short-term funding markets. These rates thereby influence the extent to which they are able to expand their balance sheets. Returns of financial assets and some real assets get driven towards zero as well. This feeds inefficient or overinvestment by the private sector as excess funds chase returns, contributing to future economic imbalances.

78. At the same time the need for private sector deleveraging threatens to interact with austerity to adversely affect long-run growth potentials. In this context – bearing in mind that the potential output of many economies has suffered a permanent set-back through the crisis – it becomes possible that some countries or regions experience low or even zero growth for prolonged periods. It will be necessary to evaluate different paths to correct excessive deficits and their trade-offs with private deleveraging, but also to address wealth and income inequality, and improve prospects for inclusive and sustainable increase in well-being in a low-growth context.

79. Large central bank balance sheets are another key challenge. In a situation of high uncertainty at the peak of the crisis, banks could not borrow sufficient amounts of money, nor could they absorb it through their liquid assets and/or capital. This triggered central banks’ intervention to provide direct support to the credit markets. The short- and medium-term exit strategy from excess liquidity and direct credit support should keep domestic considerations at the forefront, but needs to remain mindful of spill-over effects, risks and unintended consequences of policy choices.¹⁴ Indeed, the consequences of tapering

14. Work on international policy co-ordination has shown that source and recipient countries may have different views on the size or even sign of the net spill-over (Ostry *et al.*, 2012). It has also highlighted that uncertainties may be larger now as policy instruments are unconventional.

for EEs dependent on portfolio inflows have begun to materialise, highlighting the risk of global financial disruption.

80. Another major pending issue relates to extensive outstanding guarantees. Efforts to offset the difficulties in the financial sector brought about extensive outstanding guarantees in many economies. Some of these guarantees will be equivalent to public debt. Others will be contingent liabilities on balance sheets and will have to be unwound or paid. Moreover, countries will need to address these challenges in a context in which the financial sector has not returned to normality, mostly owing to a continued sizable debt overhang and impaired assets problem.

81. In the meantime, access to finance for small and medium enterprises (SMEs) and, more importantly, for young and innovative firms remains limited. More diversified options for their financing will be needed.¹⁵ Growing credit constraints, with potential long-term impacts on investment, firm creation, innovation and growth need to be addressed in order to resume growth while taking into account the financial sector reforms and recapitalisation processes underway. In this regard, both entry and exit of firms need to be facilitated, as credit for non-productive / non-competitive firms prevents credit to be given to new firms.

82. As countries seek to improve their productivity performance and ensure sustained growth, they also need effective policies to boost their innovation capacity and investment in knowledge-based assets (KBA). Innovation can help accelerate the recovery and support sustainable growth over the longer term. It is a powerful engine for development and for addressing social and global challenges. Policies that provide a conducive business environment and invest in the knowledge infrastructure underlying innovation could play a key role in generating employment and enhancing productivity growth through cutting edge knowledge creation, application and diffusion. Yet, the current economic environment raises the risk that governments will make policy and budgeting decisions that may harm innovation (OECD, 2014b).

83. The global crisis has eroded public trust and sparked a debate on the role of governance failures. The economic and social implications of the current trust deficit make it an essential component for sustainable and inclusive growth (OECD, 2013c). Indeed, the lack of trust affects the behaviour of economic agents – citizens and businesses – and in particular their expectations and responses to policy initiatives. This could affect public policies and potentially lead to short-termism and expedience rather than supporting strategic decision-making and reforms. Lack of trust could also hamper the implementation of much needed structural reforms to speed up the recovery from the crisis. It is therefore of primary importance to restore confidence and connect social partners and the public at large with the policy making process. Designing and implementing stable and predictable policies is also of key importance to rebuild business confidence and foster long-term investment.

84. Finally, the crisis has also put some new emphasis on the debate about manufacturing and de- or re-industrialisation. While some countries with a strong (financial) services sector were severely affected by the crisis, others with strong and internationalised manufacturing sectors (such as Germany) experienced a more limited impact (OECD, 2013t). The fear is, however, that the loss of manufacturing activities could lead to the loss of related (and often co-located) upstream activities, such as R&D, design and other creative activities generating high value-added. At the same, a new potential for manufacturing may be emerging in advanced economies, enabled by a range of new technologies. This has led to an emphasis on the potential of advanced manufacturing technologies, including converging and emerging

15. NAEC Project A5 "New approaches to SME and entrepreneurship financing: broadening the range of instruments".

technologies. Different sectors and their potential to lead to more resilient economies therefore need to be analysed.

1.4 *Looking forward: interconnectedness and long-term trends*

85. Looking forward, a number of underlying and deep-seated long-term trends have fed and been exacerbated by the crisis. In addition, increasing global interdependence and interconnectedness across and within economies, including between economic phenomena, policy dimensions and objectives, have become a persistent characteristic of the global economy. The coming fifty years will also likely see a major shift of economic balance towards EEs, particularly in Asia, with the share of non-OECD countries in world GDP rising to approximately two thirds by 2060 (OECD, forthcoming, b). The road to recovery is thus ridden with acute challenges. This section discusses how the rise in interconnectedness combined with long-term global trends makes future policy challenges more acute.

86. While the current crisis has reflected systemic vulnerabilities in the financial sector, future systemic vulnerabilities are likely to originate elsewhere. Long-term trends such as the rising interconnectedness through global value chains as well as the increasing complexity of the production process – not least due to the growing importance of KBC – creates new opportunities but at the same time lead to a new set of risks. For instance, disruptions in production are likely to spread more quickly internationally and will be more difficult and costly to address than before. Climate change is also likely to have an asymmetric impact on natural resources and food production, which in turn is likely to trigger geopolitical tensions and growing migration flows.

1.4.1 *Impact of global long-term trends on policy challenges*

87. Several global long-term trends need to be factored in by policy makers in order to improve general well-being. These include: faltering productivity growth; population ageing; high and often rising inequality; continued technological developments, some of which disproportionately benefit individuals with high skills and good education, and structural changes driven by ICT, GVCs, knowledge-based capital, lean start-ups; depletion of natural resources, water scarcity and environmental degradation; rising cyber criminality; health concerns such as the risk of global pandemics, etc. These trends may affect how tensions between policy objectives evolve, and how inter-linkages across policy areas and countries can be addressed. As economic patterns evolve, the direction and magnitude of these spill-overs will change, and policy settings will have to adjust.

88. One example of how a global trend affects current policy challenges, making them both more acute and interconnected, is ageing. Ageing will impact labour markets through shrinking labour forces, and possibly less dynamic labour and product markets, which will further affect potential growth rates. It could also lead to increased fiscal pressures, including through rising health and long-term care expenditures, and potentially to reduced savings and current account imbalances, to the extent that these are unsynchronised. In addition, ageing affects the future role of education, as ageing workers may need to be up-skilled, and education also plays an important role in the transition to a healthy post-retirement age. However, when addressing these challenges, policymakers would need to also look into concomitant trends, such as longer working lives, better health and higher educational attainment of younger generations, which may mitigate some of the effects of population ageing.

89. Population ageing may result in significant fiscal consolidation needs for many OECD countries over the coming fifty years. These needs, as well as the negative growth and equity effects that some fiscal instruments entail, call for structural reforms that reduce reliance on public funding. Recent OECD analysis shows that many tools for fiscal consolidation imply trade-offs with growth, equity and current account imbalances, especially in the short-run (Cournède *et al.*, 2013). With increasing economic

integration, tax bases are becoming more mobile and the efficacy of domestic fiscal policy will decrease, pointing to an increasing scope for international stabilisation policies. The resilience of public finances could be increased by moving to defined contribution pensions or by introducing automatic adjustment mechanisms into public pension schemes that share the costs of extended life expectancy across both pensioners and the working-age population, rather than relying on the latter alone to bear all risks. However, both fiscal and social sustainability need to be considered when reforming pension schemes (also see section 2.3.1).

90. Widespread and large increases in inequality might also spill over to other policy areas and across borders. Continued increases in income inequality could also contribute to building up new imbalances. Indeed, rising inequality could increase savings, as saving rates tend to be higher for high-income households. To the extent that capital is fully mobile across borders, this could increase current account deficits in countries with fast-rising inequality. Meanwhile, income convergence between OECD member and non-member countries deriving from a shifting economic balance towards EEs (OECD, 2010a) will expose OECD countries to new challenges, including the risk of a drying up of labour migration and the growing competition for talent.

91. Some recent technological developments have tended to disproportionately benefit individuals with high abilities, good education and adaptive capacities. Many OECD countries currently invest more in knowledge-based assets (KBA) than they do in machinery, equipment and buildings. Investment in KBA, such as software, organisational know-how, information and communications technologies (ICT), including big data and more broadly intellectual property, is a key driver of productivity (also see para 82). However, the increasing investment in KBA has also contributed to growing inequalities (OECD, forthcoming, b). This is because KBA tend to become capitalised into the firm employing the skilled labour and thus reward those who perform non-routine manual and cognitive tasks, as well as investors (who ultimately own much of the KBA) over other workers. This development has important implications for strategies to strengthen growth and job creation, and also amplifies the importance of skills policies (see section 2.2.4). Furthermore, the rise in importance of KBA affects taxation, as reliance on tax revenues from immovable factors will be made more difficult by their shrinking role in a knowledge-based economy driven by intangibles, which are by nature more mobile across borders (OECD, forthcoming, b) (see section 2.4.3 on the need for policy co-ordination).

92. Depletion of natural resources, climate change and environmental degradation might also have a dramatic impact in terms of lost output, food supply, health conditions, production location, infrastructure, migration flows, etc. OECD (2012h) projects that continued degradation and erosion of natural environmental capital are expected to 2050, with the risk of irreversible changes that could endanger two centuries of rising living standards. Without more ambitious policies by 2050, more disruptive climate change is likely to be locked in, biodiversity loss is projected to continue (especially in Asia, Europe and Southern Africa), and freshwater availability will be further strained. In addition, the health impacts of urban air pollution continue to worsen in the scenario and the burden of disease related to exposure to hazardous chemicals is already significant worldwide (OECD, 2012h). Supplementing these biophysical impacts, new preliminary OECD estimates on the economic costs of inaction suggest that world GDP in 2060 may be lowered by 0.7 to 2.5 percent due to climate change, possibly more (OECD, forthcoming, b). The channels through which these effects occur include falling agricultural productivity, as well as capital and land losses related to sea level rise, among others. In addition, other environmental challenges, such as air pollution and resource scarcity are likely to lead to further GDP losses.¹⁶ Finally, it is important to not

16. Estimating the cost of policy inaction and benefits of policy action to a range of environmental challenges is ongoing as part of NAEC Project B9 “Cost of inaction and resource scarcity: Consequences for long-term economic growth/ benefits of action”.

only consider the expected GDP loss due to environmental challenges, but also the fact that insufficient policy action now will likely lead to more detrimental environmental outcomes and a higher cost of policy action in the future.

1.4.2 *Rising interconnectedness and complexity*

93. In addition to the long-term trends discussed above, globalisation and the associated rising interconnectedness and complexity of the global economy exacerbate the need for policy co-ordination (also see sections 2.4.3 and 3.4). Interconnectedness reflects increasing financial integration, but also increasing trade and investment integration through global value chains (GVCs), international tax and regulatory regimes. On the one hand, the rising interconnectedness can bring benefits, such as a reduced volatility as the risks for countries deriving from economic shocks can be shared. On the other hand, rising interconnectedness and complexity can lead to a faster propagation of such shocks and cross-border spillovers.

94. The emergence of GVCs has several significant implications for policy making. First, it has underscored the importance of identifying appropriate trade and investment policies, so as to facilitate access to imports which are essential for businesses to add value and to participate successfully in exporting processed goods. Second, it is important to understand where jobs are being created (and lost) in international trade, what skills are inherent in those jobs and what are the impacts on labour income and standards.¹⁷ For instance, recent OECD analysis suggests that the development of GVCs has generated both high-skilled and low-skilled jobs in developing economies, while it has destroyed low-skilled jobs and generated high-skilled jobs in advanced economies (OECD, forthcoming, j). Third, in this highly interconnected world, national policies are increasingly insufficient and international co-ordination and co-operation in policy making are even more necessary. Fourth, the analysis of GVCs contributes to a better understanding of the sources of sustained competitiveness, such as skills, intellectual property, competition, the circulation and transfer of knowledge, and the reallocation of resources in a knowledge-based economy. Finally, the emergence of GVCs, together with the rising trade intensity, is a source of resilience, as it has allowed countries and firms to diversify away from individual unsystematic risks, thus to decrease the vulnerability to domestic shocks. GVCs have *de facto* demonstrated a certain degree of resilience to shocks. However, complex GVCs characterised by just-in-time models, lean supply structures and an absence of redundancy in the system (OECD, 2013a)¹⁸ have also contributed to the transmission of demand or supply side shocks across borders, whether these emanate from natural disasters (like the 2011 Tohoku tsunami) or man-made ones (like the 2008 financial crisis).

95. Corporate income tax offers another clear example of the challenges that globalisation poses for national policies. Since the 1920s, international co-operation has resulted in a set of principles and a broad network of bilateral tax treaties that generally result in the prevention of double taxation of profits from cross-border activities. However, as the world has become increasingly interconnected, the current tax rules have revealed weaknesses that create opportunities for tax base erosion and profit shifting (BEPS). Multi-national enterprises (MNEs) have been able to take advantage of the interaction of national tax systems and achieve no or low taxation by shifting profits away from the jurisdictions where the underlying economic activity has taken place (see also sections 2.2.5 and 2.4.3). And here again, much of

17. Based on a panel of 90 developed and developing countries (from 1980 to 2005), it appears that following the entry into force of a regional trade agreement, labour standards are sometimes significantly weakened, and that this occurs mainly in high income countries (OECD, 2012j).

18. In the context of its work on Future Global Shocks (OECD, 2011e), the OECD has already highlighted policy options for strengthening preparations to such shocks in the future, with improved strategic approaches (e.g. for improving the resilience of businesses, in particular in critical infrastructures).

the income flows that are so hard to trace for tax authorities involve payments for royalties, licensing and other intellectual property or knowledge-based assets.¹⁹

96. Another area which merits increased policy attention in a context of rising interconnectedness and complexity is international regulatory co-operation. Globalisation has rapidly increased the regulatory challenges faced by governments. Regulations adopted in one jurisdiction are likely to have strong extra-territorial implications to the extent that it may become almost impossible for certain national policy objectives to be achieved without careful consideration of the international context. Meanwhile, macro-prudential policies have cross-national implications as they might affect international capital flows and exchange rates. The role of international capital flows in the run-up to the crisis points to the need to increase transparency and timely communication as well as co-operation on those policies. Policies need to be consistent globally, and to be crafted in ways that lead to better co-operation as well as to more consistent economic development.

97. Yet another aspect of interconnectedness and complexity relates to the nexus between growth, environment and social outcomes. Unless more significant policy action on environmental challenges is taken now, continued environmental degradation will pose risks to the economy and to human well-being. However, while most work in this area has examined the biophysical consequences of inaction to environmental challenges, the economic and social costs of inaction and the benefits of policy action have not yet been quantified. In addition, a good understanding of the relationship between environmental policies and economic growth is vital for policy-makers aiming to achieve greener growth. But examining linkages between the environment and growth is not enough, and more analysis is also warranted on the distributional impacts (benefits and costs) associated with different environmental policies. This evidence could build on previous work by the OECD in this area and can be used to investigate the extent to which market-based environmental policies, such as environmental taxes or emissions permit trading, can contribute to growth and equity objectives.

98. On the whole, policy responses to the rising interconnectedness and complexity have tended to be inadequate. One reason is that the consequences of policy action may not have been fully anticipated, especially in terms of spill-overs across policy areas or countries, but also over time. Oftentimes only a single policy dimension was considered, preventing to capture the spill-over effects of a specific policy on other dimensions. Global spill-overs are likely to increase, especially in the short run. Both exogenous shocks and policy changes taking place abroad will affect domestic economy more, thereby generating policy interdependence and potential trade-offs and synergies.

99. In this global interconnected and knowledge-based economy, better policies will need to be devised. NAEC projects are analysing to what extent this new context requires adjusting or developing new policy recommendations. This involves dealing with various uncertainties, *e.g.* around the size and distribution of damages from climate change across regions, on future population dynamics such as migration flows, and on future growth in innovation and multifactor productivity.

2. Emerging themes and policy recommendations to enhance the resilience of our economies

100. The previous section highlighted the need to more effectively tackle trade-offs and harness synergies among policy objectives, including by better targeting multidimensional well-being objectives. This entails considering heterogeneity among countries, households and firms, as well as the distributional

19. Future possible work under NAEC Project C7 “Securing tax revenues in a globalised economy” will use results from and complement the ongoing OECD work on BEPS, by putting an emphasis on the implications of global economic trends for domestic tax policies.

impacts of policies. It also requires facing the complexity resulting from interconnectedness across economies, as well as across sectors, including between the financial sector and the real economy. The crisis taught us how imbalances can develop and spread, and how they can make economies excessively vulnerable to shocks. It is thus necessary for economies to strengthen their resilience, *i.e.* their capacity to “bounce back” faster and better in response to economic and environmental shocks, including through active labour market policies and efforts that encourage productivity growth (also see section 1.3).

101. The NAEC initiative aims to enable the OECD to provide policy recommendations that can support countries in achieving these objectives. This section outlines some emerging policy recommendations from NAEC to build a more solid path for resilient economic growth and well-being. The section is organised around four main messages: (i) the need to increase macroeconomic stability and the stability of the financial system; (ii) a call to move to a more inclusive growth; (iii) an urgent need to address long-term challenges related to the environment and population ageing; and (iv) a renewed call to rebuild trust and increase international regulatory co-operation and policy co-ordination.

102. As most NAEC projects are work in progress, many of their specific recommendations have not yet been delivered or fully agreed on by the relevant Committees. This section thus presents an incomplete and preliminary view of what is and will be emerging from the NAEC initiative. Moreover, the complexity of the interconnections outlined above calls for caution, and for avoiding overly prescriptive conclusions at this stage. Going forward, Committees will need to build up a consensus to reach best-informed recommendations, appropriate ownership and broad dispersion of these new approaches.

2.1 Increasing macroeconomic stability

103. Lessons from past and current crises highlight the importance of early warnings on risks, preparedness for these risks, and flexible responses to shocks. In order to increase the resilience of economies, it is crucial to recognise various risks (including spill-over effects stemming from the interconnectedness of economies), to address pro-cyclicality and vulnerabilities in policy settings, and to reform the financial sector.

2.1.1 Increasing the counter-cyclicality and sustainability of macroeconomic policy

104. Deeper integration is likely to increase stability but might also decrease the effectiveness of automatic stabilisers in the long run (OECD, forthcoming, b). Before this happens counter-cyclical macroeconomic policies can still increase the resilience of economies to large future shocks. A broad application of automatic stabilisers can be helpful in this respect. However, the crisis underlined that public budgets can come under pressure very quickly due to unforeseen events, especially if public debt is already elevated.²⁰ The exposure to contingent liabilities can limit the scope for counter-cyclical fiscal policies during crises. In the future **it will thus be necessary to make contingent liabilities of the public sector visible and to introduce safeguards between the public and the financial sector**. Extensive stress tests can be used to identify and provide for potential exposures. Further, the introduction of **bad debts insurance instruments can be helpful to maintain sufficient fiscal scope during crisis episodes**.

105. Recent evidence suggests that the synchronisation of fiscal consolidation efforts might lead to large spill-over effects on output which seem to be more detrimental to output growth during downturns (Goujard, 2013; Veld in't, 2013). Consequently, the sensible **sequencing of front and back-loaded**

20. Ireland with debt levels below 30% and Spain with debt levels below 40% before the crisis are a point in case that this is not necessarily the case.

consolidation measures across countries might help reduce the adverse impact of consolidation while maintaining a credible path to long-run consolidation and respecting country-specific circumstances.

106. For this reason it should be ensured that the required scope for possible fiscal interventions is obtained by **containing and/or reducing public debt levels during expansionary phases**. Building up sufficient margins in good times could make the economy more resilient to large shocks. In this regard **fiscal rules, in particular spending rules and budget balance rules, might play a critical role**. They help to avoid the build-up of debt, create the necessary room in good times for the pursuit of counter-cyclical discretionary policy and allow the automatic stabilisers to operate unfettered. Supporting institutions that enhance transparency and accountability is also important to enlighten the public debate and encourage responsible behaviour from policy makers.

107. It has also become apparent that in the aftermath of asset price and credit bubbles pro-cyclical monetary policy quickly reaches its limits. Consequently, it will be necessary to address and prevent the appearance of large bubbles in the first place. **For central banks and other supervisory bodies, this would require considering a broader set of indicators**. Considering the longer term while targeting inflation should help in this regard, according to their mandates. **Robust micro- and macro-prudential supervision would remain a first line of defence**. A reduction of the pro-cyclicality of the financial system can also alleviate monetary policy making. This can be achieved by **introducing sensibly designed reserve requirements that help to avoid the build-up of imbalances and reduce the volatility of credit growth**. Regulatory arbitrage hereby needs to be prevented by the introduction of an international network of macro-prudential institutions. In a similar vein, **the debt bias in the corporate tax codes of most OECD countries need to be addressed** in order to prevent an excessive exposure of the corporate system to debt and credit finance.²¹

2.1.2 *Improving the stability of the financial system*²²

108. Given the importance of a properly functioning financial system to support growth, it is necessary to increase stability in the financial system and ensure it finances the real sector in a sustainable fashion. The complexity and interconnectedness of the global financial network is a major issue in this respect. Particularly important is the conjunction of financial intermediaries with the shadow banking sector, as this later was used to move assets off the balance sheets of banks in order to reduce regulatory capital requirements, while the ultimate risk stayed with the banks. The crisis saw too-big-to-fail institutions taking too much risk while gains were privatised and losses socialised. This has underlined even further the need for a dedicated framework which would facilitate the orderly winding-up of financial institutions during times of crises (Ötcher-Robe *et al.*, 2011), both for entities that take deposits and for other large integrated intermediaries that operate in scale across markets and borders. It has to be assured that all risks that are borne by an institution are effectively considered in the calculation of capital requirements. Bankruptcy provisions and other institutions that facilitate debt restructuring may help limit the negative drag of deleveraging on consumption and investment. However, this could lead to lenders demanding higher risk *premia* with potential adverse consequences for growth.

109. Since the onset of the crisis, some important progress has been achieved, including through the G20 process and in the euro area. For example, first steps have been taken towards the introduction of a transnational bank resolution mechanism. The Vienna initiative that prevented an unorderly unwinding of

21. NAEC Project A3 “The role of the financial sector in the crisis and reforms required to promote sustainable growth”.

22. NAEC Project A3 “The role of the financial system in the crisis and reforms required to promote sustainable growth” and Blundell-Wignall *et al.* (2014).

international capital from emerging Europe has been an exemplary case of international policy co-ordination. More remains to be done, but this is work in progress.

110. Most international organisations have looked at leverage and interconnectedness of major banks by focusing on replacing Basel II with Basel III, improving supervision, and requiring better disclosure and cross-border co-operation. However, Basel III refers to interconnectedness only indirectly, by categorising banks as Systemically Important Financial Institutions (SIFIs) based on their interconnectedness. By using a combination of bank reported data and market information, the OECD Secretariat proposes **a distance-to-default (DTD) measure, which provides an additional approach for measuring the riskiness of individual banks.**²³ OECD research based on this new measure suggests that, in addition to risk-based capital requirements, as those currently requested in the Basel III framework, a simple leverage ratio seems to remain essential. However, a simple leverage ratio cannot compensate for the large impact of banks' business model features on their risk of default. The DTD measure thus also suggests revisiting the issue of structural separation and where the lines for separation should be drawn.

111. Consequently, the Secretariat calls for strengthening the regulatory framework of the banking sector and proposes methods to assess its effectiveness (*e.g.* based on the distance-to-default measure) as well as complementary proposals, *e.g.* structural requirement applicable to the banking sector, in particular a separation into a non-operating holding company structure with ring fencing if specific thresholds are passed in terms of the importance of derivatives to total assets. These proposals would prevent the ring-fenced securities subsidiaries from being the recipients of cross-subsidisation from the group and from being able to trade off the reputation and credit rating of their parents. They would thus prevent implicit too-big-to-fail guarantees from the authorities. The pricing of derivatives and repos would also be consistent with the associated effective risks.

112. The necessity of structural separation is being increasingly recognised and new and different regulatory approaches have been adopted or proposed.²⁴ In this context, it would be appropriate to consider some more common approach to avoid possible arbitrage possibilities. There is still a vivid debate about which kind of separation or other reforms of the functioning of the financial markets would be most appropriate to ensure that banks are safe and that financial markets function effectively, so that the central bank and/or the tax payers do not need to provide support to a bank over a liquidity crisis.

113. A consensus has thus yet to be reached on the proposals by the OECD Secretariat. This might require further discussions and possibly refinements in the light of new prudential standards for liquidity

23. This measure derives from the classical Black, Scholes (1973) and Merton (1973) framework and thus mainly reflects a market appreciation of this riskiness. Recent empirical studies find the DTD (and/or closely related variations) to be a good predictor of bank failures, for example Harada, *et al.* (2010), Duan and Wang (2012), and Brossard *et al.* (2006). The DTD cannot cover all the factors contributing to bank failure. Earlier discussion of modelling default risk, as illustrated by the fact that some banks with high "distance-to-default" have still gone bankrupt during the recent crisis, and debates therein include Avellaneda and Zhu (2001), Crosbie and Bohn (2003), and Chan-Lau and Sy (2006).

24. For example, the Volcker rule, the Vickers rule, the French law, the German law, the EU proposal following the Liikanen proposal (European Commission, 2014), and other proposals in Switzerland or Belgium. These approaches differ regarding where the lines for separation should be drawn and are inconsistent across borders. Some call only for a separation of speculation from other market activities, while others call for separating bank deposits from market activities. Some of them, introducing a separation of national deposits may, in particular, lead to market fragmentation. Academics, have stressed the difficulties of interpreting rules based on separation proposals (Duffie, 2012) and some have even argued strongly against it (Goodhart, 2013). Any proposal should be informed by empirical research on the determinants that cause banks to suddenly move towards the default point.

and solvency under Basel III, as well as of resolution frameworks in place or being implemented. A cost-benefit analysis could also be carried out. Co-ordinated work of the OECD with the IMF and the Financial Stability Board, currently taking place under the auspices of the G20, will inform future recommendations.

2.1.3 *Addressing international spill-overs and trade-offs between growth and stability*

114. On the one hand, the global shifts in economic balance and demographic changes that are projected over the coming decades may mitigate global imbalances in the long run.²⁵ Similarly, more integrated economies could benefit from increased risk-sharing, as trading partners can share the burden of country-specific shocks, thus reducing instability. More generally, a more open economy is likely to be more agile and adaptable to shocks, including because it is less constrained by the limits of domestic demand. On the other hand, the rising integration of EEs with their structural higher volatility could have a destabilising impact for advanced economies. While global trade integration does foster growth and creates jobs, it can also increase international spill-overs from demand and supply shocks, and make business cycles more synchronised. Both exogenous shocks and policy changes abroad will have greater impact on the domestic economies, engendering policy interdependencies and potential synergies. Meanwhile, further global financial integration could also amplify shocks through international spill-overs and hence pose a threat to economic stability.

115. In this context, **further co-ordination on stabilisation and structural policies between close trade partners** is becoming even more relevant (also see section 1.4.2, 2.4.3 and 3.4). This entails *inter alia* labour market reforms in the euro area deficit countries and Japan; product market reforms in surplus countries, in particular reassessing regulation in the services sectors in Germany, China, Japan and Korea; less favourable tax treatment of interest expenses in the US; financial liberalisation and expanded social safety nets in China²⁶. Co-ordination with EEs has also become particularly urgent.

116. Moreover, **policies must aim at lowering vulnerability to shocks**, thus at mitigating the risk that imbalances lead to crises. Such policies include restricted access to credit, but these often entail trade-offs as they could hamper investment and consumption smoothing. For example, uncovered interest parity only holds over very long periods. This means for instance that situations can arise in which low (relative) levels of interest rates in a country coincide with capital inflows and a relatively high exchange rate. While low interest rates thus make credit cheap, the high exchange rate discourages investment in the manufacturing industry at the same time. Such developments increase the likelihood that cheap credit ultimately is channelled into asset markets. **While the first line of defence is the effective use of macro-prudential policy and a move away from financial repression** (Rey, 2013), this is a fundamental allocative market failure that needs to be addressed by transparency and information exchange among regulators at an international level.

117. **Structural policies could enhance resilience against volatile capital flows** by addressing external imbalances and changing components of capital flows from volatile portfolio investments to more stable FDI. Indeed, capital inflows in terms of FDI and equity can mitigate current account risks. Such FDI is fed by increased investment in knowledge-based assets as well as by lowering transport and trade costs. Policies to facilitate FDI penetration, for example through policy co-ordination regarding tax or intellectual property rights (IPRs), as discussed in section 2.4.3, could also support stability, as well as structural reforms aimed at improving the business environment in general. Structural policies can also

25. OECD (forthcoming, b). However, this statement might be reviewed in the light of the latest projections of the OECD Economic Outlook No. 95.

26. These reforms have been repeatedly called for by the OECD Economic Outlooks (see for example OECD Economic Outlook, 2013/2), EDRC Reviews, as well as by the G20.

play a role in reducing the risk of foreign financial shocks. In particular, tax codes that bias debt over equity finance appear to contribute to a higher risk of financial crises because they bias capital inflows towards more volatile debt flows. Treaties that encourage FDIs and structural policies that remove barriers to FDI and enhance product market competition would reduce the risk of a banking crisis, by removing biases towards relying on debt rather than equity in foreign funding.

2.1.4 (Re-) integrating consumers in financial models for greater stability

118. The crisis has also prompted a rethinking of the role of enhanced financial consumer protection in financial stability. Policy makers, including in G20 countries, are increasingly recognising the importance of consumer trust and confidence as cornerstones for the orderly and efficient functioning of financial markets. However, the increased sophistication of financial markets and the hidden complexity of certain financial products render an individual's financial decision-making more challenging. Vulnerable consumers, in advanced and emerging economies alike, can also be exposed to unsuitable offers and unfair sales practices. Low levels of financial literacy and awareness might prevent citizens from making informed decisions on investments and savings. There is thus a growing policy concern on how to (re-) **integrate the consumer's perspective back into business models of financial services providers and to ensure that regulators provide safeguards against risks and complexities associated with innovative financial products.**

119. It is necessary to raise policy makers' awareness and understanding of the impact of poor financial industry practices and decision-making upon consumers, and to **further promote policies focusing on the interrelations of financial inclusion, financial education and financial consumer protection.** These three policy components are also interconnected with other major policies dealing with financial regulation, tax, governance and competition. They require a new reflection on individuals, households and consumers, which could potentially contribute to a more inclusive and sustainable growth.

2.2 Moving to a more inclusive growth

120. Evidence shows that greater inequalities and rising relative poverty were brewing under the surface before the crisis, and increased almost everywhere, even during periods of sustained economic growth. As discussed above in section 1.4.1, if these trends are not addressed and continue to rise unchecked, they might have a negative impact on long-term economic growth and might even threaten political and economic stability while weakening social contracts and welfare globally. It is now widely recognised that growth-enhancing policies do not necessarily lead to a more even distribution of the benefits of increased prosperity. This underlines the need to closely assess more traditional approaches to growth and advance towards an economic model that is inclusive and thus sustainable, *i.e.* where the gap between the rich and the poor is less pronounced and the "growth dividend" is shared in a fairer and sustainable way which reconciles growth, equity and environmental objectives. Both flows of income and resources, as well as stocks of wealth and natural capital need to be considered in this regard.

2.2.1 A new approach to reconcile growth and equity objectives

121. To address inequality and improve the resilience of our economies, OECD analyses suggest that **it is necessary to adopt and mainstream a holistic approach to policy making, in which economic growth is recognised as a means but not as an end.** The crisis has demonstrated that strong per capita GDP does not necessarily signal that an economy is healthy. Underlying risks, such as growing income inequality and deteriorating banks' balance sheets, are not captured by GDP. It is thus necessary to use measures of progress that embed outcomes other than GDP per capita, and that capture both average

achievements and their distribution. The renewed focus²⁷ on multidimensionality and distributional dimensions of prosperity is thus at the core of the NAEC initiative, in its efforts to develop a strategic policy agenda for sustainable and inclusive growth (OECD, 2012c).

122. This policy agenda requires a good understanding of what inclusiveness means, concrete and practical tools to measure it and pragmatic policy solutions to address it. Importantly, it should also consider the diversity of country experiences. A starting point is the construction of a measurement framework that goes beyond GDP and captures the various dimensions of inclusive growth, such as jobs, cognitive and non-cognitive (*i.e.* social and emotional) skills, education, health status, environment and civic participation and social connections, and that includes their distribution across the population. This requires further discussion of the existence and availability of data to support multi-faceted analysis to better inform policies. **A multidimensional approach to inclusive growth would aim to simultaneously improve material and non-material living standards of a large group of the population, achieve broad-based progress along other dimensions that matter for people and society, and take into consideration countries' level of development.**

123. The need to **consider distributional aspects and equality of opportunity** in policies for inclusive growth, while taking into account diversity across countries, is reflected in OECD analysis of trends and drivers of income inequality in OECD and selected non-OECD countries. *Divided We Stand* (OECD, 2011b) and related reports (*e.g.* Verbist *et al.*, 2012; Immervoll and Richardson, 2011; OECD, 2011c; OECD, 2013d), as well as other OECD work on the evolution of non-income outcomes across individuals and social groups (OECD 2011f), point to the need to assess **the benefits of economic growth at the level of households and individual groups, rather than at the aggregate economy level**²⁸. This would enable governments to promote a more inclusive growth.

124. In particular, policy makers should pay closer attention to the effect of structural and fiscal policies on the income distribution of households, as well as the potential transitional costs of structural reforms²⁹ (as discussed in more detail in section 2.2.2). **A link between specific policy instruments and selected monetary and non-monetary dimensions needs to be made, also taking into account distributional impacts.** The OECD Inclusive Growth Framework is a promising step forward in this direction. **Recent work on this framework demonstrates the importance of a “policy-actionable” approach**, which would ensure that policy choices are made based on whether they enhance or detract from people’s well-being (Gorecki and Kelly, 2013) and would fully consider the expected trade-offs and complementarities. Adopting a more integrated approach to policy making will also help to identify win-win policies that promote both economic growth and a fairer distribution of benefits³⁰. It will also facilitate the combination of environmental and social policies in order to minimise the trade-offs and/or maximise complementarities between economic efficiency, environmental effectiveness and equity (also see section 3.2.4).³¹ This approach would require policy makers to **assess both the benefits of policies at the level of households and individuals** (rather than at the aggregate level) **and from a multidimensional perspective.**

27. The Going for Growth exercise has already been looking at distributional implications of growth-enhancing policies.

28. For an example of a national approach to the use of micro data, see Field and Franklin (2013).

29. NAEC Project B4 “Do policies that increase GDP per capita also increase median income?” and NAEC Project B5 “Assessing the transitional costs and distributional consequences of structural reforms”.

30. NAEC Project B6 “Closing the loop: how inequality affects economic growth and social cohesion”.

31. NAEC Project B11 “Trade-offs and synergies between environment and inequality”.

125. Some governments in OECD member countries have already taken steps to base their policy analysis on a multidimensional understanding of well-being. In particular this includes the mainstreaming of the idea of well-being to the staff of ministries in order to set a common ground for debate (Gorecki and Kelly, 2013). There also have been attempts to explicitly account for the inherent multidimensionality of well-being by drawing attention to a broader set of targeted indicators³². The OECD has also made progress towards measuring inclusive growth, through a novel approach based on an aggregate measure of living standards that combines changes in household disposable income, health and unemployment spells. Monetisation³³ and aggregation of the three dimensions is designed to help assessing trade-offs and synergies that arise with policies (OECD 2014f). In the long run **a broader application of the concept seems warranted**. Over time, the computation of indicators of multidimensional living standards can be extended to include other dimensions that matter for well-being in a manner that both facilitates cross-country comparisons and takes into account country-specific needs and conditions.

2.2.2 *Paying more attention to trade-offs and complementarities of growth-enhancing structural reforms*

126. Growth-enhancing structural reforms are at the core of policy makers' efforts to move to inclusive growth. Empirical analysis shows that a number of structural policies can boost long-term levels of GDP per capita and, via this channel, household disposable incomes. However, structural reforms have differential impacts on household incomes across the distribution³⁴. Individual countries may also call for different structural reforms to support inclusive growth, depending on societal preferences and their particular aversion to inequality, but also on macroeconomic circumstances such as budgetary constraints as well as political feasibility. Therefore, **country-specific recommendations should avoid one-size-fits-all approaches to inclusive growth and leave room for addressing idiosyncrasies**.

127. Policy makers should pay close attention to the trade-offs and complementarities between growth and inequality when implementing structural reforms. Structural reforms should be part of a comprehensive package that includes measures promoting greater adaptability of labour, as the increase in the vacancy rate in recent years has been followed by a smaller decrease in the unemployment rate (as can be depicted by an upward-shift of the Beveridge Curve). **A comprehensive package of structural reforms would also include an adequate safety net, more effective active labour market policies** (including related to skills policies in formal education, but also beyond), **and measures improving the match between the skills provided by the education system and those required by a changing economic environment** (also see section 2.2.4 on the need to invest in skills and education). In the same vein, unemployment benefit systems and associated reforms should be designed as part of broader activation policies, building on job counselling, education, training, reducing job market duality and upskilling to facilitate return to work. Similarly, countries with statutory minimum wages should find a good balance between sustaining the earnings of the low-skilled while at the same time ensuring their employability (also see discussion on labour markets in section 1.3 and 2.1.3). In an emerging market context, it is important to focus on improving labour conditions in parallel to efforts to pursue open trade

32. For an example of a national approach to the measurement of well-being see *e.g.* Statistik Austria (2013). A process introducing a similar approach is ongoing in Israel.

33. Assessing the shadow price of a non-income dimension is the main practical difficulty. There are three major sources of information, based respectively on stated preferences, revealed preferences and subjective well-being.

34. NAEC Project B4 "Do policies that increase GDP per capita also increase median income" (OECD forthcoming, d).

and investment. This could be done through stronger emphasis on enforcement mechanisms and incentives to ensure compliance with core labour market standards.

128. **Policies that increase female participation in labour markets³⁵, reduce the gender wage gap and foster the integration of immigrants are also warranted.** It is important to investigate and monitor the effects of different labour market policies on disadvantaged groups. It is in particular crucial to address in priority the unacceptably high rates of youth unemployment in many OECD economies, as prolonged periods of unemployment – especially at a young age – can lead to scarring effects. Policies which may be adequate for those who are more engaged with the labour market may be less successful for disadvantaged groups. For instance, preliminary evidence suggests that the transition from non-standard to standard work is significantly more difficult for younger people and elder employees (see below section 2.2.3).

129. Growth-friendly and equity-enhancing approaches **orienting welfare measures towards policies that compensate for differences in exogenous factors (“circumstances”) that reduce opportunities** to participate in society. For example, if straitened circumstances imply that people in poor households do not access education or cannot invest in the wider social development of their children, then inequality translates into lower growth. Hence, one of the most efficient educational strategies for governments is to invest in early, primary and secondary education for all, and in particular for children from disadvantaged backgrounds. Governments can prevent school failure and reduce dropout by eliminating system level practices that hinder equity, and by targeting low performing disadvantaged schools. But such policies need to be aligned with other government policies, such as housing or welfare, to ensure student success (OECD, 2012c).

130. It is also important to **consider the time dimension of the distributional implications of structural reforms**, as their impacts often differ between shorter- and longer-run horizons.³⁶ Indeed, the positive effects of structural reforms often occur with a time lag, reflecting complex transition phases and transitional costs. It is thus essential for policy makers to have a good understanding of these costs, the more so as they are often born by the most vulnerable populations segments. For example, strengthening product market competition and more flexibility in labour markets help to spur innovation, improve the profitability of firms, and often promote job creation. At the same time, these policies widen the skills-wage differential, which can be particularly penalising for less qualified workers. Failure to respond to these trade-offs may reduce support for reforms and may even jeopardise the reform process itself. OECD work therefore stresses the importance of adequate social safety nets, effective job-search assistance and a strong emphasis on help in reskilling displaced workers.

2.2.3 *Finding new sources of employment*

131. The depth of the recession following the crisis worsened what for some was already a challenging employment situation, one the sluggish recovery has yet to remedy. Finding new sources of employment and growth has thus become a crucial and urgent task on the policy front. **Innovation and entrepreneurship are key sources of job creation.** Preliminary evidence³⁷ suggests that it is *young* businesses – and not all small- and medium-sized enterprises – and start-ups in particular that account for most net job creation. The “up-or-out” dynamics for young firms varies across sectors and countries,

35. In this regard, the role of the public sector as a major source of employment for women ought to be explored to advance gender equality and help better balance employment opportunities (OECD, 2014c).

36. NAEC Project B5 “Assessing the transitional costs and distributional consequences of structural reforms”.

37. DynEmp project under the umbrella of NAEC Project A7 “Applying new tools and approaches for better policy making” (Working Paper forthcoming).

depending on the business environment. In other words, there are sizable cross-country differences in the extent to which younger firms are able to scale up and grow over time.

132. Policies should thus allow for market experimentation, as young firms in general and young innovative firms in particular often need scope to experiment with new ideas and business models. This flexibility is particularly important in the context of the uncertainties related to new technologies and their application. Policies should thus promote an innovative, open, and competitive product market that supports the creation and expansion of new businesses³⁸. Enabling experimentation indeed involves **reducing barriers to firm entry** (e.g. administrative regulations), **to the growth of firms over time** (e.g. size-specific regulations), **and to the potential exit or failure of firms** (e.g. in reforming penalising bankruptcy legislation, thus enabling entrepreneurs a second chance) (Hsieh and Klenow, 2009; Bartelsman *et al.*, 2013). **Framework conditions to promote access to finance and other essential business services** are also key to promote entrepreneurship.

133. It is also critical to **ensure a level playing field for new and innovative firms, and to not favour existing firms (incumbents) and multinational enterprises (MNEs)** that typically have a greater influence on the policy making process³⁹. Policies to support investment in research and development (R&D) through R&D tax credits, for example, often favour existing firms and MNEs over young firms that may not yet have generated taxable income (OECD, 2013, u).⁴⁰ Moreover, such incentives can generate scope for arbitrage by allowing MNEs to use them as part of their global tax planning strategies. At the same time, it is important to ensure a level playing field in environmental policies, where a number of measures tend to provide incumbents with an advantage with respect to newcomers - through exemptions, different norms for existing and new installations, or increased barriers to entry. (OECD, forthcoming, k)

134. Recent analysis (OECD, 2012d) also highlights the importance of pursuing trade opening to contribute to rising incomes and employment⁴¹. However, as with adjusting to technological progress, the process of trade-induced growth necessarily entails the continuous reallocation of resources away from less productive activities to more productive ones. This can mean that, even as average wages and employment conditions improve, some workers may experience unemployment or may even see their real wages decline as they change jobs. For these reasons, **policies need to embed trade reforms in a context of macroeconomic stability and a sound investment climate on the one hand, and, on the other, protection for workers, maintenance of high-quality working conditions, and facilitation of labour transitions**, to realise the potential wage, employment and income gains associated with trade.

2.2.4 *Paying attention to job quality*

135. **While section 2.2.3 showed that employment is a strong determinant of people's well-being, what matters is not just having a job *per se*, but having the right kind of job.** Significant regulatory and policy reforms undertaken by many OECD countries during the past two decades have helped to raise

38. It is important though to ensure that this does not come at the expense of labour standards and inclusive growth. A detailed discussion of these issues can be found in OECD (2013, v).

39. The increase in the number of lobbyists and in the amount of money spent on lobbying in the US and elsewhere is well documented in OECD work.

40. Except in tax regimes where R&D tax credits are rebated or in those countries that have more favourable R&D incentives for small firms.

41. For example, trade in services, including through FDI, outsourcing or offshoring, has had positive effects on job creation and wages in developing countries – and seemingly had only minor effects in labour markets of high-income countries.

aggregate employment, but have also been associated with a higher dispersion in job quality and further increases in wage inequality. Indeed, job quality is not only one of the most powerful determinants of individual well-being, but also affects firms' productivity and profits, as well as the prospect for enhanced productivity and economic growth, as workers facing favourable working conditions are more likely to be in good health and have access to training opportunities.

136. In countries with highly flexible labour markets, persistent low-quality employment may arise because low-skilled or workers with limited work experience end up in low-productivity firms that provide limited opportunity for career development. This is closely linked to the growing importance of knowledge-based capital. Alternatively, persistent low-quality employment may be a sign of labour market duality where rigid employment regulations for those on permanent contracts provide high-quality jobs to some, but also create incentives for firms to offer atypical and often more precarious jobs to others to adjust swiftly to changes in demand conditions. However, limited career opportunities and low skills may not be the only reasons for low-wage work. Further analysis is necessary to gauge the role of cultural biases of putting low-value on women's work, employment regulation, wage setting institutions, union density and collective bargaining mechanisms as potential factors behind wage moderation and earnings inequality.

137. While non-standard work can help increase labour market flexibility and responsiveness, non-standard work can also contribute to labour market inequalities, especially if it concerns low-wage and involuntary work contracts. Evidence suggests that as much as one third of jobs are "non-standard" (part-time, self-employed or temporary) across OECD countries. On average, non-standard workers have lower job quality, higher job insecurity and lower (by 20-30%) hourly wages. The wage penalty is especially pronounced for women, the young and low-skilled workers. Moreover, non-standard forms of employment can also increase job strain, adversely impact mental health, and reduce worker capacity to connect to social and professional networks.

138. A crucial issue is whether non-standard jobs are stepping stones to good-quality jobs for groups underrepresented in the labour market and to what extent non-standard work affects household income inequality and poverty risks. First evidence indicates that while non-standard work might be an important first step to (re-)enter the labour market for some groups, the probability to use non-standard work as an entry to standard work is particularly small for young temporary workers⁴². Prime-age and older temporary workers benefit more from the "stepping-stone" effects as they use atypical work to find better jobs. **There is thus labour market segmentation within non-standard workers, a fact that policies need to address.**

139. A policy recommendation emerging from this new work on job quality suggests that **special attention needs to be paid to the vulnerable economic situation of households with only low-paid/non-standard work arrangements.** These households were hit hard in the first phase of the crisis and were less likely to maintain their employment and earnings during the recession, compared with their counterparts with standard jobs. Their poverty rate is 21% on average, while it is 2.5% for households where earnings from non-standard work are pooled with standard work earnings. The risk of poverty is thus not associated with non-standard work *per se*, but rather with whether a non-standard worker lives alone or with other non-standard workers. Continuous reskilling and training could be explored as opportunities to provide a stepping stone from non-standard to standard work arrangements. It is also crucial to ensure that efficient public services are delivered to them.

42. NAEC Project B2 "Measuring and assessing job quality".

140. In many EEs job quality is even more of a concern than in advanced countries, as work is often not enough to lift individuals and their families out of poverty. This is in a large part related to the high incidence of low productivity and low-paid jobs in the informal sector. **Reducing informal employment requires a tailored but comprehensive approach that simultaneously seeks to reduce the costs for firms of operating formally increases the benefits of doing so and strengthens the enforcement of labour market regulations.** To fight in-work poverty, it is also necessary to implement policies in favour of full-time jobs and in-work benefit schemes (income tax credits, conditional transfers).

141. The pay-offs of effective policies to open career opportunities and limit the incidence of persistent low pay – among which the creation of easier routes of access to training programs, for example – can be substantial. **Policies to preserve and augment the human capital of elder workers** are also recommended. Indeed, well beyond the role typically played by monetary incentives, these policies can create incentives for them to stay in the labour market. More generally, promoting quality employment responding to the special needs of elder workers is also important, particularly as they might experience disproportionately longer spells of unemployment, and have more difficulty finding jobs with equivalent wages. This would boost growth and ensure financially sustainable pension systems.

2.2.5 *Investing in education and skills for all*

142. The importance of skills for employment, health, as well as inclusive participation in social, civic, cultural and political life, has been increasingly recognised and documented (OECD, 2013e). The first OECD Survey of Adult Skills (PIAAC) shows that what people know and what they do with what they know has a major impact on their life chances. It also affects their overall level of trust (also see section 2.4.1). The impact of skills on individual well-being has been reinforced by the fact that the information and communication technologies have revolutionised the way we live and work. Skills are an important determinant of people's capacity to fully benefit from our hyper-connected societies and increasingly knowledge-based economies.

143. **Governments need to continuously invest in education, particularly primary and secondary education, and skills⁴³ development in order to accommodate global trade integration and technological progress - major drivers of productivity and growth - without jeopardising income distribution.** This could allow a new “mass flourishing” through grassroots, widespread and indigenous innovation (Phelps, 2013). With the expected catching up of EEs, trade patterns and industrial structures in most OECD member and non-member countries are likely to shift towards more skill-intensive industries, including services. The resulting increase in supply of skilled workers could narrow the wage gap between high-skilled and low-skilled workers while supporting productivity growth.

144. Skills transform the lives of individuals and drive competitiveness of economies. The innate competences of individuals vary, but their opportunities to develop them through high-quality education and training throughout their lives vary even more. Moreover, skills' level and distribution vary markedly across countries. Governments thus **need to focus their attention on how skills are being developed, activated and used, as well as distributed.** They need to develop appropriate education, employment, tax and other social policies that encourage and allow their people to make the most of their potential. **Governments also need to foster close collaboration with employers, trade unions and other stakeholders to build more effective skills systems.**

43. NAEC Project B3 “Assessing the effects of distribution of skills and key related institutional variables on multidimensional well-being outcomes”.

145. The way skills are distributed across the population has significant implications on how economic and social outcomes are distributed. There is not just an important relationship between the level of talent in a country and the level of national income. Countries with a more unequal distribution of skills tend to have a more unequal distribution of income. But, as discussed above, higher degrees of income inequality may cause unequal investment in skills. The distribution of income can affect political, educational and economic mechanisms, among other factors, which can have an indirect effect on economic growth. Conversely, a more unequal distribution of skills alongside other factors can contribute to a more unequal distribution of both economic and non-economic benefits. **It is therefore important for governments to implement policies that increase equality of opportunities in skills development** (OECD, forthcoming, b).

146. **Public funding should be focused on where social benefits are the highest, i.e. early stages of education and disadvantaged individuals, as well as lifelong learning.** It is critical to provide high-quality initial education and to ensure that children have a strong start in education (OECD, forthcoming, b). In terms of higher education, it is important to have a balanced funding mix, and well-developed student support mechanisms for disadvantaged students, with grants and lending schemes that are means for efficient human capital investment as well as equality of opportunity and intergenerational mobility. In this context, it is important to consider the potential risk of new bubbles in the student loan systems and the risk of indebtedness and risk aversion of potential students due to high fees. Public returns on higher education spending and the benefits of advanced skills development for innovation and productivity are also important when considering the spending for higher education. Further, it is necessary to lift the quality of teaching and to ensure the provision of the skills needed by the economy.

147. It is also important for policies to **support the development of social and emotional skills**, such as perseverance, resilience, conscientiousness, sociability and self-esteem. Recent evidence suggests that these non-cognitive skills can have a very significant impact on various measures of social progress, that they remain malleable beyond childhood and that they can be reliably measured (OECD 2014 e). Importantly, social and emotional skills greatly improve a person's integration in social life and have a high impact on subjective well-being. Interestingly, the positive role of social and emotional skills can be observed across the skills distribution, including for disadvantaged children. On a societal level, better social and emotional skills foster social cohesion in increasingly diverse societies, by improving mechanisms of bonding and bridging through which social capital is built. By developing conscientiousness and respect, children also build up interpersonal trust and the ethical values necessary for more equal and better integrated societies. Future work should develop a better understanding of the causal connections between learning contexts, skills and outcomes and collect more evidence from policy measures to promote non-cognitive skills. **Policy makers should consider measuring cognitive, social and emotional skills from early childhood and adopting practices that foster the full range of skills.**

148. It is also crucial to **encourage high-quality lifelong learning opportunities** and make them accessible to all. To this end, it is important to develop links between the world of learning and the world of work, and to provide relevant learning to workers (*e.g.* helping them acquiring ICT-related skills as well as more creative and social skills, etc.). Particular attention should also be paid to those most at risk of poor skills efficiency, particularly foreign-language migrants, as well as to recognise and certify skills proficiency. Some public funding for lifelong learning may also be justified by the fact that risks of free riding are smaller due to lower international mobility of aged workers.

2.2.6 Ensuring fairness in the tax system and designing more equity-friendly fiscal consolidation⁴⁴

149. While we should also be concerned with reducing inequalities before taxes, taxes have a significant redistributive effect that can help to address inequality concerns. Recent data has evidenced a positive link to the level of market income inequality, as inequality in income after taxes and transfers was about 25% lower than for income before taxes and transfers on average in OECD member countries⁴⁵ in the late 2000s (Journard *et al.*, 2012).

150. **Raising taxes for top income recipients, provided that there is room to do so, also seems to be an avenue for increasing tax revenues** in the current context of scarce fiscal resources. This is because top income recipients have captured an increased share of gross income and possibly have a higher ability to pay. Indeed, the sharp increase in top incomes evidenced in the last three decades in many OECD countries relates mostly to the rise in wages and business income (*i.e.* self-employment income, partnership income and income derived from closely-held businesses), thus to the compensation of labour. A new global market for top performers and the change in compensation practices for top executives and financial professionals may also explain some of the rise in the very top earnings. Similarly, the evolution of social norms regarding pay disparity remains an important explanation for the rising inequality in general, and for the top income shares in particular. There has also been a significant drop in the top marginal rate of personal income tax over the past decades in almost all OECD countries.

151. However, **it remains difficult to assess the optimal tax rate for top earners**, as tax reforms may set off behavioural responses affecting taxable income. Top incomes may respond to tax changes through tax avoidance and income sheltering, *e.g.* by substituting cash compensation with fringe benefits, by changing the business organisation in order to shift profits from earnings to capital income (Matthews, 2011), or by changing their country of residence or receiving their salary in the lowest-taxed country if they work in different countries. Also, raising tax rates on top earners can have negative effects on entrepreneurship (Johansson *et al.*, 2011).

152. **Effective tax reforms would thus increase the average rate of tax paid by top income recipients without raising their marginal tax rates⁴⁶** (Matthews, 2011). Options include improving the design of inheritance taxes and aligning the taxation of owner-occupied and other residential property more closely with actual market values and returns, and perhaps also applying a progressive rate structure to those returns (OECD, 2011b). Policymakers could also consider reducing tax allowances and exemptions for top incomes. Related measures could require treating remuneration in the form of “carried interest” arrangements and stock options in the same way as ordinary income, and ensuring that personal capital income is appropriately taxed. **International efforts to improve tax compliance also hold the promise of improving the fairness of the tax system.** Further work could also focus on differences in effective tax rates on labour and capital income in order to better apprehend the tax planning opportunities available to higher income recipients. In designing tax reforms, however, policymakers would also need to pay particular attention to their impact on the propensity to invest and create jobs.

44. This session is based on OECD (2011b) *Divided We Stand* and Matthews (2011) and NAEC Project A6 “How much scope to achieve growth- and equity-friendly fiscal consolidation”. Further analysis will be done in NAEC Project B7 “Analysing growth and equity trade-offs in taxation”.

45. Meanwhile, the redistributive effect of taxation in emerging and developing countries is often hampered by a narrow tax base, less progressive tax-benefit systems and poorly targeted transfers to individuals and households.

46. In doing so, reforms should however consider the effects on migration and long-term incentives of investing in education.

153. **Another major challenge of the tax fairness agenda concerns the enlargement of the tax base by tackling illicit financial flows, including off-shore tax evasion, money laundering and international bribery.** Fuelled by political support from the G8 and G20, progress has been made to strengthen anti-money laundering regimes, enforce greater transparency of company ownership, increase international co-operation in fighting tax evasion, improve inter-agency co-operation in fighting economic crime and support efforts to trace, freeze and recover stolen assets. Many countries have improved compliance with most of the recommendations of the Financial Action Task Force. Over 1,300 tax information exchange agreements have been signed, a new global tax standard on automatic exchange of financial account information has been agreed and over 40 jurisdictions have committed to be early adopters of the standard, hundreds of foreign bribery offenders have been sanctioned and almost USD 150 million in proceeds of corruption were returned between 2010 and June 2012 (OECD, 2013f). Beyond the tax fairness agenda, stronger focus on anti-bribery reforms to improve governance, prevention, detection, as well as prosecution and recovery is warranted in light of its costs for society. Estimates suggest that USD 1 trillion is paid in bribes every year (World Bank, 2014), with detrimental effects on development, economic growth and the business environment, in particular by encouraging anti-competitive practices.

154. As discussed in section 1.4.2 and 2.4.3, multinational enterprises have been able to take advantage of the interaction of national tax systems and some achieve no or low taxation by shifting profits away from the jurisdictions where the underlying economic activity has taken place. **The Base Erosion and Profit Shifting (BEPS) Action Plan, endorsed by G20 leaders, is a major step forward as it aims to equip governments with the domestic instruments and international standards needed to address this challenge.** Furthermore, the rising role of intangibles contributes to the shrinking of the mobile tax base, making the move towards the taxation of more immobile factors such as property a more promising avenue⁴⁷. Failure to address these developments may further fuel tax competition, increasing the importance of initiatives like BEPS to co-ordinate taxation and of closely monitoring the effectiveness of the measures taken.

155. Another way to make the tax-benefit system more redistributive could be **to curb harmful fossil fuel subsidies and exemptions.** In addition to achieving environmental objectives and providing new sources of public finance to support climate action (OECD, 2012h), there is a strong case for phasing out or reforming fossil fuel subsidies based on distributional considerations, in cases where subsidies do not reach the poor and/or its benefits are mostly directed to the richest (IEA *et al.*, 2010).⁴⁸

156. **Meanwhile, a more immediate concern relates to the need for fully integrating equity considerations when designing and implementing fiscal consolidation measures.** Many governments continue to face an urgent need for fiscal consolidation to reduce and stabilise public debt. OECD work shows, however, that this requirement – though compelling – need not result in strong adverse side-effects on other policy objectives, such as income distribution, short-and long-term growth and current accounts (Cournède *et al.*, 2013). **Half of OECD countries could in particular put a strong focus on equity considerations, placing them on a par with growth, and fulfil their short-to-medium term**

47. NAEC Project B7 “Analysing growth and equality trade-offs in taxation”.

48. For example, research suggests that subsidies on electricity, gasoline and liquefied petroleum gas are likely to be strongly regressive for 20 countries from Sub Saharan Africa, Latin America, Middle East and South and East Asia (Granado *et al.*, 2010). Trade-offs and complementarities between environmental policies and equity will also be examined as part of NAEC Project B11 “Trade-offs and synergies between environment and inequality”.

consolidation needs with relatively limited adverse side effects on equity (Cournède *et al.*, 2103)⁴⁹. They include, for example: increases in the effective retirement age, raising efficiency in the education and health care systems, cutting certain tax expenditures, hiking the rates of immovable property taxes, direct household income taxes and broadly-based consumption taxes. Other measures, such as increases of capital income taxes, cuts in government wages and employment and unemployment-related and disability benefits require careful consideration of potential trade-offs. Moreover, **structural policies can play a key role in helping to ease such potential trade-offs**.

2.3 *Addressing long-term challenges to secure a sustainable growth*

157. In addition to repairing the damages brought about by the crisis, there is an urgent need to address long-term challenges that have developed over decades. Two areas of particular concern are been analysed in NAEC projects and are discussed here: population ageing and environmental challenges, including climate change, air pollution, and resource degradation and scarcity. OECD work (OECD, 2012k; OECD, forthcoming, b) has highlighted that population ageing will result in a decline in the potential labour force which will have effects on future GDP per capita. These effects can only partially be offset through increases in labour force participation and employment rates. Addressing environmental challenges at the global level is also fundamental for growth and welfare. Assessing how these trends evolve is therefore critical to understand future challenges, risks and opportunities for the global economy (OECD, forthcoming, b).

158. Another critical challenge relates to the expected growing dependence of long-term economic growth on multi-factor productivity, as the contribution of labour input is expected to decline in the upcoming decades in most OECD countries. Further, EEs might move towards more skill-based industries. Productivity growth is critical for raising wages, and requires well-functioning, competitive markets that drive innovation. Policies that support open markets, investment and private sector-led growth, and that foster innovation are thus central in this regard, as well as knowledge-based capital. Policies to help economies to better adjust to structural changes due to global trade, through investment in human capital and further integration of trade, will also be useful. It will also be important to mitigate the potential negative impact on income inequality. However, work under NAEC on long-term productivity growth⁵⁰ is still at an early stage and the impact of long-term trends on productivity growth remains to be carefully analysed before policy implications can be drawn. More results will be outlined and discussed as the work evolves.

2.3.1 *Dealing with ageing populations*

159. Ageing populations will pose strong headwinds to economic growth over the coming fifty years, with the labour force expected to decrease in most OECD member and non-member countries. Ageing populations could also put pressure on fiscal sustainability and increase the vulnerability of social institutions (see section 1.4.1). Long-term public expenditure projections by the European Commission confirm that population ageing is posing a major challenge for public finance sustainability in all EU member countries, influenced by increases of public pension expenditure, substantive pressures on health care spending and public spending on long-term care (European Commission, 2012). Short- and long-term policy priorities to cope with population ageing may point in different directions. Whole-of-government

49. Importantly, a vast majority of countries have scope to keep debt durably stable at 60% of GDP with an instrument mix that is not too damaging to other policy goals. Only eight countries would need to rely to some extent on instruments having more damaging effects on equity (Cournède *et al.*, 2013).

50. It is to be discussed in OECD (forthcoming, b) and in NAEC Project B15 “Ensuring productivity growth and innovation in the long run”.

strategies need to be developed, which cut across many and closely entwined areas, including pensions, labour markets, education, innovation, and financial markets regulation. At the same time, these strategies need to consider that health care services are a major contributor to the economy, with the shift in the age structure making health and social care a likely source of future employment.⁵¹

160. While ageing is not the only or even the main driver of the rise in health spending, the cost of health has put increasing pressure on public budgets in all OECD countries in recent decades⁵². By 2060, public spending on health care is projected to rise from its current level of 5.5% of GDP to 8-12% of GDP (Arnold *et al.*, 2011; OECD, 2013w. Rapid population ageing also makes addressing non-communicable diseases and mental health issues even more urgent, both because of the high costs of treatment (dementia, in particular) and because diabetes, stress, depression and alcohol-related diseases result in poor labour market outcomes.

161. There is also great potential for improving the efficiency in health care systems, but realising these efficiency gains is notoriously hard. **Well-regulated competition among health care service providers, well-designed budgetary caps, and hospital payments based on diagnostic related groups, and health technology assessments can improve fiscal sustainability.** Broadening the base on which health is financed away from contributions based on labour is also desirable, so that higher spending and a likely fall in revenue due to ageing do not occur at the same time. It is also necessary to **examine the boundaries of public and private financing of health**, as health systems in most OECD countries face unrelenting pressures to include new technologies. Few have clear criteria on what will be covered by public spending and what is left to individuals, which inhibits the development of private insurance for health.

162. There are also possible alternatives to these traditional fiscal consolidation approaches. **Technological, organisational and social innovation can help to improve value through greater quality of health care, patient safety and care co-ordination.** Shifting care out of expensive acute care settings and into the community/home is desirable, as the prevalence of chronic (and often multiple) diseases increases with population ageing. Recent evidence also suggests that information and communication technologies (ICT) can play an important role. The movement towards accountable care and larger, integrated delivery systems, facilitated by greater ICT use, is spurring investment in data, analytics, and care management platforms in many OECD countries. However, reaping the potential gains of ICT requires careful planning, significant upfront investments and collaboration across a wide range of stakeholders. **Policies to contain the rise in demand for health services also have to be adopted.** These include preventative measures to improve the overall health status of the population.

163. In addition to fiscal sustainability, **ageing also has significant consequences on the vulnerability of social institutions, including pension schemes**⁵³, as *ceteris paribus* it alters the proportion of those paying for and those receiving services. The ratio of people of working age for every one of pension age in OECD countries will decrease sharply in the coming years. Social institutions can shelter individuals from the full effects of adverse macroeconomic shocks through risk sharing and can

51. The share of health and social care in total employment has increased from 8.7 percent in 2000 to 9.7 percent in 2008.

52. In the decade prior to the crisis, health spending grew at three times the rate of the economy across OECD countries, with about three quarters of this spending financed by government. Going forward, health care spending will be pushed up mostly by the combined effect of technology, relative prices and exogenous factors (such as institutions and policies) (Maisonneuve and Oliveira Martins, 2013).

53. NAEC Project C2 “Assessing the vulnerabilities of social institutions and policy responses to enhance resilience”.

also act as automatic stabilisers. However, not only were these institutions hit hard by the crisis through large adverse revenue shocks and a sharp increase in unemployment, but they are also vulnerable to unsustainable spending trends in the longer term and face a trade-off between financial sustainability and adequacy. Social institutions, in particular pension schemes, could thus prove a stress point for the relations between generations (OECD, 2011c).

164. Designing social institutions that address these soft spots requires the assignment of clear responsibility for financing and managing risks and some buffers against unexpected shocks. In particular, **regularly updating pension parameters** (such as pension level, retirement age, contribution period or a combination of them) **to trend changes in life expectancy increases their financial robustness**. A number of countries have already made progress in this direction (OECD, 2013g). However, **it is important to further examine the distributional impacts of pension reforms**, in order to address potential unintended distributional consequences of linking retirement age to life expectancy. Moreover, adapting the retirement age to a higher life expectancy is only sensible if the population's health status can be maintained throughout the higher age.

165. Moreover, even if the retirement age is adjusted for longevity, unfavourable demographics will likely lead to a shrinking labour supply in many countries until 2060. **International migration could alleviate some of this natural decline in the working age population of the OECD**. However, the expected income and wage convergence between OECD countries and EEs over the next 50 years might lower the economic incentives for migration, which may lead to net emigration in the OECD (OECD, forthcoming, b). Hence, **migration-friendly policies should be implemented to encourage inward migration**, e.g. by a combination of labour and product market flexibility and labour-migration friendly policies. A number of distinct types of immigration policy (e.g. skills based point systems, family reunification programs, refugee policy, illegal immigrant policy) can target specific groups of migrants (OECD, forthcoming, b). More generally, migration policy might also be related to and impact on a number of other policy areas. It thus warrants further analysis to appropriately grasp related linkages⁵⁴.

166. Another objective to decrease the vulnerability of pension schemes should be to **increase the coverage of voluntary private pensions**, in particular in countries where they represent an important complement to (relatively low) public pensions. This could help to ensure adequacy in the future and avoid transfers of ageing costs to social budgets. **Encouraging life-long learning and up-skilling**, as described in section 2.2.4, will also be critical in maintaining old-age workers productive and able to adjust to continued technological change and evolving production structures. Education and health policies also play a very important role in the transition to a healthy and happy post-retirement age, and help preventing social isolation and neurodegenerative diseases.

167. **To deal with the fiscal pressures posed by ageing populations, governments can implement spending reforms as well as tax increases.**⁵⁵ In implementing reforms, particular attention needs to be paid to unintended consequences of fiscal consolidation on other policy objectives, such as equity, growth and current accounts. **Some structural reforms have the potential to both improve the budget balance and increase the growth potential**, in particular those reforms aimed at raising labour participation by increasing the incentives to work longer, by promoting gender equality and stronger female participation in the labour market, and by facilitating the mobility of workers across borders.

54. Work on migration is also ongoing as part of NAEC Project C4 "Assessing immigrant characteristics and links to labour market performance". Issues related to immigration policy may surface as this work progresses, particularly given the close linkages between migration and labour market policies.

55. NAEC Project C3 "Can health become an even bigger part of the economy without undermining fiscal sustainability".

2.3.2 Addressing environmental challenges⁵⁶

168. The crisis and the subsequent need to address fiscal pressures have led to environmental objectives, such as reducing climate change and air pollution, receiving less attention than in the years prior to the crisis⁵⁷. Moreover, environmental policies were in the past often seen as a burden on economic activity, at least in the short to medium term, as they may raise costs without increasing output or restrict the set of production technologies and outputs. At the same time, the Porter Hypothesis claims that well-designed environmental policies can encourage innovation, which may result in gains to profitability and productivity that can in some cases outweigh the costs of the policy. Continued efforts are necessary to advance the understanding of linkages between environmental policies, economic growth and productivity, including appropriate action to monitor progress and measure results (OECD, 2011d). As much of the work on the environment under NAEC is ongoing, this subsection discusses only selected findings, with more results feeding in as the projects evolve.

169. OECD work confirms that more ambitious and efficient policies are needed to reconcile economic growth with the conservation and sustainable use of the environment and natural resources. **Policy makers thus need to assure – to the extent possible – that environmental policies are competition-friendly**, *i.e.* well-designed and market-based, so as to level the playing field among incumbents and new entrants, facilitating innovation, new and more environmentally-friendly technology adoption and entry of firms with new business models. Transparent and predictable policy frameworks need to be in place to create business opportunities and allow corporations to make long-term capital-intensive investments that “green” the whole economy. This requires structural reform of energy taxation and the elimination of environmentally harmful fossil fuel subsidies (OECD, 2013u).

170. Initial results from new data on the stringency of environmental policy instruments across OECD countries over the past two decades suggest that more stringent environmental policies may have on average no long-lasting negative or positive effects on multifactor productivity growth (OECD, forthcoming, e). While broader effects on labour productivity, investment and employment remain to be explored, this preliminary analysis may suggest that well-designed environmental policies need not harm economic growth, and that **there may be scope for more stringent environmental policies**.

171. The effects of environmental policies on productivity growth are found to differ across sectors and firms, in particular depending on technological advancement. The most productive firms and industries can increase productivity following the introduction of more stringent environmental policies, while the least productive firms are likely to see a negative effect. These effects are more robust for more flexible policy instruments, such as price-based instruments, but they do not depend on the actual level of environmental policy stringency. Still as part of the effect on productivity growth may take place through firm entry and exit or relocation of activity, due attention should be paid to the design of environmental policies and the ability to smoothly reallocate resources to new and expanding firms.

56. NAEC Project B9 “Cost of inaction and resource scarcity: Consequences for long-term economic growth/benefits of action”, NAEC Project B10 “Environmental policies and economic performance” and NAEC Project B11 “Trade-offs and synergies between environment and inequality”.

57. However, environmental tax reform has sometimes been used to contribute to fiscal consolidation (e.g. Ireland) and it is often recommended to pursue this option.

172. There is also strong evidence that lowering barriers to entry and competition can have significant influence on investment and innovation and hence on long-run productivity growth,⁵⁸ by improving the flexibility and resilience of the economy. Notably, environmental policies themselves can pose barriers to entry in the form of discriminatory treatment of new entrants relative to incumbents (*e.g.* in the energy sector), increased fixed costs, excessive administrative burdens in environmental permit and licensing procedures, lack of coherent and consistent information, as well as lengthy, uncertain procedures. Cross-country evidence shows that such burdens to competition are not related to the stringency of environmental policies. Rather, they are related to policy design and hence can be minimised.

173. Furthermore, as environmental quality is an important component of multidimensional well-being, it is crucial to understand how to address rising environmental costs, what linkages exist between environmental policies and economic outcomes, as well as to what extent environmental policies affect different household groups and how they can be implemented without having adverse equity implications.⁵⁹ In this context, intergenerational equity also remains a challenge, as it is crucial to ensure fairness in the inter-temporal distribution of the endowment with natural assets or of the rights to their exploitation.

174. **Overall, the global consequences of climate change, air pollution, biodiversity loss, deforestation and water scarcity call for a co-operative policy solution.**⁶⁰ However, the challenges associated with co-ordination are substantial. For example, on climate change the benefits of emission reductions are reaped globally, while the costs of policy action are borne locally. The costs and benefits of dealing with environmental challenges also differ widely across countries and different preferences relating to average income levels. While convergence in per capita income over the coming 50 years may lower global differences in preferences for emission and climate abatement, and thus facilitate co-ordination, widening regional economic impacts of climate change may hinder it. Preferences may also differ across generations. In general, the baselines traditionally used in research and policy advice (including the OECD economic projections) do **not yet sufficiently acknowledge the potentially large costs of policy inaction to environmental challenges**. It is crucial that policies are evaluated against a realistic accounting of the associated environmental costs and benefits.

175. To this end, the CIRCLE project⁶¹ is designed to look at the interactions (trade-offs and synergies) between long-term economic growth and different environmental issues. First, it aims to quantify how changes in environmental quality, climate change, scarcity and degradation of natural resources affect the economy, and ultimately economic growth, through changes in productivity, resource endowments, and production and consumption patterns, among other channels. This can be summarised as the ‘costs of inaction’. Second, it assesses the direct (and co-)benefits, as well as trade-offs, associated with a selected number of policies to address these environmental challenges. This is termed the ‘benefits of action’. This work builds on and complements the extensive work on green growth already underway within the OECD, including work on indicators and other measurement tools, sectorial policy analysis (*e.g.* agriculture,

58. However, empirical research on the link between environmental policy stringency and productivity growth has so far yielded ambiguous results, pointing to the need for further work to address problems related to data, measurement and estimation strategies (Koźluk and Zipperer, 2014).

59. NAEC Project B11 “Trade-offs and synergies between environment and inequality”.

60. Co-operation efforts could build on work by other Organisations, such as the European Commission’s 2030 framework for climate and energy policies.

61. Work on CIRCLE (NAEC Project B9) “Cost of inaction and resource scarcity: Consequences for long-term economic growth/benefits of action” is ongoing and will receive a more prominent role going forward.

energy, and transport), and the integration of green growth considerations into national and multilateral policy surveillance (OECD, 2011d).

176. A preliminary assessment of the impacts of climate change from the CIRCLE project⁶² reveals **significant impacts of climate change on long-term economic growth at the sectoral and regional level**. The aggregate and net global cost may remain limited to around 0.7 to 2.5 percent of GDP in the next few decades, as moderate levels of climate change may lead to some benefits in regions with a temperate climate. However, these results are preliminary and do not include factors such as impacts of extreme weather events or labour productivity loss. In addition, sectoral or regional impacts have **systemic consequences, not least through changes in international trade patterns. They may also lead to lock-in effects**, which may make it much more costly to take action on environmental challenges. For example, the current build-up of carbon in the atmosphere with the continued increase in emissions as projected in the “business as usual” baseline scenarios will lead to climatic changes and economic damages that will extend for at least a century (or more). Early action on climate change could help to harness economic, social and environmental benefits. **The costs and benefits of policy action should therefore always be evaluated from both a short-term and a long-term perspective.**

177. In addition, policy decisions should **consider both the supply and demand side, as well as both flow and stock adjustments of natural capital**. Regarding the supply and demand side, since the beginning of the 21st century price inflation and instability have affected a wide range of commodities, from energy to agriculture (see *e.g.* OECD/FAO, 2013). This suggests an increasing imbalance arising from the demand pressure on non-renewable resources, the stock of which is subject to substantial supply elasticities. Regarding stocks and flows, natural capital should be considered as a factor input in policy making. Failure to account for the stock of natural capital may lead to an overestimation of multi-factor productivity growth in times of natural resources booms. An extension to the scope of factor inputs also makes the contribution of natural capital to economic growth explicit. Innovation may be useful to counteract the effects of natural capital depreciation and depletion, and could be incentivised by public authorities in an effort to minimise market failures. **Flexible innovation policy based on a balanced engagement with the private sector in the areas of risk sharing and knowledge transfer could also play a critical role in promoting sustainable economic growth which does not deplete the non-substitutable natural capital asset base in the longer term.**

2.4 Improving policy making and international policy co-ordination

178. The economic crisis sparked a debate on the role of governance failures in the crisis, a debate furthered with increasing demands for the state to commit to safeguarding the public interest and enhancing transparency. In this context, it is particularly important to build trust through better governance and stronger institutions, to increase international regulatory co-operation and to improve international policy co-ordination where and when appropriate (also see section 1.4.2 and 3.4).

2.4.1 Building trust through better governance and stronger institutions⁶³

179. Governments are faced with a dramatic decrease in public trust towards both market and public institutions, as well as towards the governments themselves (OECD, 2013h). This challenge is closely

62. NAEC Project B9 “Cost of inaction and resource scarcity: Consequences for long-term economic growth/benefits of action”. Work on CIRCLE is ongoing and will receive a more prominent role in the final version of the Synthesis.

63. NAEC Project C1 “Revisiting the social contract: rebuilding trust for sustained economic recovery”, and OECD (forthcoming, h).

linked to the rise in inequality (see section 1.1.6), as trust is eroded when people believe that a segment of society receives greater returns to the same efforts. Without trust, governments will face more difficulties to implement the ambitious policies needed to address today's challenges. If citizens do not have confidence in public institutions and political actors, they are less likely to accept new taxes, comply with new regulations, agree to welfare reforms, and so on. This could potentially lead to short-termism and expedient rather than strategic decision-making by policy makers. Emerging policy recommendations suggest that trust should be seen as a factor that influences both policy effectiveness and the capacity to implement structural reform.

180. To re-build trust, governments need to strengthen the integrity and credibility of the policy making process as a fully institutionalised, transparent and inclusive mechanism. First, **further work is necessary to provide adequate measures of trust**, why and how it evolves, and what good practices, principles and toolkits can be defined. Existing methodologies provide a wealth of data, but these can only be partly exploited for the purpose of understanding the impact of policies on trust. New work under NAEC would be a key step towards the emergence of improved governance statistics,⁶⁴ which have an important role to play alongside economic, social and environmental statistics. Second, it is particularly important to **identify policy levers that will help restore citizen trust, and to connect them with the policy making process** in their design and evaluation.

181. Emerging policy recommendations suggest that **citizen engagement, access to information and open government are critical for rebuilding trust**.⁶⁵ Examples of mechanisms implemented across OECD countries include access to information (or freedom of information) laws, policy enquiry commissions, high-level social partnerships, public consultations and referenda; and more recently, two-way citizen engagement mechanisms driven by new, user-friendly use of the social media and information and communication technologies (ICT).

182. **Effectively managing conflicts of interest, high standards of conduct in the public sector, and adequate lobbying and political finance regulation can also be leveraged to limit undue influence and build safeguards to protect the public interest.** Countries are increasingly making information on top decision-makers' potential conflict of interest publicly available in order to allow citizens to hold decision-makers accountable. They are also increasingly regulating lobbying to foster transparency and integrity and limit inappropriate influence peddling by lobbyists (OECD, 2013h). To facilitate public scrutiny, governments can also **make public who sought to influence the legislative process**, for example by disclosing the names of organisations and persons, including lobbyists, consulted in the development of legislative initiatives (*i.e.* a legislative footprint).

183. In addition, as forms and channels of financial and non-financial support become more sophisticated, and as associations and third parties play increasingly relevant roles, further **regulatory and implementation efforts on political finance are needed. Innovative approaches by the private sector, including codes of conduct, self-regulation, or governance principles addressing political finance or lobbying activities can be powerful complementary measures.**

64. Future OECD work will focus on Guidelines for National Statistical Organisations on household surveys, which could serve as a basis for developing comparable measurements of trust.

65. The experience of various OECD policy communities can be further analysed, for example the Århus Convention of the United Nations Economic Commission for Europe on Access to Information, Public Participation in Decision-Making and Access to Justice in Environmental Matters, 25 June 1998. Work by the OECD Environment Policy Committee (EPOC) in collecting environment ministries experience in working with various stakeholders is also relevant.

184. To effectively rebuild trust, these mechanisms need to be implemented in parallel to structural reforms and policy initiatives leading to **effective delivery on what matters the most for the citizens**. In particular, when aiming to rebuild trust, particular attention should be paid to linkages between trust and **distributional concerns**. While the crisis largely originated in the financial sector, the subsequent fiscal adjustment needs were often perceived to be distributed in an unfair manner across income levels (OECD 2013b) and between genders (OECD 2012i). This perception further eroded trust in public institutions. There is therefore a need to ensure a fair distribution of the burden of post-crisis adjustments, as well as a fair return to efforts (see discussion in section 1.1.6.1).

185. **Governments also need to strengthen their capacity for strategic foresight** in order to minimise uncertainty for their citizens and businesses. This would allow not only understanding and preventing known adverse events, but also identifying or reflecting on possible unknown or so-called “Black Swan” events which could cause significant social, economic and human disruptions. This may also require increased government capacity to tackle multi-sectoral issues, plan for long-term change and strengthen risk assessment and management.

2.4.2 *Increasing international regulatory co-operation*

186. As discussed in section 1.1.4, a major contributory factor to the crisis was an inadequate regulatory response, mainly, but not only, at the national level. This reflected, inter alia, weaknesses in the implementation and enforcement of policies as, even where proper rules existed on the books, the institutions to properly implement and enforce them were sometimes lacking. *Ex-ante* and *ex-post* regulatory impact assessments could also have been used more consistently to monitor the effects of policies and adapt to new and pressing challenges. But the crisis also derived from a lack of co-ordination across jurisdictions. These regulatory failures and the rise in the interconnectedness highlight not only the need to promote better regulation⁶⁶, but also **the need for strengthening and improving international regulatory cooperation**.

187. The OECD has developed a **typology of various approaches to regulatory co-operation** and institutional arrangements attached to them (OECD, 2013i)⁶⁷. This might be useful for understanding the benefits, costs and success factors of various international regulatory co-operation (IRC) mechanisms. It could also provide governments with evidence-based tools to better understand when and how to seek stronger international regulatory co-operation. Preliminary evidence shows that full harmonisation may in some cases lead to a number of political deadlocks and may be excessively costly in terms of time and quality of policy action. However, less comprehensive and binding schemes may lead to lower compliance unless supported through appropriate institutional arrangements⁶⁸. Trans-governmental networks (such as

66. More broadly, in an interconnected environment evolving at a high pace, it is important to make consistent efforts to promote better regulation. This is a key element of pro-growth policies, but it also supports the attainment of better social and environmental outcomes. A renewed effort is necessary to ensure that governments have high-standard mechanisms and institutions to improve the design, enforcement and review of their regulatory frameworks. To this effect, a “whole-of-government” approach to regulatory reform, with emphasis on the importance of consultation, co-ordination, communication and co-operation will be critical. In addition, it will be conducive to addressing the challenges posed by the interconnectedness of sectors and economies.

67. OECD (2013i) identifies 11 mechanisms used by countries to support international regulatory co-operation, from complete “harmonisation” of regulation (i.e. uniformity of laws) to more flexible options, such as mutual recognition agreements.

68. One example of such an institutional arrangement is the peer reviews carried out by the Financial Stability Board, which aim to strengthen adherence to international financial standards.

the Basel committee on banking supervision), which have emerged as a decentralised solution to the failures of some of the traditional centre-of-government-based approaches, prove to be effective (and low-cost) at achieving comprehensiveness and rule-process legitimacy. Co-operation, specifically, on the enforcement of rules is of key importance as, in many areas, enforcement has an international dimension. However, evidence shows that existing memoranda of understanding and other mechanisms of trans-governmental bodies have been relatively weak at monitoring and enforcement. Mutual Recognition Agreement (MRA) is an IRC mechanism that preserves regulatory diversity and is often used in international trade agreements.

188. In parallel, it is necessary to **improve rule-making at the international level, building on best practices in domestic regulatory policy**. The progressive emergence of global standard setters supports the deepening of globalisation (OECD, 2013i). In particular, intergovernmental organisations, trans-governmental regulatory networks and other international organisations play a prominent role in developing global standards. However, the impact of these activities and uptake of good regulatory disciplines at the international level remains scant. OECD work with other international organisations shows that **regulatory management disciplines could be more actively used by IOs to garner greater legitimacy and accountability in their standard setting role – in particular in the areas of consultation mechanisms and impact evaluation**. In the same vein, the OECD Best Practice Principles for the Governance of Regulators (OECD, 2013j) highlight the need for supra-national rule-setting bodies and institutions to follow good practices that are applicable to national regulators to ensure their effectiveness, accountability and transparency, and prevent undue influence.

189. Further, the necessity to properly address climate change necessitates, as discussed above, increased international regulatory cooperation. On the one hand, policies that properly cope with the most pressing environmental needs might not be operational in isolation. On the other hand, policies that tackle environmental challenges might be detrimental to national competitiveness, which is likely to cause mutual *prisoners dilemmas* and an overall suboptimal level of action in that area.

190. Finally, **a revision of the OECD Policy Framework for Effective and Efficient Financial Regulation (2009)** could be useful for policymakers in adjusting their national approaches and in improving their work with international partners. This could in particular provide useful in addressing the inappropriate or ill-adapted elements of our approach to financial regulation.

2.4.3 *Improving international policy co-ordination*

191. International policy co-ordination can improve global welfare by allowing collective action in areas where individual countries may underestimate the external effects of domestic policies and/or may face strong incentives to act alone or to free ride on other countries' policy efforts. Enhanced co-ordination can thereby allow aligning policy standards upwards, thus preventing destructive races to the bottom. In a global economy characterised by greater trade integration, increasingly complex GVCs and rising importance of knowledge-based assets (KBA), policy co-ordination becomes even more important for the provision of global public goods (also see section 1.4.1). This is the case for basic research and systems of intellectual property rights (IPRs) as well as in other policy areas such as competition, taxation and environmental sustainability, to name but a few. International policy co-ordination will be a particular challenge, as the number of key stakeholders – often with different perspectives and policy priorities – increases in the global economy (OECD, forthcoming, b). Moreover, coordination is becoming increasingly important as globalisation and interconnectedness lead to a multitude of spill-overs, in a

reality in which national operational sovereignty and global governance in the field of economic policy have certain limitations.⁶⁹

192. Co-operation on science and technology can help to understand the roots of global challenges and contribute to their mitigation and adaptation. The level of the world's scientific knowledge and resources available is unprecedented. However, fully unlocking their potential requires more effective international co-operation and an appropriate sharing of burdens and benefits in order to protect the global "commons" and the world's public goods. This implies the pooling of financial resources, the sharing of large-scale research infrastructure, and improvement of the global knowledge base. Meanwhile, most spending on science and technology still largely takes place in national contexts. To face this challenge, effective governance mechanisms will have to be developed regarding priority setting, funding and spending arrangements, knowledge sharing and intellectual property, as well as capacity building for research and innovation (OECD, 2012g).

193. IPRs are an important component of knowledge-based assets and, with the rising complexity of value and supply chains, the cost and risks related to infringements on property rights can be expected to rise. Weak protection of IPRs undermines incentives to invest in innovation, facilitates counterfeiting and piracy, reduces the potential for technology transfer and limits the formation of markets for knowledge. At the same time, IPR systems are not only about the protection of knowledge, but also about policies and mechanisms that facilitate access and transfer to knowledge. **International co-ordination on policies towards IPRs is thus fundamental to reap the benefits from further trade integration** (see section 2.1.3). Co-ordination should become easier with EEs getting closer to the technological frontier and the increasing costs of being left behind in the globalisation process. At the same time, there are widespread concerns about the efficiency of current IPR regimes, *e.g.* as regards the quality of patent rights. "Patent wars" could seriously hurt innovation and the rise of the digital economy sparks challenging dilemmas about the most relevant IPR regimes (OECD, 2013k). International co-ordination would be key for improvement.

194. With the intensifying global economic integration, **co-operation in cross-border enforcement will also be even more necessary**. This should become a policy objective in itself, which requires the exploration of new tools to make co-operation more effective. Co-operation in the enforcement of competition law, for example, has improved significantly since the 1990s and efforts to converge in substantive approaches to competition law enforcement have borne fruit. Continuing, and deepening, the existing system of co-operation is critical in order to avoid inconsistent decisions and long investigations as well as to achieve more effective enforcement. However, making it work will be increasingly complex, as business becomes ever more globalised, spanning more and more jurisdictions enforcing competition law⁷⁰. In face of this challenge, governments may wish to consider whether new approaches to

69. See NAEC Note by the Secretariat on Implications of Globalisation for Competition Policy: the Need for International Co-operation in Merger and Cartel Enforcement (OECD, forthcoming, f). For example, national institutions may issue conflicting opinions on the same cases or be unable to carry out effective investigations. Cross-border mergers present a particularly complex challenge, insofar as small jurisdictions may not be able to prevent or remedy such mergers, while large jurisdictions may effectively block them; in either case, imposing harmful externalities. As regards transnational cartels, they can face parallel investigations with some jurisdictions much better able to prosecute price-fixing behaviour than others. Not to mention the high costs of multiple parallel investigations.

70. The most thought provoking picture is painted by Lynn (2010) in a description of the widespread consolidation of power in nearly every sector of the American economy.

international co-operation in enforcing competition law are required.⁷¹ Convergence of national policies and co-operation among national authorities will need to be consistently explored in light of underlying costs which tend to rise with the increasing number of institutions involved.⁷² Incentives for co-operation would also need to be considered, to address harms from failures to coordinate and increase the benefits of co-operation for a greater number of participating jurisdictions.

195. In increasingly interconnected economies it is, in particular, appropriate to consider new instruments for multi-lateral co-operation to address growing challenges. In the field of competition⁷³, such instruments could relate, for example, to leniency and sharing information in cartel investigations as well as merger notification. The outcome of the ongoing debate in the field is still pending, with some possible options including: (i) the **development of international standards for formal comity** (such as legal instruments defining criteria for requesting and granting an enforcement action or assistance to another agency and clarifying participating agencies' respective comity obligations); (ii) **allowing agencies to voluntarily recognise the decisions of other competition authorities in the investigation of cross-border matters** (even through non-binding deference to one 'lead authority'); and (iii) **reaching a multilateral opt-in agreement** for exchange of information, comity and deference standards.

196. Taxation is another area where international co-operation is continuously gaining importance. As the world becomes increasingly globalised it is also becoming easier for all taxpayers to make, hold and manage investments through financial institutions outside of their country of residence. As discussed in section 2.2.5, off-shore tax evasion is a serious problem for jurisdictions all over the world. Co-operation between tax administrations is critical in the fight against tax evasion and in protecting the integrity of tax systems. A key aspect of that co-operation is the exchange of information and in particular the automatic exchange of information. **To be effective, a single global standard for automatic exchange of financial account information has been designed by the OECD with residence jurisdictions' tax compliance in mind and has been standardised to lower the costs for all stakeholders.** Finally, because tax evasion is a global issue, **the model needs to have global reach** so that it addresses the issue of offshore tax evasion and does not merely relocate the problem rather than solving it. It will thus be essential that information on beneficial ownership of all legal structures is collected and exchanged, and that all financial centres implement the new global standard.

197. Competition among countries for the location of knowledge-intensive and high value-added activities will only increase pressure on tax regimes and domestic tax bases going forward. Coupled with weaknesses in the current system, this can lead to taxable profits being artificially shifted to locations where they are subject to a more favourable tax regime or made disappear altogether. **International co-operation is of key importance in order to effectively address such base erosion and profit shifting (BEPS).** The OECD/G20 Action Plan on BEPS sets forth 15 actions to address the underlying issues in a comprehensive and co-ordinated way. The action plan also calls for work to address the challenges posed by the digital economy. Governments need to take into consideration these proposed actions and in doing so, they will be in a position to draw on a forthcoming multilateral instrument to amend bilateral tax treaties and implement BEPS measures (also see section 1.4.2 and 2.2.5).

71. Trends in competition law enforcement will be examined in NAEC Project C6 "Implications of globalisation for competition".

72. The number of jurisdictions with competition law enforcement has increased from fewer than 20 in 1990 to about 120 today.

73. See Report on the OECD/ICN Survey on International Enforcement Co-operation (OECD, 2013).

198. More generally, major spill-over effects of domestic policies have further spurred efforts for international policy co-ordination. The impact and reach of these spill-overs have been recognised through the **G20 acting as “the premier forum for international economic co-operation”**. And the agreement of G20 leaders to co-ordinate in response to the financial crisis has benefitted the global economy. The G20 response to the crisis was also accompanied by commitments to avoid protectionism, foster structural and financial regulatory reform, and support an increase in the resources of international financial institutions. The G20 support to action-oriented and peer-driven international economic co-operation is currently embodied by its Framework for Strong Sustainable and Balanced Growth, underpinned by a Mutual Assessment Process.

199. Going forward, **the close co-operation among international organisations will contribute to more coherent policy advice and co-ordination**. To achieve greater impact and relevance, IOs could contribute by better informing global debates, facilitating agreements on the direction of policies, and helping to co-ordinate particular individual and collective country measures. The role IOs can play is even more important since they give smaller countries a bigger stake in the decision making and thus can help establishing broader consensus. Increased dialogue among IOs will ensure cross-fertilisation, consensus building and support to ongoing initiatives. Thus, for example, on matters within the jurisdiction of the Financial Stability Board (FSB), OECD will continue its reflections in co-operation with other international bodies, thereby contributing to the work they conduct. In this respect, inter-organisational co-operation among the FSB, IMF and the OECD is already taking place in the framework of G20 efforts to improve financial regulation.

2.4.4 *Reforming the international monetary (non) system*

200. Irrespective of causality and direction, capital markets of advanced and emerging economies have become increasingly interconnected. Unconventional monetary policy interventions might have accentuated cross-border spill-overs. At the same time, the crisis has triggered the introduction of far-reaching macro-prudential policy tools in many jurisdictions (usually located at central banks). However, some macro-prudential measures are likely to affect cross-border competition between financial institutions. Other interventions again potentially affect exchange rates, capital flows or both. These potential spill-overs **make transparency and timely communication of monetary policy an important task** to be fulfilled by national central banks. Future changes to monetary policy settings need to be carefully calibrated and clearly communicated. Furthermore, these potential spill-overs also warrant **international monetary co-ordination**.

3. **Moving ahead: implications for OECD work**

201. The crisis and the global long-term trends discussed above have highlighted a range of critical challenges that policy makers face. NAEC aims to improve the OECD policy advice on these difficult issues and to take a new look at “how we do things”. Emerging policy recommendations from NAEC described in the previous section underline areas of work where the OECD should explore and deepen its existing work programmes in order to better equip its members and partner countries with relevant comparative and evidenced-based analysis. Some of these avenues are already being explored by NAEC projects and will deliver specific outcomes in the coming months. Others require new undertakings and a forward looking approach.

202. The suggestions for renewing our processes and tools and for deepening our work in some specific strategic areas will further strengthen the core OECD competency that needs to be preserved, namely cross-country comparisons of policy frameworks and design, as well as evidenced-based assessments and analyses of structural reform agendas and recommendations.

203. These suggestions should also inspire current discussions within relevant OECD Standing Committees on the PWB for 2015-2016. More broadly, they should be considered by both the Secretariat and the relevant Committee in reflecting on how to prioritise and renew the analysis, in order to ensure a proper mainstreaming of NAEC outcome in core OECD analysis.

3.1 *Reviewing forecasting processes*

204. In the run-up to the crisis, the OECD - like other organisations - underestimated the fragility of the international financial system, its potential impact on the real economy, the rising global interconnectedness and how quickly the impacts of the crisis would spread globally. Even though forecasting is extremely challenging in complex systems, and even more so in complex adaptive systems as these do not converge on any kind of equilibrium, it remains necessary and useful to revise our forecasting practices by better reflecting possible threats to the stability of our economies.

205. The OECD@100 initiative⁷⁴ has already provided new insights on the implications of long-term trends on the global economy, including *e.g.* environmental challenges. Expected future work will aim to further improve OECD policy guidance by considering likely long-term changes in economic structures and multidimensional policy objectives. Risks associated with the fragility in the financial sector, the global spill-over effects, as well as ones related to policy action or inaction, particularly with regard to the environment, would need to be taken into account together with a better consideration of tail risks. A deeper and more systematic understanding of macroeconomic imbalances would also be useful to improve risk assessments. While these approaches will not eliminate all shocks and unexpected events, they could weaken their impacts or at least allow policy makers to consider risks early enough and react appropriately.

206. The OECD has also already reviewed its forecasting performance and investigated the reasons for its forecasting errors.⁷⁵ For this purpose, it has developed a framework to provide long-term forecasts as an anchor of short-term projections (Johansson *et al.*, 2013). As a result of the evaluation, specific changes to forecasting procedures were proposed, many of which are already being put in place. These include greater centralisation of the forecasting process to provide an early view on global developments and risks and their implications, as well as early guidance via “top-down” projections encompassing information from different sources and models. The monitoring of near-term developments has also been enhanced through surveys and high-frequency data that can provide early warning signals. For example, “now-casting”, composite leading indicators, evidence from business contacts, and the use of internet-based indicators or “big data” have been reinforced. Importantly, increased attention is given to the financial sector by using OECD aggregate financial conditions indices, incorporating a broader range of financial variables in projections, and incorporating the banking sector and global interconnectedness into macro models. Consultations with external and internal financial market experts have also been enhanced.

207. Importantly, a greater focus is put on risk assessments and global spill-overs. This is achieved through a better consideration of uncertainty surrounding basic assumptions, by providing more information about the risks around the main projections, and by making greater use of scenario analysis to illustrate possible outcomes (OECD, 2013m). Horizon scanning is also reinforced to plan ahead for relatively unlikely but potentially costly events. Such analysis could, for example, be useful in order to account for future extreme weather events due to climate change that are very difficult to predict. In addition, to better capture the linkages across policy areas, long-term scenarios for food and agriculture are

74. NAEC Project B13 “OECD@100: global trends and policy challenges”.

75. NAEC Project A2 “Forecasting in time of crisis: Post-mortem of OECD projections”. In the future, additional variables that may explain forecasting errors could be considered.

developed, bringing together analysts from various disciplines.⁷⁶ These efforts aim to encourage effective policy responses early on in order to be better prepared for future challenges by minimising trade-offs and harnessing synergies. More broadly, it is important to draw on horizon scanning and risk analysis for the elaboration of strategic frameworks for forward looking public policies.

208. The Organisation needs to continue reflecting and reforming its forecasting processes to better reflect risks, particularly by integrating better the financial sector and related risks in its analysis, by developing further scenario analysis, by deepening its analysis of tail risks and by clarifying the implications of Big Data for enabling real time crisis management and avoidance.

209. Moreover, the Organisation could upgrade its surveillance frameworks and strengthen its surveillance capacity by regularly checking the vulnerabilities and resilience of economies against short and long-term shocks (as e.g. mentioned in OECD, 2011e), which thus far have not been fully monitored. It can also consider the findings of other international governmental organisations' relevant work to enrich the analysis. The statistical data and knowledge available at the OECD form an ideal basis for the development of early warning indicators. This will help countries to detect the early symptoms of vulnerabilities and to be better prepared for potential shocks. This surveillance would check – in a consistent manner – potential sources of shocks, the interconnectedness between potential shocks and the vulnerabilities related to the design of macroeconomic and structural policy settings. The findings arising from such surveillance could be used for both cross-country and country-specific analyses and policy recommendations, feeding into the Economic Outlook, the Economic Surveys and Going for Growth.

3.2 *Developing strategic foresight capacity*

210. In parallel, the Organisation is also strengthening its strategic foresight capabilities, in order to work more and better with weak signals and anticipatory knowledge and encourage more open, forward looking strategic conversation in policy analysis. Scenario analysis could also allow to better capture the linkages across policy areas, e.g. when developing plausible future scenarios for the global food and agriculture system. These efforts aim to encourage effective policy responses early on to be better prepared for future challenges. Work on strategic foresight could be deepened by identifying qualitative approaches – e.g. Delphi surveys, strategic dialogue and horizon scanning – that could be used to enable a more open anticipation of structural discontinuity and crisis; and by developing horizontal strategic dialogue – in the work of substantive Committees as well as within and between Directorates – to better develop anticipatory knowledge and combine it with empirical evidence. Several OECD member countries are already making progress or planning to develop strategic foresight capacity at the national level. Some are, in particular, developing their national risk assessments, drawing on an OECD methodology (OECD, 2012e). These evolutions are welcome and need to be reinforced going forward.

3.3 *Deepening our understanding of interconnectedness and policy trade-offs*

211. An important implication for the OECD is that it needs to better understand interconnectedness between economies as well as across policy areas, its implications and potential resulting policy trade-offs. In working towards this goal, the OECD needs to further mainstream its well-being agenda, which grasps trade-offs and complementarities among different policy objectives, and further develop the Inclusive Growth agenda. Linkages (in both directions) between the financial system and the real economy also need to be considered carefully. To strengthen the evidence-base that is necessary for such analyses, the OECD needs to develop its cross-country databases and related analysis, such as the database on Trade in Value Added (TiVA) and the underlying Inter-Country Input-Output (ICIO) table, as well as accelerate work in

76. NAEC project B14 "Long-term scenarios for food and agriculture".

existing areas, such as the environment. More generally, it is important to reinforce horizontal work and interaction within the Organisation, drawing on its multi-disciplinary set-up, which allows shedding light on various interconnected policy areas. In doing so, the OECD could further develop its work with Centres of Government to support their co-ordination functions in managing complex challenges (OECD, 2013n).

3.2.1 Further mainstreaming the well-being agenda and developing the Inclusive Growth agenda

212. The well-being framework provides a major opportunity to make OECD policy recommendations more relevant, akin to better grasp trade-offs and complementarities among policy objectives, and more focused on distributional implications of policies. Indeed, multidimensional well-being provides a suitable umbrella for integrating various policy objectives into one framework. A joint approach to policy making improves coherence across the board; it also increases the transparency and thus the accountability of the decision-making process as pros and cons of policies are evaluated in an explicit framework that can be brought to the public discussion. This can be an important input to the overall decision-making process, rendering policies more legitimate and thus more viable.

213. Efforts have already been made to mainstream the OECD well-being framework into Country Economic Surveys. For example, the recent Survey on Austria included a pilot analysis of the interactions between well-being dimensions and emerging sustainability challenges⁷⁷. It illustrated how policy makers can provide an operational framework to policy makers to handle trade-offs, while keeping their policy options open and well-informed, and taking into account possible externalities for society. Going forward, there are plans for more *Economic Surveys* to use the multidimensional well-being framework, including the up-coming US and the Mexico Survey. This mainstreaming does not necessarily have to follow the same method that was used for the Austrian Survey, but experimentation on relevant and country-specific ways of using the well-being framework to develop future Economic Surveys should be developed further. Evidence on the comparative well-being performance of OECD countries is also included in all OECD *Economic Reviews*.

214. The well-being framework has also been mainstreamed in the work on public governance, regional and territorial development. At the national level, a better measurement of trust in governments will contribute to identify some important policy-drivers of well-being. At the regional level, an innovative review of local well-being initiatives and their connections to policy-making is underway. This review will develop an analytical framework for measuring well-being in regions and cities, and generate policy lessons on the value-added of well-being initiatives and their capacity to improve the quality of public services (OECD, forthcoming, c).

215. Finally, the well-being framework has been applied in the *Multidimensional Country Reviews* with the view of informing a broader analysis of economic and social development of some low-income countries. This analysis has shown that a given level of economic development can be consistent with widely differing levels of well-being, and hence that policy priorities need to consider issues beyond pure economic growth.

77. A focus was placed on three areas involving trade-offs among well-being dimensions: (i) pressures from demographic developments; (ii) environmental pressures from urban sprawl and the significant expansion of road transportation; and (iii) changes in the global economy challenging Austria's strong position in international production chains. While GDP growth drives well-being improvements through employment growth, household incomes and fiscal revenues for social cohesion and the production of public goods, trade-offs nonetheless exist with work-life balance, services provided within families and leisure time.

216. Additional avenues for mainstreaming the well-being framework should be explored, such as developing comprehensive and comparable measures of quality of working lives in both OECD member countries and EEs. The ongoing OECD project on job quality⁷⁸, conducted in co-operation with the EU, identifies dimensions of a good job from the well-being perspective, using jobs' impact on individuals' well-being as an operational tool in defining what constitutes quality jobs. Ongoing work maps existing international data sources and gaps thereof, which could be used to encourage National Statistics Institutes to improve their collection of data in this field based on common approaches.

217. Another promising avenue to make the well-being agenda policy-actionable is the ongoing OECD initiative on Inclusive Growth.⁷⁹ This initiative provides a coherent evidence-based and policy-oriented framework to deepen existing work on well-being and inequality, in particular inequality of opportunities. It is multidimensional and focuses on distributional issues in order to better appreciate interactions and link the individual aspects of well-being policies to their outcomes. It attempts to make OECD work on well-being more "operational" by mapping policy linkages, thus identifying the main channels of transmission of policies to outcomes and highlighting the trade-offs and synergies among pro-growth and pro-inclusive instruments. The inclusive growth agenda is thus at the heart of the NAEC initiative.

218. Delivering inclusive growth with broader sharing of its benefits and less pronounced gaps in outcomes and opportunities across social groups depends on policy makers' capacity to gauge spill-over effects, trade-offs and complementarity of policy objectives. The work on inclusive growth will thus shed light on the trade-offs and synergies between various policy instruments in improving people's lives, particularly with a view of reconciling efficiency and equity. Sectoral case studies and pilot country studies – targeting countries at different levels of development and with different levels of inequality – are promising avenues for deepening and further operationalising this work. In addition, quantitative analysis of inclusive growth could build on OECD work on income, health and jobs and deepen the initial efforts to define a methodology for the measurement of living standards (OECD 2014, f).

219. Work is also underway at the OECD to explore how innovation – as one of the drivers of growing inequality – can be made more inclusive. Indeed, innovation does not benefit individuals and groups in society to the same extent and may therefore not directly contribute to more inclusive growth. Policy has thus far typically addressed this by redistributing the benefits from innovation through social policies. However, there are other policies that can contribute to ensuring more inclusive outcomes from the innovation process. This includes policies that allow knowledge and innovations to be diffused throughout society, *e.g.* competition policies and policies aimed at knowledge transfer. Investment in ICT is important too, as it can enhance access to knowledge and enable more individuals and firms to engage in innovation. Mobile phones, for example, allow firms and individuals in remote and rural areas to benefit from other markets, services and technologies. Inclusive innovation policies are already being applied in several EEs to help address poverty. They often provide new business opportunities and, thus, have the potential to achieve scale beyond what is possible through government action alone. Moreover, many inclusive innovations engage lower-income groups, offering them opportunities to develop independent economic activities. OECD is currently exploring these policies in more detail, with the aim to draw policy implications for both emerging and advanced economies. New work will also shed more empirical light on the impact of different modes of integration in GVCs on income generation and distribution, and on how

78. This work includes NAEC Project B2 "Measuring and assessing job quality".

79. Work on inclusive growth is also ongoing as part of NAEC Project B1 "New approaches to analysing multi-dimensional wellbeing: trade-offs and synergies".

inequality can be mitigated by removing trade distortions and introducing appropriate accompanying policies.⁸⁰

3.3.2 *Deepening our understanding of the functioning of the financial system and its link with the real economy to foster long-term investment*

220. The OECD is deepening its understanding of the various channels that link the financial sector to the real economy. Taking these several channels into account can help to improve the forecasting and explanatory accuracy of models compared to traditional modelling strategies (Bjellerup and Shnazarian, 2013). In this context, OECD work has underlined the substantial wage premium in the financial industry and that “more finance is related with lower growth, even when abstracting from financial crisis periods”.⁸¹ Further there are efforts to understand how ageing-related matters alter the nature and behaviour of financial markets by ascribing an increasing role to institutional investors and by exposing the financial sector to changes in life expectancy at the same time. Ongoing work also explores how to better channel funds to productive uses to be able to cope, *inter alia*, with ageing.

221. An important task will be to connect the dots laid out by these analyses and to mainstream a coherent narrative of interdependencies between the financial system and the real economy throughout the Organisation. In particular, key results should be combined with insights from other exercises undertaken under NAEC, such as the review of forecasting methods. A sensitisation to potential financial fault lines would make the Organisation better-placed to more efficiently monitor international financial interactions and the build-up of possible imbalances.

222. Moreover, work on the financial system and its link to the real economy should allow the Organisation to provide critical insight on **how to ensure appropriate financing of long-term investment**.⁸² Work under the financial stream of NAEC (Blundell-Wignall, 2014) has already gathered evidence underlining some critical challenges in this regard. It shows, for example, that corporate equity is declining in its liquid, publicly tradable form, and that Initial Public Offerings in particular are decreasing in importance.⁸³ Given the critical importance of equity for coping with uncertainty and raising additional capital, this work highlights the need for strengthening the critical infrastructure of the equity market, including exchanges, connectivity and broker-dealers.

223. This work also highlights the importance of a strong framework for non-bank financial intermediaries (NBFI), as banks are not well placed to finance important high-risk or long-term projects. It calls for strengthening the NBFI role as effective owners by creating the right incentives and balancing associated costs and benefits. This requires working, *inter alia*, on board processes, the role of proxy advisers and voting technology. It also requires developing the right financial vehicles for infrastructure investment and ensuring that these instruments are attractive to NBFI. To do so, effective measures will need to provide reasonable prospects that such investments will generate returns that these institutions can capture. Policy priorities to explore in this regard include: better management of infrastructure,

80. NAEC Project B8 “Trade-offs and synergies between globalisation, innovation and inequality”.

81. NAEC Project A3 “The role of the financial sector in the crisis and reforms required to promote sustainable growth” (OECD, forthcoming, a).

82. NAEC Project A4 “Fostering long-term investment and responding to the challenges of ageing and longevity”.

83. The number of listed companies in both the United States and the European Union has dropped sharply since 2000 (Blundell-Wignall, 2014).

simplification of planning procedures, credible regulatory environment, improving infrastructure delivery capacity and developing the use of public-private partnerships.⁸⁴

224. Ensuring private sector financing of long-term and high-risk projects also requires a neutral competitive framework. The presence of state-owned or controlled enterprises (SOEs), notably large banks and resource-based industries domiciled in emerging markets, has raised concerns in this regard. The OECD has focused on ways to ensure good governance of funding and financing of such SOEs and identified priority areas to achieve and enforce competitive neutrality (OECD, 2013o). However, more analysis is needed in order to fully grasp the global political economy context and related challenges, for example regarding some intangible advantages, such as regulatory forbearance or a privileged position in the domestic economy that an internationally active SOE may enjoy. Future work could also focus on the limited political commitment to ensure competition in the domestic economy between foreign entrants and purely national SOEs.

225. Work under NAEC also aims at improving data collection and monitoring of financing of SMEs and entrepreneurs in order to inform policymaking in this area, including regarding the issue of the financial burden imposed by listing requirements on small companies.⁸⁵

3.3.3 *Developing databases and deepening our policy work on Trade in Value-Added (TiVA)*

226. OECD work also seeks to address the growing interconnectedness in the global economy through the development of new cross-country datasets.⁸⁶ For example, the OECD-WTO database on Trade in Value Added (TiVA) has already provided new insights for discussions on trade policy and value creation in GVCs. In addition, the underlying Inter-Country Input-Output (ICIO) system from which the TiVA database is derived is directly relevant for analysing global imbalances, research and development (R&D) spill-overs and knowledge diffusion, income from foreign direct investment, green growth and climate change. Work is ongoing in several areas to expand the databases in several of these dimensions, thus helping to understand a wider range of interconnections between economies.⁸⁷ The OECD-WTO TiVA database is currently being expanded with indicators on where employment is being generated in GVCs through international trade, some of them being already included in the 2013 STI Scoreboard (OECD, 2012f).

227. The Organisation should deepen and accelerate its efforts to build new cross-country datasets, in particular those underlying the work on GVCs, which are critical to better understand the complexity of our global economy and of evolving investment flows, to design better policy recommendations, and to help OECD member countries adopt more relevant and effective policies. Making these datasets more widely available for research could also contribute to avoiding group thinking.

84. “Comprehensive Note for the G20”, internal OECD (2013) document, section on investment.

85. NAEC Project A5 “New approaches to SME and entrepreneurship financing: broadening the range of instruments”.

86. One example is the development by STD of institutional sector accounts, following a recommendation from the G20, including balance sheets and so-called “from-whom-to-whom” tables showing the interrelations between domestic sectors and the rest of the world. These accounts allow a better analysis of interconnectedness and the presence of certain risks in the build-up and the composition of balance sheets (e.g. foreign risk exposure). Furthermore, in breaking down the household sector into different groups, risk analysis and well-being analysis can meet each other (e.g. debt-to-income ratio by household group).

87. NAEC Project A7 “Applying new tools and approaches for better policy making”.

3.3.4 *Developing the measurement of stocks*

228. The OECD should also **put more focus on the measurement of stocks** (natural, social and human capital, wealth, migrants, etc.), as well as in the adequate consideration of both stock and flow concepts in its analyses. This measurement agenda could help to advance on the four key policy themes that are outlined in Section 2. Economic vulnerability of households and their resilience to shocks depend on households' assets and these need to be measured by economic sector. The distribution of wealth among households needs to be captured as well. Similarly, it is easier to pass judgement on the inclusiveness of economic growth if investment in human and social capital is well monitored. In addition, the promotion of environmental sustainability requires that stocks of natural capital are measured so they can be managed sustainably. Finally, a key aspect of well-functioning societies is a sustained level of social capital. But more conceptual and measurement work is needed to capture trust and social capital.

3.3.5 *Accelerating and deepening work on the impact of environmental degradation and policies*

229. Global economic growth over past decades has come at an increasing cost to the environment and has locked in environmental change that will affect future generations. At the same time, some environmental amenities may increase the well-being of individuals. Unless more significant policy action is taken now, continued environmental degradation is likely to pose severe risks to the economy and to human well-being. It is therefore important to accelerate and deepen OECD analyses on the impact of environmental degradation and of environmental policies on economic growth and multidimensional well-being (also see section 2.3.2 on the need to address environmental challenges). In this context, the value of keeping or the cost of destroying natural resources should be incorporated better into OECD work.

230. When identifying the policy mix that would be most suitable to address environmental challenges and enhance well-being, much more analysis is needed on the distributional impacts associated with different environmental policies (see also section 2.2.1). Equity considerations are important policy objectives and are gaining momentum in the face of current economic and financial challenges. It will thus be important to provide quantitative insights into the equity impacts of green growth policies across households, sectors and regions. This evidence base could then be used to investigate the extent to which market-based environmental policies, such as environmental taxes or emissions permit trading, can contribute to growth objectives (*e.g.* fiscal consolidation and generating government revenues) and are consistent with equity goals. There may be scope to rebalance current consolidation efforts in favour of more equity and greening of the fiscal system.

231. Proposed work in this context would also involve further mainstreaming OECD work on green growth, as well as better integrating the environment in economic modelling, projections and horizon scanning exercises. Efforts to mainstream the green growth agenda in OECD's national and multilateral policy surveillance exercises have already been made. These include Economic Surveys, Environmental Performance Reviews, Innovation Reviews and Investment Policy Reviews, as well as the Going for Growth annual report and the Green Cities Programme. These efforts need to be encouraged further in order to foster economic development while ensuring that natural assets are conserved.

3.3.6 *Reinforcing horizontal work and interaction within the Organisation*

232. OECD member and partner countries have been and will continue dealing with interlinked policy challenges and an increasingly interconnected global economy. Expanding our horizontal approach is necessary to forge a better understanding of this world and the dilemmas posed from persistent joblessness, growing inequality and unsustainable public finances. Building on the multi-disciplinary character of the OECD, horizontal work enables us to produce outputs that are more than the sum of its parts. It is able to draw upon the value-added expertise of the Directorates and units, data and policy recommendations, as

well as the accumulated experience of its member and partner countries across a wide spectrum of interconnected policy areas. A multidisciplinary perspective is also necessary in order to better apprehend the new sources of growth which could put our economies on a strong, inclusive and sustainable path to support the well-being of populations. Horizontal collaborations within the OECD should therefore be encouraged and reinforced to help member and partner countries to become better equipped to deal with policy challenges.

3.4 *Developing tools to better grasp interconnectedness, heterogeneity and complexity*

233. One aim of NAEC is to develop better tools that reflect the interconnectedness, heterogeneity and complexity that we are facing in today's world (as discussed in section 1.4.2). This search is two-fold: find "better" models and look at the "right" evidence. In this context the measurement agenda is important to provide evidence-based policy analysis. In addition to reviewing our current analytical frameworks, this aim also calls for a more systematic use of micro data, collecting and exploiting new data (such as "big data"), and examining not only flows of human, natural, social and economic capital, but also stocks. It also calls for sharing knowledge on innovative approaches (*e.g.* related to behavioural economics). The OECD is well-placed to develop and share knowledge in these fields, including by assisting interested governments in adopting new tools, methods and approaches in policy making at the national level. Multi-dimensional Country Reviews (MDCR) present an innovative way to share knowledge in this regard and to look at development.

3.4.1 *Reviewing our analytical frameworks*

234. The recent crisis confirmed the need to rethink, adapt and enhance our analytical frameworks and tools in order to develop better policy recommendations (as discussed in section 1.2.1 and 1.2.2). In this context, both the short and the long term need be examined, as well as the connection between the two, with scenario analysis and other forward-looking methods, and allowing sufficient time for potential trade-offs and complementarities to be factored into the analysis. This means putting even more emphasis on country-specific contexts related to the level of development, openness to trade, structure of the economy, distance from the productivity frontier, etc.

235. In this context, the OECD should encourage the use of a variety of models, which are continuously updated, and taking into account different data to look at evidence from complementary angles. The use of multiple models to assess policy questions is challenging. But the OECD has already taken an important step in this direction by linking different models and using each to benefit from their comparative advantages⁸⁸, while also integrating model uncertainties through cross-model comparisons. While the Organisation is already increasing its efforts to ensure that in-house frameworks are well-framed in the context of other modelling efforts, enhanced participation in multi-model comparison exercises is essential to strengthen the robustness of models⁸⁹. The OECD should also continue to update its models to better grasp the interconnectedness of global economies and should give more consideration to micro-simulation models, *e.g.* to generate 'early estimates' of development in income distribution. Developing multiple baselines in scenario analysis may be useful to become better equipped to deal with different future outcomes.

88. NAEC Project B13 "OECD@100: global trends and policy challenges" and B9 "Cost of inaction and resource scarcity: consequences for long-term economic growth".

89. Keen (2002) sees particular promise in (top-down) systems of non-linear differential equations and agent-based models, such as the Complexity Research Initiative for Systemic Initiatives (CRISIS) model.

236. Beyond the search for new models, the OECD should continuously review its fundamental assumptions. The crisis has provoked changes in some of the assumptions about the functioning of the economy (see section 1.2.2). It has shown for example that disturbances from the financial sector do have significant effects on the real economy, and these effects need not be transitory in nature (Borio, 2012). Efforts should therefore be made to introduce the financial sector better in economic models. The assumption of normality of the distribution of risk factors (such as interest rates, credit quality, etc.) has also been proven to be too optimistic as to the frequency at which extreme outcomes are likely to occur. The occurrence of unusually large adverse movements in different risk factors at the same time also tended to be underestimated and the advantages of diversification overestimated. In addition, fundamental assumptions should be reviewed in order to better include environmental aspects in economic modelling. So far, these aspects are largely missing or only addressed in a limited manner.

237. The fundamental assumptions should also be continuously updated based on insights from academic research, including in behavioural economics. Such approaches could be useful to shed light on various economic phenomena. For example, behavioural finance relaxes the assumption of completely rational information processing and explains financial anomalies through cognitive biases of investors. Alternatively, structural uncertainty models often maintain the rationality assumption, but relax the assumption that investors have complete knowledge of the fundamental structure of the economy (Bray and Heaton, 2002). New insights from these and other fields of academic research, such as new growth and development models, could provide valuable insights to the Organisation.

238. New insights should also not only come from the economics field, but draw on various different disciplines, including sociology, anthropology, history and psychology. Quantitative and qualitative insights from other disciplines may contribute to a better understanding of interconnectedness and complexity and thereby enrich the policy debate. The OECD thus needs to be more open to alternative, multi-disciplinary approaches and explore the usefulness of tools and methods that other disciplines offer.

239. The shared characteristics between the recent crisis and the Great Depression (as *e.g.* outlined in the NAEC Interim Report (OECD, 2013p)) also suggest that there may be great value in more systematically considering a historical perspective and taking a longer-term perspective in order to respond to long-term challenges⁹⁰. The Organisation is already doing so by examining the evolution of global trends and subsequent challenges, as well as of productivity growth and innovation in the long-run.⁹¹

240. It will also be important in this regard to consider the interconnectedness between institutions and trust in the long-run. Institutions are an important determinant of long-run growth (Acemoglu *et al.*, 2005) and play an important role in strengthening economic resilience. Deepening our understanding of how trust in institutions evolves in the long-term, and how they can be sustained even against the backdrop of severe macroeconomic stress, will help to create more stable societies.

241. The OECD should also continue striving for more effectively addressing risk and uncertainty. Policy frameworks that are flexible and adaptable to shocks are needed. The OECD responds to this need for example by examining the role of social institutions in sharing risk to absorb or cope with a negative shock, or by examining risk sharing between entrepreneurs on the one hand, and workers and creditors on

90. As an example, a “How was Life?” report is being developed by a group of economic historians (in the spirit of the Maddison’s Millennial Perspective in 2001), and will be released in summer 2014.

91. NAEC Project B13 “OECD@100: global trends and policy challenges” and B15 “Ensuring productivity growth and innovation in the long run”.

the other hand⁹². The OECD also conducts extensive sensitivity analyses in its analyses and specifies different future scenarios.⁹³ Finally, it contributes to new harmonised scenarios for climate change, and uses these scenarios to highlight uncertainties surrounding the feedbacks from environmental challenges on economic growth.⁹⁴ Future work could also focus on assessing countries efforts to improve the governance of critical risks⁹⁵ and integrate risk and uncertainty in public policies (See also 2.4.1).

242. In addition, the OECD should consult more systematically with multiple stakeholders and disciplines. This is already done, for example, when coupling long-term growth scenarios with environmental challenges⁹⁶ and when developing scenarios for food and agriculture based on a collaboration of analysts from several backgrounds.⁹⁷ As another example, OECD economic forecasts are increasingly being discussed with the private sector, as businesses could provide early warning signals that might otherwise be missed.⁹⁸

3.4.2 *Using micro data more systematically*

243. The OECD has been at the forefront in using comparable micro-data (including firm-level and household data) for policy analysis, *e.g.* in work on productivity, employment, social mobility, inequality, labour supply behaviour, taxation, innovation, firms dynamics and productivity. Moreover, there are now increasing efforts to mainstream their systematic use, as well as to connect micro-data from different national or thematic sources⁹⁹. This is key for assessing people's well-being and inequalities in well-being outcomes across population groups. It also proves useful for identifying the origins of aggregate outcomes¹⁰⁰ and the channels through which policies affect economic performance, thus for better analysing causal relationships¹⁰¹ and shedding some light on the trade-offs and synergies among policy

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- 92. NAEC Project C2 “Assessing the vulnerability of social institutions” and B15 “Ensuring productivity growth and innovation in the long run”.
 - 93. NAEC Project B14 “Long-term scenarios for food and agriculture”.
 - 94. NAEC Project B9 “Cost of inaction and resource scarcity: consequences for long-term economic growth (CIRCLE)”.
 - 95. See OECD draft principles on the Governance of Critical Risks (OECD, 2014d).
 - 96. NAEC Project B9 “Cost of inaction and resource scarcity: consequences for long-term economic growth (CIRCLE)”.
 - 97. NAEC Project B14 “Long-term scenarios for food and agriculture”.
 - 98. NAEC Project A2 “Forecasting in time of crisis: post-mortem of OECD projections”.
 - 99. NAEC Project A7 “Applying new tools and approaches for better policy making” and B2 “Measuring and assessing job quality”. For example, the latter project links employee data with data about their employer. This allows following workers over time, when they may change employers. This approach permits analysing the effect of minimum wages, the degree of wage flexibility, the impact of skills on earnings and careers, the interaction with firm characteristics, as well as the importance of job mobility, experience and tenure.
 - 100. For an example of the use of micro data to understand aggregate phenomena, see Field and Franklin (2013).
 - 101. NAEC Project B12 “Increasing the resilience of economies to exogenous shocks” and B15 “Ensuring productivity growth and innovation in the long run”.

areas. Micro data can also help to better capture heterogeneity across economic actors, for example when investigating how growth-enhancing policies influence economic stability.¹⁰²

244. Traditional OECD analyses based on aggregate data are increasingly complemented with more micro level data, *e.g.* cross-country firm-level data or household data. While firm-level outcomes may be aggregated, *e.g.* in order to examine productivity and growth at the macro-level, analysis based on average outcomes is not as informative for policy as those based on micro-data. Aggregate data hide the great heterogeneity in performance that is known to exist across and within countries, *e.g.* as regards the degree of dynamics in the business sector and the contribution of different groups of firms to aggregate employment and productivity growth. Examining the factors that explain those differences is crucial to the design of better policies.¹⁰³ Firm-level data are also used to better understand persistent high unemployment and disappointing growth performance in many advanced countries and thus to design well-grounded policies for employment and growth.¹⁰⁴ A number of traditional policies, such as research and development (R&D) tax credits or support for small and medium enterprises (SMEs), can be reviewed through this prism, focusing on the age and dynamism of firms rather than on their size or incumbent status.¹⁰⁵

245. The OECD is also developing new ways of combining the use of micro data with macro-econometric analysis, for example when revisiting the links between finance, growth and inequality and their implications for economic policy. This work proposes and uses a new empirical approach by combining macro-econometric analysis (itself proposing a new method to estimate the causal impact of finance on growth) with investigations using household-level data to study the inequality implications of financial deepening. It relies on the new trade-in-value-added database (TiVA) to examine how cross-border financial interconnectedness shapes the growth-finance nexus. As another example, the link between policies that foster GDP and the distribution of household income (which draws on micro survey data) in the national accounts (which use macro data) is being assessed.¹⁰⁶

246. Due to its broad membership, the OECD would be very well-placed to develop new indicators from micro data held by national statistics institutes and others, and to ensure the crucial co-ordination among countries in this area. This could promote, *inter alia*, the greater use of micro data in policy analysis at the country level, which is a very promising avenue. The OECD could also develop a broader agenda about bringing together (through consistent treatments and definitions) micro and macro data for the same concepts (*e.g.* household income), rather than treating them as separate.

102. NAEC Project B12 “Increasing the resilience of economies to exogenous shocks”. In this project instability is not assessed at the level of aggregates (such as GDP or economy-wide consumption), but by looking at how sales, income and employment vary from year to year at the level of individual firms and households. By introducing the notion of an “efficiency frontier” for growth and volatility, a new concept and an associated empirical approach is proposed. The idea is to compare countries with best performers, whereby “best” is being defined as those countries maximising growth for a given level of volatility. Economic policy settings are then evaluated to see how they influence countries’ distance to the frontier. However, it is worth noting that most problems arise not from exogenous shocks but from endogenous ones.

103. NAEC Project B15 “Ensuring productivity growth and innovation in the long run”.

104. NAEC Project A7 “Applying new tools and approaches for better policy making”.

105. NAEC Project B12 “Increasing the resilience of economies to exogenous shocks”.

106. NAEC Project B5 “Assessing the transitional costs and distributional consequences of structural reforms”.

3.4.3 *Collecting and exploiting “big data”*

247. The collection and exploitation of large data sets derived from public and private networks, called “big data” also provides a huge resource for new analyses. Big data could for example prove helpful for analysing productivity growth and innovation in the long term, but also for addressing a range of global and social challenges, including health and the environment.¹⁰⁷ Big data could also be used to develop high-frequency well-being indicators or behavioural measures regarding trust, reciprocity, discrimination, etc.¹⁰⁸ Other applications areas include, but are not limited to, the development of more timely statistics on inflation, employment, economic output, and demographics. Issues connected with “big data” concern the collection, transportation, storage and use of data, most prominently related to privacy protection of individuals that are often the source of the data.

248. The Organisation could explore further the potential from such a more developed use of “big data” as well as the challenges related to its collection, transportation, storage and use. It could also work further on relevant and related policy issues, such as privacy protection on which it has already undertaken a large body of work (OECD, 2013q) on the application of big data to specific policy issues, e.g. health, or on issues related to Open Government Data (OECD, 2013n).¹⁰⁹

3.4.4 *Sharing knowledge and policies on nudging and behavioural economics*

249. The increased exploration of behavioural and experimental economics could be an additional source of innovative analyses and policy recommendations. Indeed, by challenging the assumption of rationality in public policy, in particular acknowledging the existence of biases and heuristics in our thinking, and by accepting that our behaviour is to a great extent influenced by social norms, behavioural economics allows applying a more nuanced and evidence-based understanding of human behaviour into policy making. Policies that neglect behavioural insights gathered from empirical observations might not be effective (Bavel *et al.*, 2013). By using insights from behavioural economics, policy makers may be able change people’s behaviours for the overall benefit of society without necessarily changing their mind. They can also help to design better-targeted policies (Thaler and Sunstein, 2008).

250. Efforts have already been made to better integrate behavioural economics into OECD work. For example, experimental studies have been initiated in the area of industrial policy, joining efforts already underway in the environment area.¹¹⁰ Also, ways to generate better assessment of trust in institutions has been examined. In this context, the use of more policy-focused surveys could help to clarify citizens’ expectations of government, their primary concerns and the policy levers that can be used to improve public support for key institutions and actors.¹¹¹

251. In addition to these specific but still scattered initiatives, the OECD could develop further the use of behavioural economics for designing better policy making. Indeed, behavioural insights are complementary to the more traditional insights and can reinforce all policy instruments. They could and should be taken into account in each phase of the policy circle, as they provide better understanding of the

107. NAEC Project B15 “Ensuring productivity growth and innovation in the long run”.

108. Current OECD work aims at exploring the use of big data to construct experimental indicators in this field.

109. Work on big data is currently underway in the context of the horizontal work on knowledge-based assets.

110. NAEC Project A7 “Applying new tools and approaches for better policy making”.

111. NAEC Project C1 “Revisiting the social contract: rebuilding trust for sustained economic recovery”.

problem. They allow more effective policy design, help to implement the policies, and provide valuable insight for monitoring and evaluation (Riet, 2014).

252. Moreover, the OECD is well-placed to provide a platform for sharing the experiences among emerging “nudge” units.¹¹² As this new approach is still at an early stage, but is developing rapidly, the OECD could help share the results of current studies and reflect on how to extend them to other contexts or countries. This could help building and sharing knowledge on how and where behavioural economics can contribute to policy making, and in particular on best practices in applying insight in policy making, reflecting on which work and why, what are the short- and long-term effects, etc. The Organisation could help share experience in particular on methods and specific approaches, as well as on best practices in terms of process and institutional arrangements that are used to facilitate and support application of behavioural insights (Lunn, 2014). This would help making behavioural insights a genuine and integral part of the policy cycle, thus supporting better policy making in our member countries.

3.5 Strengthening OECD support to international policy co-ordination

253. With increasingly interconnected and competitive economies it is important to further strengthen international policy co-ordination across existing fora, including to prevent governments from slipping into thinking in terms of “zero-sum games” (also see section 1.4.2 and 2.4.3).

254. The OECD has continuously deepened its contributions to the G8 and G20 agendas in the last five years, working closely with the troika Presidencies to help shaping their agendas and provide evidence-based policy analysis to support their work. This support has been instrumental in shaping the policy agendas of these global fora, as well as the policy solutions and agreements that have been reached. This is especially the case in areas where the OECD has already demonstrated its comparative advantage, including on tax issues, international regulatory co-operation (OECD, 2010b; OECD, 2013i) and on policies to support IPRs (OECD, 2013k). These efforts have made OECD work not only more visible but, more importantly, allow our work to more effectively impact policy debates and policy making. The support to emerging global fora is thus critical for the Organisation to fulfil its mission and should be reinforced going forward.

4. Mainstreaming NAEC

255. The objective of NAEC is not to remain a stand-alone horizontal initiative, but to become a “state of mind” that can be fully mainstreamed into OECD work across Directorates and Committees. To achieve this objective, the individual projects under NAEC first need to deliver their specific results and new approaches. This will enable a more in-depth analysis of the interactions across projects and the interconnectedness across different policy areas.

256. NAEC is work in progress. Only one third of the NAEC projects that are outlined in the NAEC Interim Report has been completed so far, and some of these projects are still being discussed by Committees to achieve consensus on specific policy recommendations. Most of the 29 NAEC projects will deliver results by the end of 2014. Some other projects will take longer to be completed due to their ambitious scope and/or due to financial and human resources constraints. This is the case for the project on

112. There already exists a Behavioural Insight Team (BIT) or “nudge” unit in the UK, the Netherlands, etc. The application of behavioural economics internationally ranges from techniques such as “nudging” in the United States to other methodologies referenced by the UK Government’s Behavioural Insights Team or the European Commission’s Behavioural Economics Taskforce. Other initiatives are being developed in Australia, Denmark, France, Ireland, New Zealand, Norway and Sweden.

job quality (NAEC Project B2), trade-offs and synergies between globalisation, innovation and inequality (NAEC Project B8), CIRCLE (NAEC Project B9), long-term scenarios for food and agriculture (NAEC Project B14), productivity growth and innovation (NAEC Project B15) and inclusive growth through better regulation (NAEC Project C5) (see also the Annex to the present document).

257. As the NAEC projects evolve, more horizontal discussion is already taking place across OECD Directorates and Committees, including within the NAEC Group and through the NAEC Seminar series. This exchange nurtures the further exploration of trade-offs and complementarities across policy areas, as well as the search for new approaches to deal with daunting policy challenges. This way NAEC already contributes to enriching policy discussions, and strengthening horizontality and cross-pollination. The NAEC Group should continue operating in this context, and continue meeting this and next year, to allow further strengthening the horizontal discussion across Committees, including on new topics that Committees would decide to explore.

258. In terms of next steps, the Secretariat will deliver a final Synthesis at the MCM 2015, which will be based on a more complete set of deliverables from specific NAEC projects. Continuous efforts are also being made to mainstream the emerging results from NAEC into core OECD work and analysis, and in particular to mainstream work on inclusive growth and well-being. The long-term objective is for the Directorates and Committees to be inspired by the recommendations emerging from NAEC on how to improve analytical frameworks and policy recommendations. This should happen including through the current discussion of the 2015-2016 Programme of Work and Budget within OECD Committees. This will only strengthen the unique comparative advantage of the Organisation in cross-country comparative analysis of policy reforms in a broad range of areas.

CONCLUSION

259. The recent financial and economic crisis has shed light on various short-comings of our analyses. It has also eroded the resilience of our economies to deal with a variety of global long-term trends, such as demographic changes, technological progress, rising inequality, shifting wealth and environmental pressures. Putting multidimensionality at the heart of policy making and taking a closer look at policy trade-offs and complementarities could help to improve our policy advice and thereby also strengthening the resilience of the global economy.

260. As a response to the crisis and the build-up of the discussed long-term trends, the NAEC initiative has facilitated an accelerated learning process for the OECD. In this evolving process we are reconsidering and enriching the way in which we approach policy challenges and responses, by retaining and updating tools and methods that work and seeking to fix ones which may be outdated. As there is no obvious “best” model or tool available to deal with current and future policy challenges, we are investigating various alternative approaches. As part of this effort, we have also intensified horizontal discussions across OECD Committees and Directorates to identify and analyse cross-cutting policy issues. A multi-disciplinary approach – rather than a silo mentality – allows to better understand policy trade-offs and complementarities, as well as the interconnectedness and complexity of various policy areas. While we have already begun to refine our policy recommendations and to update our analytical frameworks based on this work, this should be a continuous effort until NAEC is eventually mainstreamed into the regular OECD work programme.

261. This report discussed emerging policy recommendations from NAEC that cover four areas of concern to policy makers: (i) strengthening macro stability and resilience; (ii) moving to a more inclusive growth; (iii) addressing long-term challenges; and (iv) improving international policy co-ordination and co-operation. The recommendations underline the necessity to develop more integrated approaches to foresight modelling and analysis to get ahead of connected challenges and inform more integrated policies suited to addressing emerging issues, managing systemic risks and securing a resilient global economy. They provide specific avenues for improving the stability of financial system and call for increasing the counter-cyclicality of macroeconomic policy. They discuss ways to address international spill-overs and trade-offs between growth and stability. Emerging recommendations also provide guidance on how to boost job creation by adopting well-targeted policies for new and innovative firms and call for paying attention to job quality. They argue for adopting a multidimensional well-being framework and for paying attention to distributional implications of policies, both by designing more equity-friendly fiscal consolidation and in structural reforms in general. They urge countries to invest in education and skills, a major avenue to boost growth without jeopardising income distribution. And they call for ensuring fairness in the tax system.

262. The emerging policy recommendations also provide specific avenues for policy makers to get better prepared for the long-term challenges related to uncertainty about future productivity growth, rising inequality, ageing and environmental degradation, and increasing fiscal pressure. They reiterate the call for governments to pay attention to the way policies are designed and implemented, and in particular to the quality and fairness of decision-making. And they call for developing cutting-edge policy practices in terms of “nudging” and highlight the increasing need for regulatory co-operation and policy co-ordination.

263. These recommendations will be fundamental to build an OECD policy agenda for inclusive and sustainable growth. They shed light on some critical policy areas on which we should focus more and on specific tools that we could develop further to make our analysis and policy advice more relevant and useful to our member countries and beyond. The recommendations could also be used to inform a policy agenda based on resilience, covering its financial and macro-stability as well as its social and environmental dimension.

ANNEX. TENTATIVE TIMELINE FOR PROJECT DELIVERABLES¹¹³
based on the list of projects in Annex 1 of the NAEC Interim Report [\[C/MIN\(2013\)2\]](#)

	A. REFLECTION & HORIZON SCANNING	B. POLICY TRADE-OFFS & COMPLEMENTARITIES	C. INSTITUTIONS & GOVERNANCE
DELIVERABLES FINALISED	A2 - Forecasting in time of crisis: post-mortem of OECD projections A6 - How much scope to achieve growth- and equity-friendly fiscal consolidation?	B4 - Do policies that increase GDP per capita also increase median income? B10 - Environmental policies and economic performance B13 - OECD@100: global trends and policy challenges	C2 - Assessing the vulnerabilities of social institutions, and policy responses to enhance resilience C6 - Implications of globalisation for competition
DELIVERABLE(S) PLANNED TO BE FINALISED AFTER THE 2014 MCM, BUT BEFORE 2015	A1 - The crisis: Drawing lessons from history and past policy experiences A3 - The role of the financial system in the crisis and reforms required to promote sustainable growth A4 - Fostering long-term investment and responding to the challenges of ageing and longevity A5 - New approaches to SME and entrepreneurship financing: broadening the range of instruments	B1 - New approaches to analysing multi-dimensional well-being: trade-offs and synergies B3 - Assessing the effects of distribution of skills and key related institutional variables on multi-dimensional well-being outcomes B11 - Trade-offs and synergies between environment and inequality B12 - Increasing the resilience of economies to exogenous shocks	
DELIVERABLE(S) SCALED BACK AND PLANNED TO BE FINALISED AFTER THE 2014 MCM	A7 - Applying new tools and approaches for better policy making	B5 - Assessing the transitional costs and distributional consequences of structural reforms B6 - Closing the loop: how inequality affects economic growth and social cohesion?	C1 - Revisiting the social contract: rebuilding trust for sustained economic recovery
DELIVERABLES PLANNED TO BE FINALISED IN 2015 OR LATER		B2 - Measuring and assessing job Quality B7 - Analysing growth and equality trade-offs in taxation B8 - Trade-offs and synergies between globalisation, innovation and inequality B9 - Cost of Inaction and Resource Scarcity: Consequences for Long-term Economic Growth/Benefits of Action B14 - Long-term scenarios for food and agriculture B15 - Ensuring productivity growth and innovation in the long run	C5 - Promoting inclusive growth through better regulation

113. Projects **C3** - Can health become an even bigger part of the economy without undermining fiscal sustainability, **C4** - Assessing immigrant characteristics and links to labour market performance and **C7** - Securing tax revenues in a globalised economy are on hold.

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