LISBON, 7-8 JULY 2016

2016 CONFERENCE OF THE GLOBAL FORUM ON PRODUCTIVITY

Structural Reforms for Productivity Growth

Hosted by Portugal

SUMMARY RECORD

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Summary of the 2016 Conference of the Global Forum on Productivity (Lisbon, 7-8 July 2016)

The OECD's Global Forum on Productivity (GFP) held its 2016 annual conference in Lisbon, Portugal. Over 200 participants from 45 countries were represented. This included all of the 16 GFP Steering Group members, 32 of the 35 OECD member countries, two accession countries (Costa Rica and Lithuania), Argentina, Brazil, China and Russia among non-OECD G20 countries, as well as Bulgaria, Malaysia, Romania, UAE among others. In addition, the European Commission, the European Central Bank and the Asian Productivity Organization also participated. The high level of interest built on the July 2015 kick-off conference in Mexico "Towards an OECD Productivity Network", which helped to establish the Global Forum on Productivity (GFP) late last year.

The GFP website with key conference background papers can be found here: http://oe.cd/GFPLisbon

Official opening (Day 1)

The 2016 conference opened with a speech from the host, **Álvaro Matias** (*Director General, GPEARI - Ministry of Finance, Portugal*) who highlighted the important potential role of the GFP in boosting our understanding of the current productivity slowdown and rising inequality. In particular, the forum should aim at promoting international cooperation between public bodies involved in productivity-enhancing policies, namely through the exchange of views on best practices, the sharing of data and the discussion of policies outcomes, also supporting synergies in policy-oriented research. The high-level conference was precisely a sign that there was momentum to push forward the work of the Global Forum and that its members were strongly committed to join efforts and work together to promote sustained, inclusive productivity growth.

Manuel Heitor (*Minister of Science, Technology and Higher Education, Portugal*) called for a new direction for science, technology and innovation policies, which is critical to strengthen counter-cyclical measures stimulating the necessary knowledge-driven conditions for many regions and countries, such as Portugal, to evolve and better promote future generations. Although it is not a trivial matter to understand the processes that enable investments in R&D and human capital to be transformed into productivity gains, it has become clear that his is a too naïve and superficial approach. Viewed from a wider perspective, in the longer term R&D and human capital investments do matter and are probably the most important factor in explaining economic growth. However, the naïve view has a point: it is not automatic the transition of human capital to growth. Specific actions are needed to make this transition happen successfully. For example, after many years of recession and economic and budgetary problems, science and innovation policy formulation for peripheral European regions must focus on advanced education of human resources and strengthening S&T in all branches of knowledge. The continuous qualification of the workforce at large is a persistent challenge that requires broadening the social base for advanced education, as well as for internationalizing the knowledge base.

Gabriela Ramos (*OECD Chief of Staff and Sherpa to the G20*) concluded the opening session by drawing attention to the nexus between rising inequality and slowdown productivity. For example, low-productivity firms with low-productivity workers do not invest in HC and, as a consequence, workers are trapped in low-productivity jobs and these firms do not grow; also poor and uneducated parents do not invest in their children's education (evidence from PISA). The resulting vicious circle between rising inequality and low productivity needs to be stopped with the right policies.

Session 1: Sources and implications of the productivity slowdown

In introducing the keynote speaker, **Alvaro Pereira** (*Director, OECD Economics Department*) and **Christian Kastrop** (*Director, OECD Economics Department*) underlined the important role played by the GFP in bringing together researchers and policy makers to discuss how to face the important productivity and inequality challenges ahead.

The keynote speech by **Jonathan Haskel** (*Professor, Imperial College London*) focused on the role of intangibles for productivity growth and inequality. The current slowdown in productivity is not only a Keynesian story of low investment, as one of the sources is declining MFP growth. The switch from tangible to intangible investment generate beneficial spillovers but also creates barriers and advantages for top performers making it more complicated for laggards to catch-up and resulting in increasing gaps. He identified four main features of intangibles that may have an influence on productivity: high sunk costs make financing issues more relevant; scalability of intangible investment make it hard for followers gain market shares and challenge incumbents; high spillovers from intangibles on MFP make its growth more vulnerable to weakness in investment as this weakness amplifies into weaker diffusion via reduced spillovers; and synergies and complementarities with labour inputs may lead to unequal wage gains.

An interesting Q&A session followed in which the following main issues were highlighted:

- What is the role of framework conditions and policies in the era of intangibles? IPR and the digital single market play a key role as they are necessary framework conditions for scaling-up businesses in the EU.
- What are the conditions for diffusion? An effective financial system is needed as intangibles have an option value due to uncertainty. In the Silicon Valley coordination and information advantages were supported by an existing financial infrastructure.
- Is there a connection between intangibles and income divergence? Given that intangible investment is more resilient to cyclical shocks and has larger spillovers than tangible investment we should see less inequality. Instead, inequality increased. Is it a problem of diffusion? Were spillovers curbed by the exercise of market power? Alternatively, it could be that some of the intangible investment is firm-specific or sticky to the firm (ex. Walmart)
- Higher productivity at the frontier is associated with higher wages to these firms' workers and, therefore, higher inequality: is it related to lack of competition? Perhaps we need to rethink competition policies. Loss of rivalry is loss of competition, however, network effects in some business models, areas and technologies are so large that they may require a segmented market structure with low level of competition (e.g. Facebook).

Session 1A: Productivity spillovers, diffusion and public policies

The scene-setting by **Dan Andrews** and **Chiara Criscuolo** (*OECD Secretariat*) argued that the slowdown in labour productivity growth, especially in services, is driven by divergence in MFP developments across firms (revenue based measure). An increased gap in profitability is part of the story, but does not explain all of the MFP divergence. At least two structural factors are at play: winner takes all dynamics – especially in ICT intensive services sectors - and increased "entrenchment" of churning at the frontier amongst the top quintile of the productivity distribution. While these developments are reflecting structural changes, such as globalization and digitalisation, OECD research shows that bolder PMR reforms in services sectors - such as professional services – could help lean against the wind.

The presentation by **Andrea Linarello** (*Bank of Italy*) looked at the role that misallocation of resources played in Italy's persistently weak productivity performance. It stressed that data and measurement matter for findings and, hence, it is important to look at representative data: using the population rather than a selected sample of businesses provides a different, but more truthful picture of the role of misallocation. The presentation by **Ottavio Ricchi** (*Italian Treasury*) stressed the role of financial constraints which have been increasingly binding during the crisis and seem to be a potential reason for slow diffusion of productivity gains reaped by high-productivity firms in Italy.

The presentation by the **Remy Lecat** (*Bank of France*) provided a long term view of productivity growth and innovation waves over the 20th century. It highlighted that even better measurement of changes in human and physical capital quality and of innovation embodied in new equipment could not explain the latest wave of productivity acceleration and slowdown. So, other channels (such as production process improvements, management practices; new financing techniques) and interaction between them might be promising candidates for explanation.

The presentation by **Paul Conway** (*New Zealand Productivity Commission*) delivered two main messages: restrictive regulatory policies are more harmful for aggregate productivity given rapid technological change, but lack of diffusion of productivity gains also depends on the broader context in which firms operate. In particular, for New Zealand the main obstacle to diffusion is its remoteness and the sparse network which lowers the potential for "connectedness" of domestic firms. Research shows that the gap of New Zealand's firms relative to global frontier is largest in services industries and in construction, which are mostly oriented towards the local market, and smaller in air transport and manufacturing that are more exposed to international markets. In other words, firms operate in a *de jure* open market which is *de facto* "closed" : low trade intensity, little outward direct investment; decline in inward FDI flows means lower exposure to global knowledge and thus lower diffusion and lower competitive pressure, which is bad for reallocation.

Ricardo Pinheiro Alves (Director-General, *Ministry of Economy, Portugal*) focused on productivity developments in Portugal. He pointed out that convergence of Portugal to best productivity practice stopped in the 90s However, preliminary results for the last ten years shows that lower productivity growth seems not to be associated with a higher dispersion of productivity gains between firms in the same sector nor with increased wage inequality. One reason may be that Portuguese firms are not in the global frontier, meaning that the winner takes all dynamics do not apply. Country level analysis is thus needed to complement OECD´s global approach. He then built on empirical evidence for Portugal showing that MFP growth is associated with skills, training, innovation, firm size or exporting status to discuss the role of public policies to improve technology diffusion and productivity spillovers. Portugal is trying to shorten the gap between global and national frontier firms by improving skills, patenting rates and removing obstacles in the upscaling of Portuguese firms. He insisted on the need for a comprehensive policy intervention: policies to lower barriers to entry and provide easier access to finance especially for small young businesses, policies that foster the placement of researchers in businesses and more generally policies that foster business links with interface entities such as technological centres and university, and for integrating in GVCs and in high value added activities especially for SMEs.

The presentation by **Mario Izquierdo Peinado** (*Bank of Spain*) which was delivered in a subsequent session but was related to the issues debated here, presented work looking at the structural sources of aggregate productivity developments in Spain. He noted that the productivity slowdown was partly caused by a worsening of the efficiency of resource reallocation, which occurred from a level that was already low by international standards. Business demography changed drastically since the crisis, pointing to a cleansing effect: while before the crisis exit rates were lower than elsewhere and entry rates were higher, the crisis brought both exit rates and entry rates in line with international evidence. Most of the positive contribution to productivity growth since the crisis came from exits. Other characteristics of businesses remain specific to Spain and are a source of concern: startups are small and do not survive very long and high growth firms are lesser than elsewhere. As a result small and low productivity firms predominate.

Mr. Peinado then focused on the role of policies. As Spain has a bank-based system, credit conditions are key for creation/destruction of firms. While the allocation of capital before the crisis had been inefficient, the efficiency of the credit system in gearing into higher productivity firms seems to have improved in the aftermath of the crisis. Moreover, the successive reforms of insolvency regimes had a good impact resulting in more successful restructuring and shorter procedures. However, entry barriers still make startups difficult and fragment the internal market, in spite of recent reforms that improved the situation. Also, size-contingent labour and tax rules twist the firm size distribution by discouraging growth. Finally, Mr. Peinado argued that improving framework conditions for firm growth is important, but even more important is to encourage within-firm productivity in the light of evidence suggesting that productivity shocks lead to growth in firm size but the reverse may not be true (i.e. growth in size does not necessarily lead to productivity growth). One way to encourage such within-firm productivity improvements is to enhance the quality of skills, as Spain is doing bad on both PIAAC and managerial scores.

During the following discussion there were questions about what policies are most appropriate for reverting the slowdown and for closing the rising gap between high and low productivity firms; about the role played by domestic monetary policies vis à vis the slowing diffusion of productivity gains within countries; and whether the increased gap between frontier firms and laggards was to be considered cyclical or structural. The discussion also highlighted the need for better measurement (e.g. of ICT vs non-ICT capital; of markups; of allocative efficiency/misallocation) and for integrating different strands of work at the OECD (national vs global) while continuing to build a wealth of different indicators useful for diagnosis of productivity problems and policy analysis.

Session 1B: Divergence in productivity and implications for inclusion

A brief introduction by **Cyrille Schwellnus and Giuseppe Berlingieri** (*OECD Secretariat*) documented the decoupling of real wages and productivity growth and the cross-firm divergence in wages and productivity.

The presentation by **Sofia Pessoa e Costa** (*Ministry of Labour, Solidarity and Social Security, Portugal)* provided an overview of inequality developments, past labour market reforms and current labour market policies in Portugal. Current policies to address high and increasing inequality include reforms to certification frameworks for training and skill development, a significant increase in the minimum wage and a strengthening of collective bargaining arrangements.

Andrew Sharpe (*Center for the Study of Living Standards, Canada*) presented an analytical framework that allows decomposing decoupling between real wages and productivity growth into changes in labour shares, wage inequality, labour's terms of trade and differences between national account- and survey-based measures of wage inequality. According to this analysis, there has been widespread decoupling in OECD countries over the past three decades, with significant average contributions of all four components but large cross-country heterogeneity in the relative size of contributions.

Stefan Bender (*Deutsche Bundesbank*) presented a micro-level analysis for Germany suggesting that management practices have a large impact on firm-level productivity, management practices are to a large extent driven by the human capital of managers rather than the average employee, and that better-managed firms appear to be able to select workers with higher human capital.

Welcoming Remarks (Day 2)

Mario Centeno (*Minister of Finance, Portugal*) stressed the importance of the GFP as a tool to foster international co-ordination in order to better understand the roots of the productivity paradox: despite important progress in terms of educational attainment, technology and global integration, productivity growth has slowed. While productivity measurement is a key challenge, he argued that cyclical factors have played a role in the productivity slowdown to the extent that investment has been weak. Structural changes – i.e. the shift towards services, stalling diffusion and worker immobility – have also made it more difficult to realise higher productivity growth, also exacerbating wage inequality. Going forward, it is essential that policies to support higher productivity growth also result in higher income of the median voter, otherwise political economy problems will emerge. Portugal is taking concrete action through its National Reform Program, which centres on improving human capital and skills, R&D collaboration between firms and universities and territorial and social cohesion.

The OECD Secretary General, **Angel Gurría**, noted that some eight years after the start of the global financial crisis, the global economy finds itself in a low growth trap, characterised by weak productivity and business investment, sluggish trade, impaired labour markets and high inequality. With the accumulated loss in productivity growth over this period amounting to some 10%, the GFP can play a key role in administering the medicine and finding what medicines we need to remedy this situation. Indeed, productivity growth is not manna from heaven but a consequence of implementing the right policies and having the political courage to remove the wrong ones. Today, we have a new wave of digital innovation but GFP-commissioned work shows that these benefits are not spreading to all firms. Given that this had had unfavourable effects on inclusiveness, we need to find reforms that empower individuals and improve access to education, health care and infrastructure. It is also crucial that we improve the measurement of productivity to allow greater scope for sharing of experiences across countries in the context of the GFP. Our recent research has raised many questions about the productivity slowdown which cannot be solved in a few days, but the GFP can help us make important progress on the front.

Carlos Moedas (*EU Commissioner for Research, Science and Innovation*) lamented the seeming inability of Europe to translate investment into R&D into higher productivity growth. With diffusion becoming more difficult in the digital age, we require more open systems. Moedas argued that accelerating the single market – particularly with respect to competition policy and the capital markets and energy union – is crucial to eliminate the invisible barriers that curtail our potential and reduce connectivity between markets. Policy should also focus on removing barriers to the upscaling of new business; designing more effective public support for innovation, including concrete measures to nurture an integrated market for risk capital at the European level; and reducing regulatory uncertainty. With respect to the latter, given the fast pace of technological change, regulations in the future cannot be designed by politicians alone, but will require more extensive consultation with entrepreneurs that experiment with risky technologies and business models.

Policy Panel

The chair of the policy panel, **Juan de Rebolledo** (*Productivity Commission, Mexico*) asked participants to discuss what policy actions were being taken to address the “big ideas” of the conference, including those in the background framework paper on policies to boost productivity.
Jeromin Zettelmeyer (*Ministry for Economic Affairs, Germany*) spoke of the challenges of a country that is among the top performers in terms of productivity, but which is experiencing a slowdown. He

raised the issue of raising both the quantity and quality of investment, potentially making more use of fiscal instruments to change private incentives. Germany also needed to increase education and integration-related investment, both physical and social, strengthen competition in services, and reduce tax disincentives discouraging longer work hours.

Michelle d'Auray (*Canadian Ambassador to the OECD*) mentioned an important current domestic effort to address barriers to *internal* trade. More globally, the Canadian government is anxious to conclude a free trade agreement with the EU by next year (2017). The government has also put forward both a growth agenda and an innovation strategy to help the country to become more of an entrepreneurial society. One weakness that Mrs. D'Auray mentioned was an insufficient policy-makers' ability to adjust inadequate policies sufficiently quickly.

The challenges of addressing the context of changing technologies, i.e. the "4th Industrial Revolution" were evoked by. **Shinji Fujino** (Ministry of Economy, Trade and Industry, Japan). He mentioned Japan's policy challenges such as making the innovation system more open, and addressing financing challenges, including for intangibles. Some policies to attempt to speed up the development and adoption of technologies were described. Japanese authorities recognize the importance of achieving government co-ordination in order to efficiently and effectively implement new policies.

The heterogeneity of country performances was highlighted by **Michel Houdebine** (*Ministry of Finance, France*). France had faced a productivity slowdown even before the financial crisis, but the crisis represented a "shock", potentially partially explained by an increase in the number of short-term contracts and self-entrepreneurs. A challenge for the government has been to undertake structural reforms favoring productivity in the medium and long run while at the same time taking measures in education and training to compensate for potentially adverse effects in the short run. He underlined the importance of institutional settings in order to engage in a reform agenda.

Stephan Mumenthaler (*Chief Economist, BIAC/Novartis*) highlighted the fundamental role that the private sector plays for boosting productivity, and highlighted the priorities that emerged from a survey conducted with businesses. The business community gave particular attention to the complexity of taxes and the regulatory environment, which they felt could be "smarter". Public goods such as better skills and public infrastructure could also help. Finally, a broader concern about *policy uncertainty* – particularly in light of Brexit – was mentioned. While the business community mostly agrees with policy priorities, notably identified in the OECD Going for Growth, they felt that implementation was highly inadequate.

Álvaro Matias (*Director-General - GPEARI - Ministry of Finance, Portugal*) highlighted the important structural transformation of the Portuguese economy in recent years but underscored that promoting productivity must be an ongoing task. In this vein, he elaborated on the Portuguese authorities' policy responses to the productivity challenge (as outlined in the so-called National Reforms Programme (NRP) published in April 2016), namely the set of measures designed to enhance skills, foster innovation, promote territorial qualification and modernise public administration. These policies, while crucial, are not sufficient and are therefore coupled with a number of measures to ensure effective and efficient access to finance. Going forward, the National Productivity Boards, as proposed by the European Council, may have an important role, as they will ensure an independent assessment of productivity and competitiveness developments in each country, also promoting the dialogue and the exchange of best practices, fundamental for the definition of polices. Furthermore, the quantification of measures – both ex-ante and ex-post – is crucial for a successful reform agenda and therefore features highly in the authorities work programme.

Juan Rebolledo concluded with some of the hard questions, notably how to make the "diffusion machine" work better, and boost reallocation. He noted that there have been many different policy proposals, and how difficult it can be to go from policy design to implementation.

Session 2A: The link between trade, global value chains (GVCs) and productivity

Jonathan Timmis (*OECD Secretariat*) set the scene by pointing out that there is a vast literature documenting the effects of trade in final goods on productivity, but less is known about the specific role played by participation in GVCs. Policy lessons we have learned from work on trade in final goods and services may not map directly onto a world of GVCs. GVCs emphasise some well-established policies (e.g. trade policy) and some under-explored policy levers (e.g. service market competition). Therefore, we need to look at GVC-productivity relationship more closely, particularly in the context of a shifting geography of GVCs outside of traditional production locations (in North America & Europe), and with emergence of key central hubs (e.g. China within Factory Asia), satellite suppliers (e.g. Vietnam) or peripheralisation. These developments may have implications for productivity growth, as well as productivity spillovers and diffusion for both changing hubs and new peripheries. It may not just be relevant for first-tier participants in GVCS, where scale can be an important prerequisite for "direct" participation. Indeed, GVCs provide an "indirect" means of benefiting from spillovers from the frontier, particularly for SMEs.

João Amador (*Banco de Portugal and Nova School of Business and Economics*) focused on three points. Firstly, Portuguese firm-level data was used to illustrate that the landscape of international traders is very diverse. The breakdown of firms as relevant exporters-importers of goods-services shows that two-way and four-way traders are more productive than other participants in international trade. In addition, although a minority of top exporters of goods and services account for the bulk of gross trade, they represent a far smaller share of exported domestic value-added. Secondly, the role of services as a key ingredient for the operation of GVCs was underlined, notably in connection with framework costs and the management of the supply chain. Thirdly, the network of value added trade in 1995-2011 was used to map the complex linkages that emerged between countries, which exist also at the firm level. Over time, the network of value added trade became denser. The rising importance of China as a supplier of value added is impressive and chiefly reflects the supply of foreign inputs of goods. Germany and the US maintain a robust participation in GVCs over the whole period, but with meaningful differences between them. Germany is a major supplier of goods inputs to be used in other countries' exports of goods, while the US supplies more services value added to services exports.

Peng Zhang (*China State Information Center*) examined how insertion into GVCs is related to industry productivity. Increases in GVC (backward) participation are correlated with higher industry TFP, but this relationship is non-linear, with TFP falling for the highest levels of GVC participation.

Emmanuel Dhyne (*National Bank of Belgium*) brought new evidence for Belgium on domestic supplier networks. Constructing firm-to-firm input-output tables based on firm-level data, it is possible to investigate effects of GVC participation on second-tier firms. The research showed that the performance differences between firms participating in GVCs and other firms, are also present in supplier networks within countries: Belgian suppliers of exporters are indeed larger and more productive than suppliers of non-exporters. In addition, the position of a firm in domestic production networks affects firm performance. Firms able to move closer to final demand exhibit higher productivity and have higher survival rates, with survival most fragile for firms operating in the most upstream segments of the domestic production chain.

Keiko Ito (*Senshu University, Japan*) considered how global sourcing and inter-firm transaction costs, i.e. specificity of inputs, affects domestic supplier networks in Japan. Using Japanese data on firm-to-firm linkages it was shown that firms disproportionately transact with their spatially closest suppliers, particularly, for relationship-specific inputs (with higher inter-firm transaction costs). Firm offshoring leads to a churning of their domestic buyers and suppliers, with firms more likely to source inputs from more distant domestic suppliers, but the average distance of suppliers falls, meaning increased agglomeration. Once firms offshore, they generally get better at search, and so may search more locally. Policies to reduce search costs and transaction costs and information asymmetries are therefore crucial for reaping the productivity benefits of participation in GVCs.

During the following discussion there were questions about the relationship between discussion of resilience in financial economics and resilience in GVC literature, the patterns of specialisation in a GVC-world and the extent to which firm size still played a role, when firms do not need to undertake the whole production process, but can integrate into GVCs and specialise in particular tasks.

Session 2B: Pro-Productivity Institutions: Selected National Experiences

The Chair of the session, **Murray Sherwin** (*New Zealand Productivity Commission*), made reference to the ideas in Gary Banks's GFP framework paper from last year, which highlighted the strengths and weaknesses of various types of agencies, including Productivity Commissions. **Sean Dougherty** (*OECD Secretariat*) introduced the motivation of the new institutions project, which is focusing more on the political economy of boosting productivity, or the "secret recipe of success" of country models.

Andrea Renda *(Centre for European Policy Studies),* who is carrying out interviews of institutions in ten selected countries, presented his preliminary findings. A broad preliminary finding that "one size does not fit all", was widely supported. While Australia and New Zealand have positive experiences with their Productivity Commissions, other countries have followed alternative approaches. Finding approaches that effectively balance short-term and long-term thinking is often a key challenge. Notably, ensuring that institutions remain independent is considered to be particularly hard, including in achieving and maintaining credibility, and this was considered to be highly complex, requiring great care.

Varying contexts may lead to different outcomes – **Fernando Filho** (*Fudaçaõ Getulio Vargas, Brazil*) expressed some scepticism about how well a single body would do there, given the scope for capture by special interests, and felt that a more multi-actor approach may be preferred in such a context, which has similar features to the United States. Nevertheless, there are very few data points to make firm conclusions. One aspect that Mr. Filho felt was critical was having a culture of evaluation. In the case of Brazil, he felt that non-state actors play an essential role.

Fabrice Lenglart (*France Stratégie*) introduced the French and European contexts. Mr. Lenglard highlighted that there is limited scope for further top-down approaches, while there is a strong need for further pro-growth reforms. In the French system, there are essentially eight bodies that play important roles, including ministries and government-sponsored think tanks (CEPII). This system will be clarified further in light of the Commission recommendation on Competitiveness Boards.

Jonas Fischer (*European Commission, DG-ECFIN*) discussed the Commission recommendation which will soon be a Council recommendation (officially in September) to have all Euro-area countries designate Competitiveness or Productivity Boards over an 18-month horizon. This is happening, despite some opposition from social partners, and they explained how this was intended to be national approach to identify and build up support for productivity-enhancing policies. There will be considerable flexibility on how these are set up, but the essential criteria will be to give unbiased policy advice in a national setting. Most countries already have an institution that can be given a strengthened mandate, so few of these bodies will be entirely “new”. Mr. Fisher sees strong synergies with the GFP going forward.

There was some discussion of the various roles and challenges that productivity-related bodies face, such as in performing *ex-post* evaluations (Italy), co-ordinating other institutions (France, Japan), and targeting “actionable” recommendations (New Zealand). Chile mentioned how hard it was to choose when to get involved in policy debates, while Hungary wondered how to determine initial focus. Some countries pointed out that they rely more on think tanks and a key executive agency to guide analysis and to feed debate.

Overall, there was considerable enthusiasm about this kind of “group therapy” (in GFP conferences) for productivity-related agencies, to share some of their deeper concerns and thoughts about how to move forward and have even stronger impact.

Session 3A: Public sector productivity

The Session Chair **Ana Gouveia** (*Ministry of Finance, Portugal*) set out some of the main issues related to public sector productivity and introduced the contributors to the session. In the first intervention, **Edwin Lau** (*OECD Secretariat*) reminded us that public sector productivity has an important influence on overall economic productivity and on inclusiveness. The goods and services produced by the public sector are an important constituent of national economies. In 2014, government production costs represented on average 21.1% of GDP across OECD countries. Of this spending, 12.3% of GDP is recorded for government gross value added.

However, falling productivity in the delivery of public services appears to be a significant concern. By means of illustration, **Tom Aldred** (*Treasury, United Kingdom*) discussed the case of productivity trends in the delivery of tax and social security administration, indicating a fall in the most recent period, with average productivity growth more or less stagnant since 2009.

There are a number of measurement challenges associated with trying to gauge the efficiency and effectiveness of government expenditures in the delivery of public services. Some of these are endemic to the measure of service sector productivity more generally, but others are specific to public sector service delivery, i.e. the absence of price signals in many cases. Other challenges identified by Edwin include: difficulties in collecting data at the appropriate level of aggregation, the production of non-tangible and collective outputs; and the difficulty of measuring “quality” (and thus deflators). On the input side, the biggest challenge is the absence of accounting systems which disaggregate costs in a manner which can be mapped onto specific outputs. Rather than treating the measurement of public sector productivity as a technical exercise, however, it is critical to understand how this data will be used and at what level so that it can inform management decisions and improved cross-sector collaboration to improve outcomes.

One specific challenge to which Edwin referred is public sector human resource management, which has become crucial in the face of: i) pay freezes and abolition of certain allowances; ii) recruitment freezes, dismissals and voluntary departures; and iii) privatization of some tasks and services, and decentralisation of employment. The need for improve human resource management systems is essential to ensuring that this translates into productivity gains. The particular issue of skills mismatch within the public service was raised, and the adoption of strategic workforce planning and staff surveys are possible tools to address this issue.

It was pointed out that the absence of market incentives in public sector service delivery places an emphasis on managerial quality as a means to spur productivity, an issue which many emphasised in the discussion. More generally, the existence of split incentives and complex organisational objectives are an endemic problem, exacerbated by fragmented public sectors where costs and benefits accrue to different accounting centres.

Several presentations identified investment in, and diffusion of, ICT (and innovation more generally) as an important spur of public sector productivity. ICT expenditures only make up between 0.5% and 2.0% of central government expenditures in OECD economies.

Diogo Nogueira Leite (*Cabinet of Secretary of State of Presidency of the Council of Ministers, Portugal*) provided examples on how the *Simplex+* programme has leveraged ICTs, together with administrative simplification and new practices, to improve public service quality and access. He pointed out that many of these initiatives not only improve the efficiency of service delivery, but are more inclusive, involving stakeholders in a more comprehensive manner. He emphasised the need for impact assessment and ex-post evaluation of such initiatives, a point which many raised in the general discussion.

Markku Stenborg (*Ministry of Finance, Finland*) presented evidence from Finland which has tracked public sector productivity for the last 25 years. Against a backdrop of a severe economic crisis in 1990s, Finland experienced unsustainable public finances, in particular at the local government level. Statistics Finland data indicates that local government productivity has systematically fallen. The digitisation of tax returns was presented as an example of how to improve public sector productivity. He concluded by reiterating the point that increasing public outputs without improving outcomes does not lead to productivity growth.

Subsequent discussions looked at the role of performance systems and budget processes to support public sector productivity and to create fiscal space, points taken up by Ana Gouveia in her concluding remarks.

Session 3B: Agglomeration economies and productivity

The chair of session **Anıl Yılmaz** (*Ministry of Science, Industry and Technology, Turkey*) introduced **Joaquim Oliveira Martins** (*OECD Secretariat*), who summarised recent work undertaken by the Governance Directorate on the contribution of cities to growth. He pointed to a positive (but non-linear) relationship between urban density and productivity growth, with benefits mainly originating from knowledge spillovers, skills interactions and externalities from facilities and costs mainly originating from congestion and pollution. Mr. Oliveira also noted that simple proximity to cities tends to increase productivity growth. Therefore the contribution of city areas to aggregate productivity growth is usually significant. Turning to the role of policies, he stressed results highlighting the importance of good city governance, with fragmentation tending to reduce the growth contribution of urban agglomerations.

Professor **Jørn Rattsø** *University of Science and Technology, Norway*) followed up by noting that cities are better linked to the global technological frontier and better able to absorb technology, not only due to the concentration of skills, research activities and essential infrastructures but also because metropolitan areas usually enjoy more openness and better governance than other areas. The productivity model of cities is equally based on sorting the best skills and benefitting from strong spillovers. As a result wages in cities are higher, with the wage premium increasing with education levels and work experience relative to other areas in the country. However, typically the higher educated gain from job shifts, while the lower educated gain from job tenure. Professor Rattsø was critical of some statements in the OECD Future of Productivity report suggesting, in his view, scepticism *vis à vis* regional and urban policies. He listed several areas where active policy-making was needed to meet important challenges, such as city governance, city leadership, links with other layers of government, education, infrastructure, innovation and health. Turning to research issues he wished more work was done on a number of topics: how do cities become successful? How to organize education research and innovation? What system of governance is most appropriate? How to approach soft policies (partnerships, clusters, innovation chains, technology programs)?

The intervention by **Jens Lundsgaard** (*Ministry of Business and Growth, Denmark*) focused on land use, which he saw as the key issue ahead, and the role of planning regulation in this context. He cited recent work undertaken by the Danish Productivity Commission, which looked at relationship between land use and agglomeration. He noted that land-use problems are often country-specific and in Denmark the main area for concern had been shop size limits. While it took a lot of time and political will to find pragmatic solutions, advice by the Productivity Commission resulted in removal of limits on some kinds of outlets (groceries). Other important areas identified by Mr. Lundsgaard were transport investment and housing markets, where rigidities and bottlenecks can make it difficult to implement the necessary release and reallocation of resources by stifling mobility and increasing the social costs. More generally, Mr. Lundsgaard noted that the chances of policy being successful depended on the ability of policy-makers to properly account for economic conditions prevailing in the each area, making sure that the implemented policies do not leave anyone behind and are inclusive.

France kicked off the subsequent discussion by asking whether policies had any potency to deal with shrinking or stagnant cities and whether any relationship could be observed between frontier cities (i.e. cities providing the strongest contribution to aggregate growth) and the location of frontier firms. Finland pointed at the special situation of small and sparsely populated countries: should all the population concentrate in one city to maximise growth? Finally, Hungary voiced strong scepticism *vis-à-vis* so-called regional policies.

The discussion then revolved around the role of policy. Several participants considered subsidies at best complicated to implement efficiently and at worst counterproductive, as they tend to generate dependence rather than development; other policies (e.g. in the labour or housing markets) were seen as more effective, even though it was acknowledged that policies should not discourage the youth to move to cities. In response to scepticism about regional subsidisation policies, it was noted that policy-making had been shifting paradigm from regional subsidies to place-based policies. Policies should be concentrating in facilitating and managing the movement of people and firms towards cities. It was also noted that, while good city governance could compensate for small size, large cities still provide externalities that are absent from smaller ones. Finally, the role of national policies was also mentioned: these policies, such as structural reforms in labour and product markets, were found to be particularly impactful for laggard areas, though complementary place-based policies are also needed.

Turning to areas for research, it was noted that improving the understanding of agglomeration economies and structural and place-based policies would require stepping up the collection of firm-level data with geographical detail and of comparative information about land-use regulations.

Session 4: Wrapping-up

Manuel Caldeira Cabral (*Minister of Economy, Portugal*) noted that slowing productivity growth and widening dispersion in productivity growth between firms is a problem that affects most OECD economies, including Portugal. Moreover, since 2010, real wages have been growing slower than labour productivity, affecting domestic demand. The Minister outlined the Portuguese Government's "Growth and Competitiveness Strategy", which has five strategic pillars: capitalisation, innovation, simplification, internationalisation and training. The focus on capitalisation is motivated by the increased in indebtedness of the non-financial sector. Measures adopted include measures to increase neutrality in the taxation of debt and equity; creation of new financial instruments for restructuring viable firms; reforms to the public creditors' role in recovery proceedings.

In terms of encouraging innovation, the Government has adopted measures which encourage innovative new firms. This includes tax incentives for start-ups and public support for venture capital funds. The Government's "Industry 4.0" programme, has set priorities for digitalisation of industry. Increased penetration is to be achieved through standardisation, technology adoption and training. Other measures include provision of targeted support for certain sectors (agro-industries, automotive, fashion, retail and tourism), as well as SMEs. Improved links between universities, research centres and firms are being incentivised. Integration of firms (and particularly SMEs) in global value chains is being encouraged through training and other programmes. In addition, through the "Simplex +" programme, efforts have been undertaken to reduce the burden of bureaucratic procedures for firms.

In the concluding session **Dirk Pilat** (*Deputy Director, OECD Directorate for Science, Technology and Innovation*) provided final thoughts on some of the key findings from the forum. The first set of issues raised was the pressing need to establish the facts - what is happening to productivity and what are the contributing factors to on-going trends? In this vein, measurement of productivity remains a challenge. This is a particular issue for services (and the public sector), but more generally in the face of widespread digitalisation of our economies. For empirical analysis, we face a significant challenge on the measurement of the key elements of policy settings across countries. And finally, many of the key drivers of productivity such as intangible investment, business dynamics, and managerial quality face measurement challenges of their own.

Resolving such measurement challenges is a pre-condition for improved policy-relevant analysis. This will require empirical studies at a variety of complementary levels (macroeconomic, industry-level, firm-level, regional/city perspective). More generally, we need to better understand how much of the recent trends that we see are cyclical in nature, rather than are based on structural elements. Is the divergence inevitable? Are we living in a time when inadequate policy reform is more costly than before?

Mr. Pilat reminded us that the fall in productivity growth had implications for the inclusiveness of our societies. Lagging firms are unable to increase wages, and in the absence of reallocation, will therefore contribute to income inequality. The skills mismatch that we see in so many countries is likely a contributing factor in the links between wage inequality and productivity dispersion, and there is evidence that workers are not finding employment in firms where they can realise their full productive potential.

What does this mean for policy? Clearly there is a need for further structural reform, especially in services. Investment in skills, infrastructure, intangibles, etc. is urgently needed, and this requires policies that support such investments. Policy settings that encourage a dynamic business environment and timely resource allocation are needed. This means encouraging experimentation (e.g. not placing too high a price on failure, through reforms to bankruptcy legislation). However, the role of more general framework conditions such as those associated with judicial systems and land use needs to be considered. With widening gaps between national and global frontier firms, increased openness and integration in global networks is essential.

Going forward, the new Global Forum on Productivity will continue to function as a platform for international exchange and discussion (i.e. as a true "Forum"). Building on the strong participation in Portugal, a number of future events are being planned. These include a regional Latin American "Productivity Ministerial" in Santiago, Chile (Dec 2016), and a regional Asian event in Malaysia in 2017. The location of the 2017 annual conference has not yet been determined. Proposed themes for possible future work include e.g. diffusion, services, digitalisation, intangibles and GVCs. Mr. Pilat reminded the audience that it was "their" Forum, and that the Secretariat wants to hear from the GFP on how best to take the work forward.

Contacts

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