



G20 Labour Markets in 2015: Strengthening the Link between Growth and Employment

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G20 labour markets: outlook, challenges and opportunities

Introduction.....	3
1. Recent trends in G20 economies and labour markets	3
2. Has the employment intensity of growth changed in G20 economies?	5
3. Changes in employment quality and type in G20 economies	10
4. Opportunities to strengthen the link between growth and employment.....	15
5. Conclusion.....	24
Annexes	26
References	42

Introduction

Global growth continues to disappoint, registering below trend rates, while unemployment and underemployment continue to plague many G20 economies. Against this backdrop, G20 Leaders have repeatedly emphasized the importance of increasing growth and ensuring that it produces more and better quality jobs and have set the ambitious goal of raising G20 aggregate GDP by more than 2 per cent by 2018, in order to add more than US\$2 trillion to the global economy and create millions of additional jobs.¹

The Leaders have emphasized the need for coordinated and integrated public policies, including strong and supportive macroeconomic, trade, investment and labour market policies, along with resilient and effective social protection systems, sustainable public finance and well-regulated financial systems. Coordinated policies in these areas are seen as the foundation for sustainable, job-creating economic growth. In this light, the Turkish Presidency's decision to hold a joint meeting of Finance Ministers and Labour and Employment Ministers offers a welcome opportunity to discuss coordination of policies across their respective areas of responsibility.

This report is meant to contribute to achieving the Leaders' growth and employment goals and to provide useful inputs to the discussion between Finance and Labour and Employment Ministers. It begins by presenting a brief update on recent economic and labour market developments in the G20 (Section 1). A statistical annex (Annex A) presents additional information on recent labour market trends in G20 countries.

The report then turns to the question of the relationship between growth and employment and investigates whether the relationship has changed since the crisis (Section 2). This is done primarily through an analysis of the employment elasticity² indicator, which provides an assessment of the "employment intensity" of economic growth. (Annex B describes the methodology used for calculating employment elasticities and explains their interpretation in detail).

In Section 3, the report examines a number of channels through which growth and employment interact and discusses how to make the feedback positive and stronger, recognizing that policy priorities will depend on individual country circumstances. Section 4 concludes.

1. Recent trends in G20 economies and labour markets

Following the economic crisis of 2008-2009 and the extensive fiscal and monetary policy responses, the global economy has been on a path to recovery. Yet serious after-effects of the crisis remain evident today. Annual economic growth in the G20 as a whole averaged only 3.2 per cent over the last three years, well below the rate of 4.1 per cent registered in the pre-crisis period from 2000 to 2007 (Figure 1). From a historical perspective, recent growth has been weak in both advanced G20 economies (averaging 1.4 per cent over the past 3 years, compared

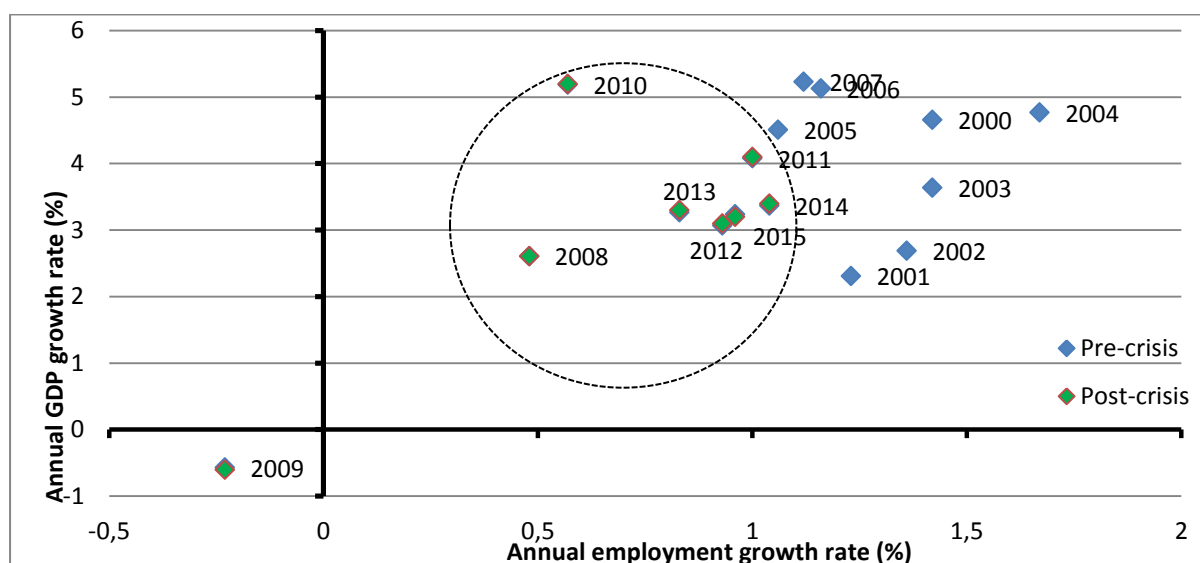
¹ https://g20.org/wp-content/uploads/2014/12/brisbane_g20_leaders_summit_communique1.pdf

² Employment elasticity is defined as the average percentage point change in employment associated with a 1-percentage point change in output growth over a selected period. The periods examined in this note are 1991-1999, 1999-2007, 2007-2009 and 2009-2014.

with 2.6 per cent prior to the crisis) and emerging G20 economies (a 3-year average of 5.4 per cent, compared with 6.9 per cent in the pre-crisis period).

Global economic growth is forecast to improve only marginally over the course of 2015 compared to 2014, with significant downside risks.³ The IMF identified near-term risks including increased financial market volatility and disruptive asset price shifts and medium-term risk of lower potential output growth in both advanced and emerging market economies. It noted that lower commodity prices also pose risks to the outlook in many commodity dependent economies after many years of strong growth.

Figure 1. Annual GDP and employment growth rates in the G20, 2000-2014



Source: ILO Research Department calculations based on ILO, *Trends Econometric Models*, July 2015 and IMF, *World Economic Outlook*, July 2015.

This economic weakness has gone hand-in-hand with persistently weak labour markets. The aggregate unemployment rate across the G20 rose from 5.1 to 6.0 per cent between 2007 and 2009, and remained elevated at 5.8 per cent in 2014. Labour force participation rates have declined in several G20 countries, due in part to demographic change (e.g. ageing populations) and to youth staying in school longer, but also due to discouraged workers who have left the labour market (Table 1). Overall, employment growth remains well below pre-crisis levels across the G20, leading to a substantial jobs gap – an estimated employment shortfall of 50 million in 2014.

Beyond these general indicators, youth unemployment and long-term unemployment remain high in many G20 countries and the incidence of non-standard forms of employment, including informal employment and involuntary temporary and part-time work continues to rise in many of them. Details on these and other key labour market trends are found in Annex A.

³ IMF (2015a). <http://www.imf.org/external/pubs/ft/weo/2015/update/02/>; OECD (2015b). <http://www.oecd.org/eco/outlook/>

Table 1. Labour market and economic trends, G20 regions, selected periods

	G20				G20 Advanced				G20 Emerging			
	1991-1999	1999-2007	2007-2009	2009-2014	1991-1999	1999-2007	2007-2009	2009-2014	1991-1999	1999-2007	2007-2009	2009-2014
GDP (AAG, %)	3.1	4.1	1.0	3.9	2.7	2.6	-1.6	1.7	4.2	6.9	4.9	6.4
Employment (AAG, %)	1.4	1.3	0.1	0.9	0.7	0.9	-0.8	0.6	1.6	1.4	0.4	1.0
Labour productivity (AAG, %)	1.7	2.8	0.9	3.0	1.9	1.7	-0.9	1.2	2.6	5.4	4.6	5.3
Unemployment rate (PPT change)	0.1	-0.7	0.9	-0.3	-0.1	-1.1	2.5	-1.2	0.2	-0.6	0.3	-0.1
Labour force participation rate (PPT change)	-1.0	-1.8	-0.8	-0.7	-0.2	-0.1	-0.2	-0.6	-1.4	-2.6	-1.1	-0.7

Notes: AAG = average annual growth, PPT = percentage point.

Source: ILO Research Department calculations based on ILO, *Trends Econometric Models*, July 2015 and IMF, *World Economic Outlook*, July 2015.

There has also been a significant slowdown in the rate of growth of wages in the G20 countries. The combination of employment gaps and lower wage growth has resulted in declining labour shares of national income in most G20 countries and rising inequality in most.⁴ There are large differences in macroeconomic and labour market performance across the G20 countries, but there is concern that the overall weakness in employment growth, falling labour income shares and weak wage growth have reduced global aggregate demand and contributed to a self-reinforcing circle of diminished business confidence and investment, further weakness in growth and demand and hence insufficient labour market recovery.⁵

2. Has the employment intensity of growth changed in G20 economies?

As G20 Leaders have rightly recognized, the effort to increase overall economic growth must be accompanied by stronger creation of good quality jobs if the goal of strong, sustainable, balanced and inclusive growth is to be achieved. As a basis for the discussion of how to strengthen job creation, we first present evidence on how the employment intensity of growth in G20 economies has been affected by the crisis and subsequent developments. For that purpose we have analysed the trends in the employment intensity of growth over four periods: 1991 to 1999 (1990s), 1999 to 2007 (pre-crisis period), 2007 to 2009 (crisis period) and 2009 to 2014 (post-crisis period).

In the G20 as a whole, employment elasticities have not varied greatly over the four periods under examination, ranging from a high of 0.27 in the period from 1991 to 1999 to a low of 0.24 during the crisis and post-crisis periods (Figure 2). However in contrast, economic growth rates have fluctuated significantly over the four periods. The fastest average growth was achieved during the pre-crisis period from 1999 to 2007 (averaging 4.1 per cent), whereas during the crisis the G20 economy as a whole expanded by only 1.0 per cent per year. Over the post-crisis period,

⁴ ILO (2014a). http://www.ilo.ch/wcmsp5/groups/public/---dgreports/---dcomm/---publ/documents/publication/wcms_324678.pdf

⁵ ILO (2015a). http://www.ilo.org/wcmsp5/groups/public/---dgreports/---dcomm/---publ/documents/publication/wcms_337069.pdf

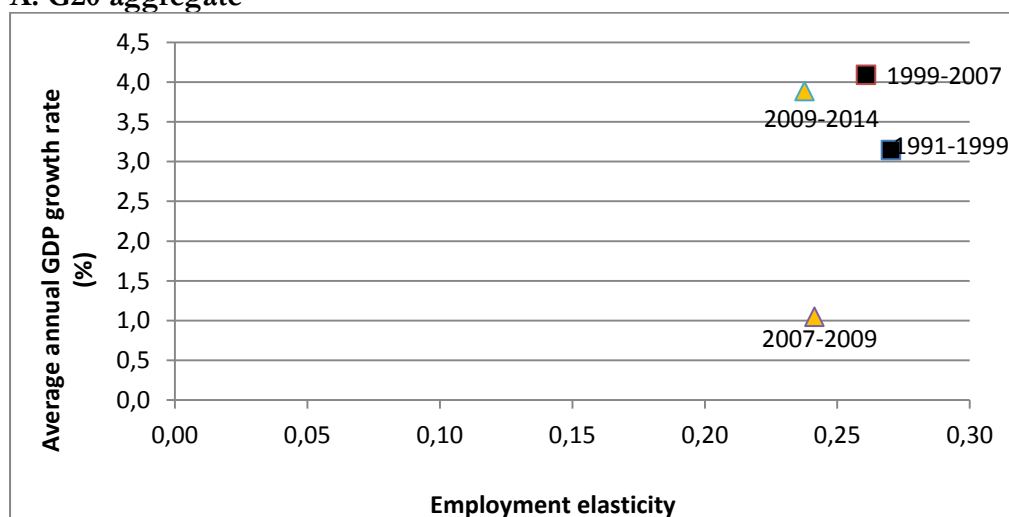
economic growth in the G20 averaged 3.9 per cent, with faster growth in the immediate aftermath of the crisis in 2010 and 2011 and relatively sluggish growth since 2012.

Thus, as Figure 2A indicates, the most significant factor behind the decline in aggregate employment levels and the large jobs gap that has emerged is not that the employment intensity of growth has fallen meaningfully. Rather, it is that economic growth has been insufficient to re-accelerate employment creation and to close the jobs gap. A separate analysis by the IMF also found that the underlying employment-growth relationship did not change dramatically after the crisis.⁶ That analysis estimates the relationship between employment and output growth using data for a longer period (1980-2014) to cover several full boom and bust cycles in order to capture better the underlying cyclical relationship. It finds that, with some notable exceptions, the historical relationship between employment and output did a good job of predicting employment outcomes in the G-20 countries between 2008 and 2013, underscoring again that a pick-up in growth remains critical to a recovery in jobs.

Aggregate G20 figures mask significant variation between advanced and emerging G20 economies and within the two groups. In the advanced G20 economies as a whole, excluding the crisis period, the largest employment elasticity was registered during the post-crisis period from 2009 to 2014 and yet overall employment growth during the post-crisis period has been far weaker than in the two pre-crisis periods (Figure 2B). The reason for this is that economic growth during the post-crisis period averaged only 1.7 per cent, a full percentage point below the growth achieved in the periods prior to the crisis. Consistent with the aggregate G20 findings, in advanced G20 economies the key problem is not that economic growth has been less employment-intensive in recent years, but rather that there has simply not been enough growth.

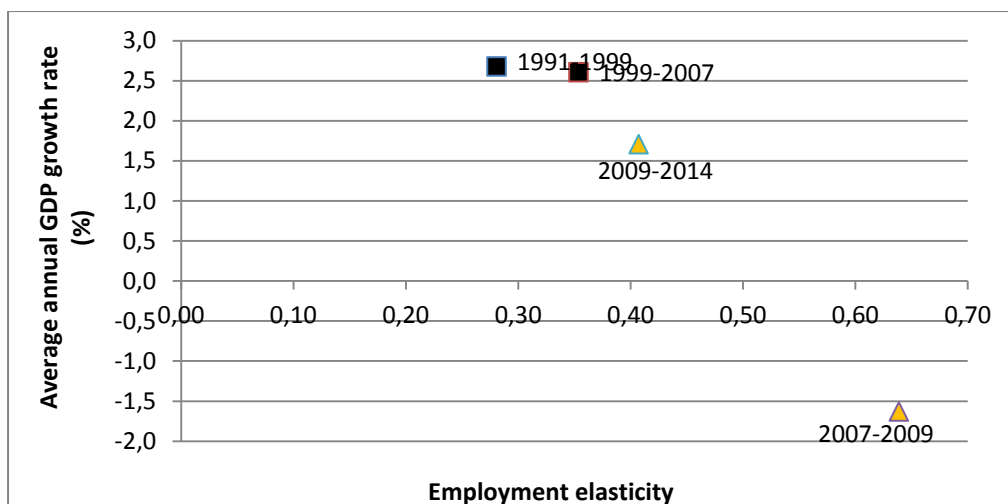
Figure 2. G20 employment elasticities and GDP growth rates, selected periods

A. G20 aggregate

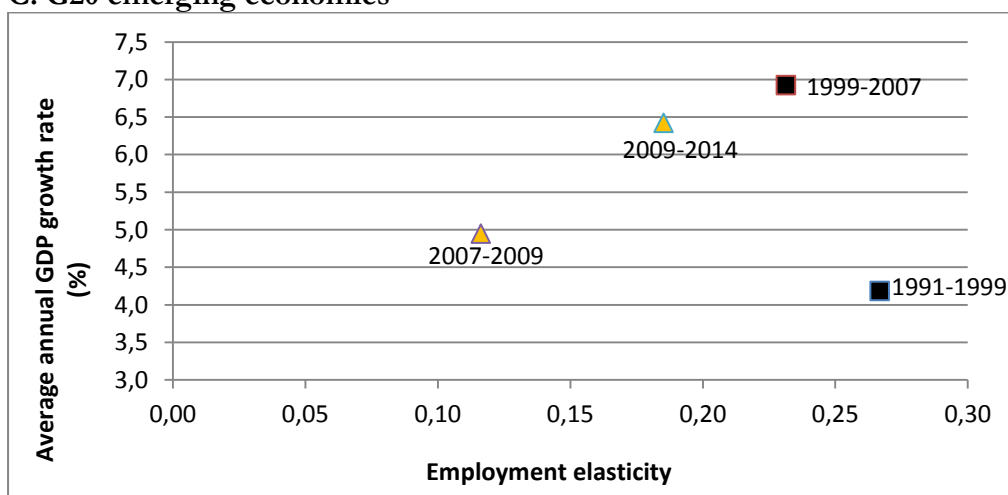


B. G20 advanced economies

⁶ See Annex C Figure C3, which draws on Furceri and Loungani (2014) and Loungani and Mishra. (September 2015).



C. G20 emerging economies



Source: ILO Research Department calculations based on ILO, *Trends Econometric Models*, July 2015 and IMF, *World Economic Outlook*, July 2015.

It is noteworthy that in the advanced G20 economies the highest overall employment elasticity was registered *during* the crisis period, when economic growth contracted by an average of 1.6 per cent per year and employment adjusted faster than in the other periods. Taking these trends together, a picture emerges of widespread job destruction during the economic crisis in advanced G20 economies, followed by a post-crisis period in which economic growth has been too feeble to recoup the jobs gap that emerged during the crisis, nor to prevent the gap from worsening during the post-crisis period in some advanced G20 countries.

A different pattern is evident across the emerging G20 economies taken as a group (Figure 2C). The most employment-intensive growth was achieved in the period from 1991 to 1999. However, the *combination* of economic growth and employment growth performance was significantly better in the period from 1999 to 2007, in which average annual economic growth accelerated to 6.9 per cent (compared with 4.2 per cent between 1991 and 1999), coupled with an employment elasticity of 0.23 (compared with 0.27 during between 1991 and 1999).

The crisis resulted in a significant reduction in the employment intensity of growth in emerging G20 economies, with the employment elasticity falling to 0.12 while economic growth

decelerated by 2 percentage points. During the post-crisis period, economic growth in the emerging G20 economies has accelerated, but remains slightly below pre-crisis levels (6.4 per cent versus 6.9 per cent prior to the crisis). The employment intensity of growth has also increased during the post-crisis period, but has failed to recover to pre-crisis levels (an elasticity of 0.19 compared with 0.23 in the pre-crisis period). This implies that in the emerging G20 economies as a whole, while the post-crisis period has seen fairly robust growth, both the crisis and post-crisis periods have been characterised by less employment-intensive economic growth, with growth increasingly driven more by gains in labour productivity than by increased employment.

In addition to analysis of aggregate employment elasticities, industry-level employment elasticities provide important insights into the employment-output (value added) relationship across industries and within industries over time. Analysis of sector employment elasticities provides an indication of the relative employment performance across industries and the extent to which growth in a given sector is being driven by productivity or employment, with the former potentially indicating a trend towards labour-substituting production technologies.

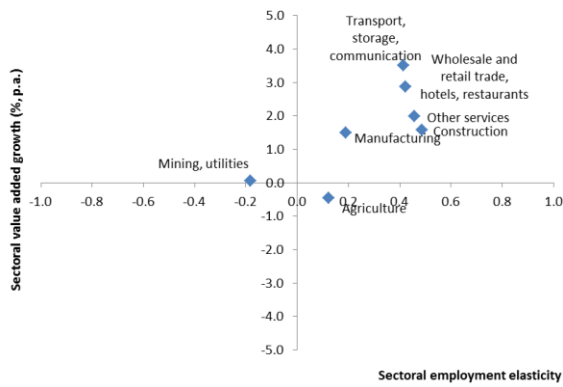
Figure 3 provides cross-tabulations of employment elasticities and average annual value added growth for seven sectors across each of the four time periods under consideration. First, with respect to agriculture, the figures show labour shedding in the agricultural sector in the G20 as a whole, with negative employment elasticities since 1999. This is driven by agricultural employment declines in the emerging G20 economies (annex Figure C2 provides employment elasticity estimates by sector for the periods 1991 to 1997 and 2009 to 2014 separately for advanced and emerging G20 economies). Particularly in emerging G20 economies, average labour productivity levels in the agricultural sector are typically far below other sectors.⁷ Therefore, to the extent that labour is moving out of agriculture and into higher value-added sectors, this suggests ongoing productive structural transformation. At the same time, if higher growth industries have lower employment elasticities, which is evident in the three periods excluding the crisis, this structural transformation may also lead to a reduction in the overall employment intensity of growth. While the associated productivity gains could ultimately translate in higher living standards, at the current juncture this could make it more difficult to close the still large jobs gap.

The manufacturing sector, which had a relatively low employment elasticity in both the 1990s and pre-crisis period, saw a major contraction in employment during the crisis (as evidenced by the positive employment elasticity, coupled with the sharp contraction in value added). During the post-crisis period, value-added growth in manufacturing has risen sharply – in fact, the post-crisis period has seen the fastest growth in manufacturing output of all periods under consideration. However, the manufacturing employment elasticity has fallen. This indicates that the recovery in manufacturing output in the G20 has been driven in part by labour-substituting technology and the productivity improvements associated with this.

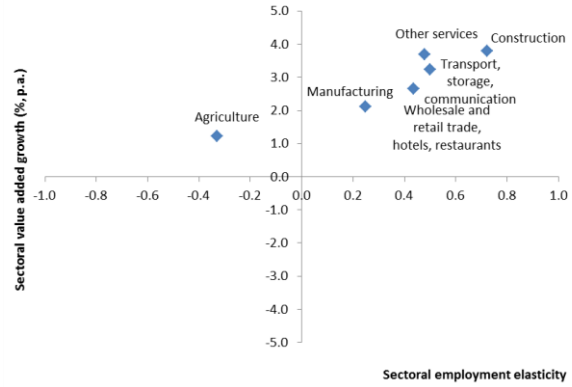
Figure 3. Sectoral employment elasticities and value added growth, G20 aggregate

⁷ Dabla-Norris, et al. (2013).

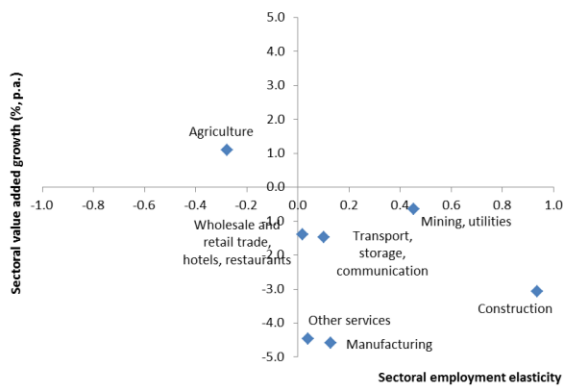
A. 1991-1999



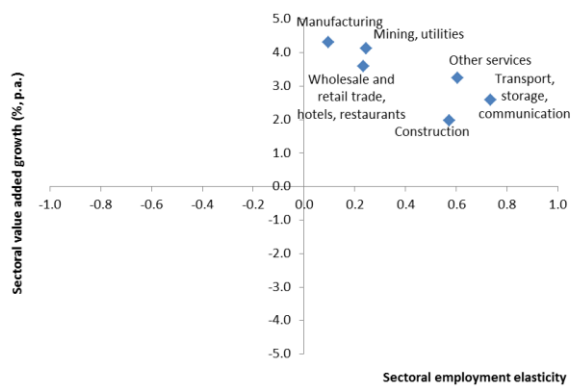
B. 1999-2007



C. 2007-2009



D. 2009-2014



Source: ILO Research Department calculations based on World Bank, *World Development Indicators*, July 2015 and United Nations Statistics Division, *National Accounts Main Aggregates Database*, January 2015 and ILO, *Trends Econometric Models*, July 2015.

The construction sector has one of the strongest correlations between employment and growth, as it was one of the most employment-intensive sectors in each of the three non-crisis periods and the hardest-hit sector in terms of relative employment losses during the crisis period. Similar to the construction sector, the transport, storage and communication sector was among the most employment-intensive sectors during the three non-crisis periods. In contrast to construction, however, in which output and employment contracted during the crisis period, employment contracted very little in the transport, storage and communication sector (evidenced by the small employment elasticity). This suggests that the sector has been an important source of employment generation and among the least volatile in terms of employment performance.

Another resilient sector during the crisis was the “other services” sector (which comprises all services except those related to transport, storage, communication, and wholesale and retail trade/hotels and restaurants). This has been among the most employment-intensive sectors in each of the periods under examination (with the exception of the crisis period). Expansions in economic activity in these services sectors have translated into more jobs in both advanced and emerging G20 economies.

Viewed together, these results suggest a generally favourable trend of accelerated structural transformation in the emerging G20 countries, which is likely one of the factors behind the

reduction in working poverty that has been documented in other reports.⁸ This has coincided with fairly strong growth in services sector employment, both in advanced and emerging G20 economies. On the other hand, the relationship between employment and output has been much more volatile in the construction and manufacturing sectors, with very weak growth in manufacturing employment during the post-crisis period.

3. Changes in employment quality and type in G20 economies

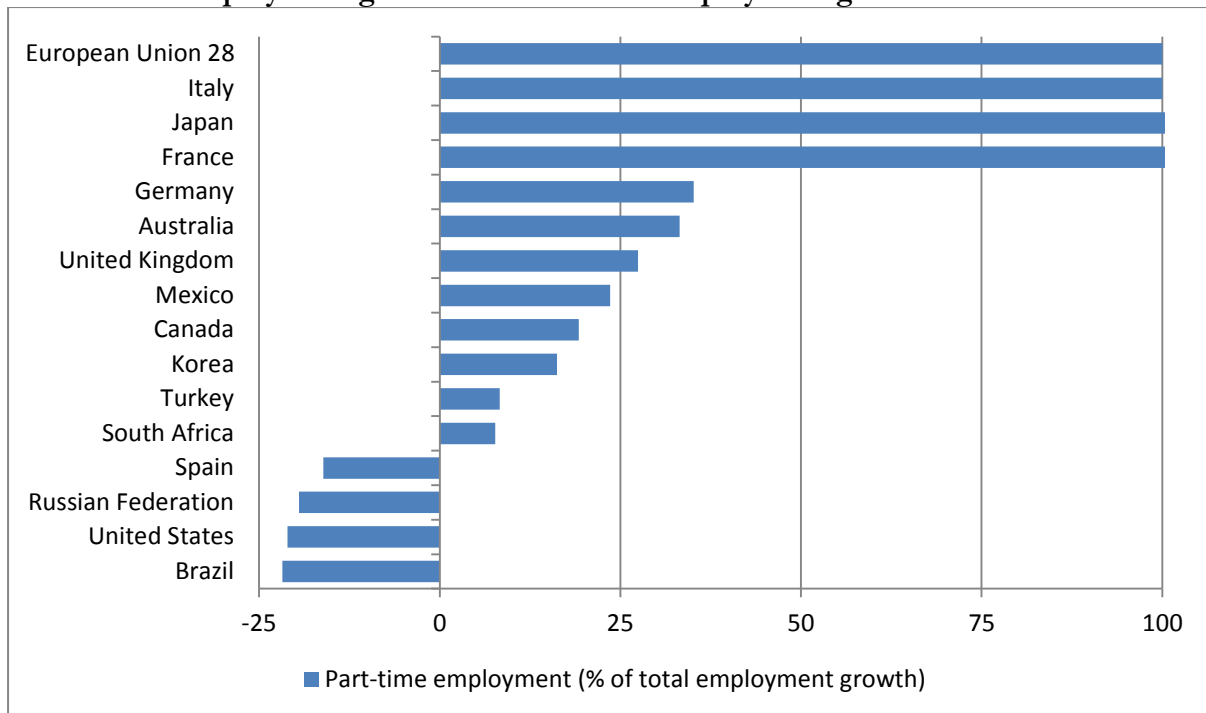
Viewing trends in employment elasticities in conjunction with economic growth trends provides important insights into the extent to which growth is associated with increases in employment or in productivity per worker. However employment elasticity estimates do not provide information on the quality of the employment created and on the extent to which shifts to lower productivity/lower wage jobs mask the full magnitude of the deterioration in labour market performance. For example, if more involuntary part-time jobs are being created than full-time jobs, this would shed further important light on the employment intensity of growth—which would be lower in terms of total hours than in terms of job numbers. If jobs created in emerging economies are characterized by low pay and productivity, the impact on growth will be less robust. It is therefore necessary to analyse employment elasticity trends in conjunction with additional, complementary indicators. The analysis suggests that both cyclical and longer-term forces are at work.

With respect to growth in full-time versus part-time employment, in many G20 countries with available data much of the net new employment created between 2009 and 2014 was comprised of part-time jobs (Figure 4A). Figure 4B illustrates the change in total full-time and part-time employment in each country during the post-crisis period, with wide variations among the G20. In the EU-28, full-time employment declined by more than 2.5 million, while part-time employment increased by nearly 2.1 million. In the United Kingdom, part-time employment comprised 27 per cent of net new employment between 2009 and 2014, considerably higher than the historical share. In Japan, the number of workers in full-time employment declined by 1.26 million between 2009 and 2014, while part-time employment expanded by 1.6 million. In only three G20 countries with available data – Brazil, the Russian Federation and the United States – did the number of workers in part-time employment decline between 2009 and 2014, whereas the number of workers in full-time employment grew along with more buoyant GDP growth. Illustrating the cyclicity of part-time work, in the case of the United States, this followed a sharp contraction of full-time employment during the crisis, while part-time employment grew. However, during the post-crisis period this trend reversed, with strong gains in full-time employment and a reduction in part-time jobs.

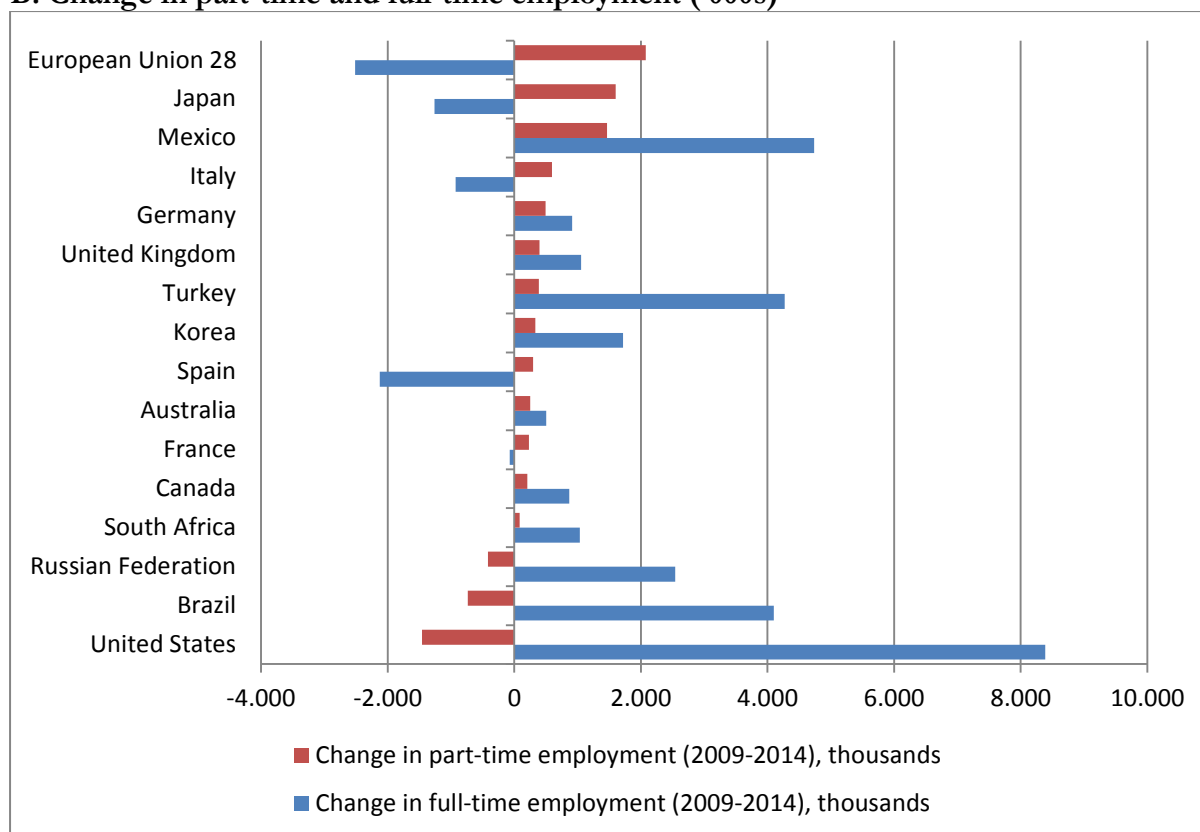
Figure 4. Part-time employment as a % of total employment growth 2009-2014, selected G20 economies

⁸ ILO (2013a). http://www.ilo.org/wcmsp5/groups/public/---dgreports/---dcomm/---publ/documents/publication/wcms_202326.pdf; World Bank (2014).

A. Part-time employment growth as a % of total employment growth



B. Change in part-time and full-time employment ('000s)



Note: Figures for Brazil correspond to the period from 2009 to 2013.

Source: OECD, FTPT employment based on a common definition.

To the extent that part-time work is growing faster than full-time work in many G20 countries during the post-crisis period, employment elasticities would tend to overstate the extent of progress in terms of employment generation. This would also suggest that the jobs created provide less support to aggregate demand, given the lower average earnings, lower levels of job security and weaker social protection coverage of many part-time workers.

Another important measure of the quality of employment, which also affects the employment elasticity of growth, is whether new jobs are temporary or open-ended positions. Table 2 indicates that for about half of the twelve G20 countries with available data, the overall trend has been for a modest increase in temporary employment as a share of total employment since the recovery began in 2009, while in half the incidence of temporary employment declined. In most countries the incidence of temporary employment is higher for certain groups, particularly youth.

Table 2. Incidence of temporary paid employment (as a percentage of all employees)

	2007	2008	2009	2010	2011	2012	2013	2014
Argentina	-	-	-	-	-	-	-	-
Australia	6.3	5.9	5.6	5.7	6.0	5.9	5.6	-
Brazil	-	-	-	-	-	-	-	-
Canada	13.0	12.3	12.5	13.4	13.7	13.6	13.4	13.4
China	-	-	-	-	-	-	-	-
European Union	14.8	14.4	13.8	14.2	14.3	13.9	13.9	14.2
France	15.1	14.9	14.3	14.9	15.2	15.1	16.0	15.8
Germany	14.6	14.7	14.5	14.7	14.5	13.7	13.3	13.0
India	-	-	-	-	-	-	-	-
Indonesia	-	-	-	-	-	-	-	-
Italy	13.2	13.3	12.5	12.7	13.3	13.8	13.2	13.6
Japan	13.9	13.6	13.7	13.8	13.7	13.7	8.4	7.6
Korea, Rep. of	24.7	23.7	26.1	23.0	23.8	23.1	22.4	21.7
Mexico	-	-	-	-	-	-	-	-
Russian Federation	12.3	13.9	10.5	9.1	8.3	8.5	8.5	8.9
Saudi Arabia	-	-	-	-	-	-	-	-
South Africa	-	-	-	-	-	-	-	-
Spain	31.6	29.1	25.2	24.7	25.1	23.4	23.1	24.0
Turkey	11.9	11.2	10.7	11.4	12.3	12.1	12.0	13.0
United Kingdom	5.9	5.4	5.6	6.1	6.2	6.3	6.2	6.4
United States	-	-	-	-	-	-	-	-

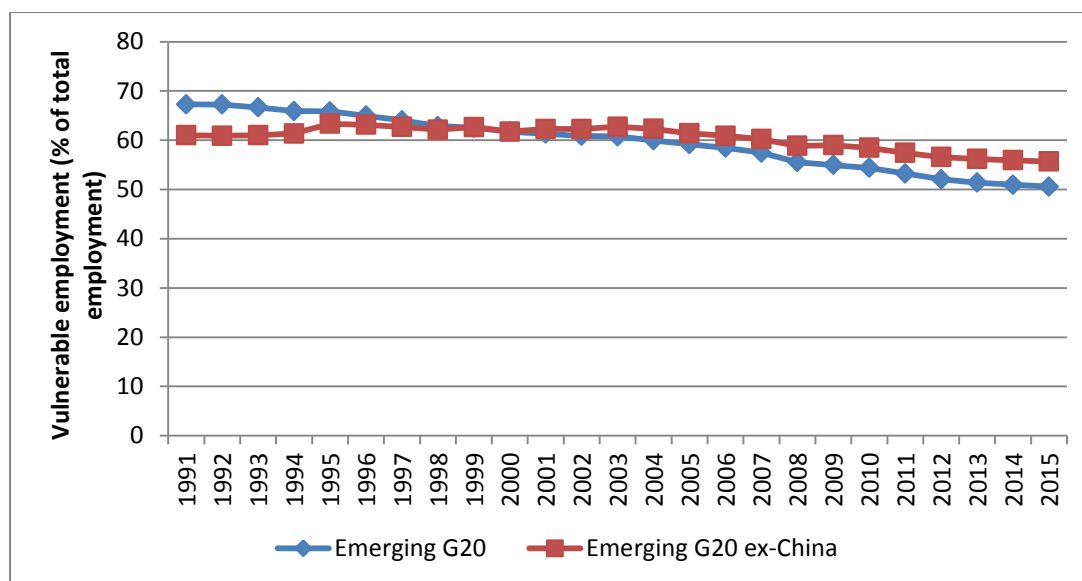
Source: OECD Labour Force Statistics Database.

Another consideration with respect to forms of work, particularly in emerging G20 economies, is the extent of informal versus formal employment generation. One proxy for informality is the vulnerable employment indicator, which measures the share of own-account workers and contributing family workers in total employment (Figure 5).⁹

Workers in these employment statuses are far less likely than wage and salaried workers to benefit from regular incomes or to have access to social protection. In emerging G20 countries, 51 per cent of workers were in vulnerable employment in 2014, a 3.9 percentage point reduction since 2009. Excluding China, nearly 56 per cent of workers in emerging G20 countries were engaged in vulnerable employment in 2014, a decline of 3.1 percentage points since 2009. The decline of vulnerable employment (in both absolute and percentage terms) during the post-crisis period is a sign of favourable labour market dynamics. Yet, the large shares of workers that remain in these vulnerable employment statuses are indicative of a stubbornly large informal sector and a significant on-going challenge.

⁹ OECD (2015c) provides comprehensive evidence that job quality is much lower for workers in informal employment than those in formal employment in emerging economies.

Figure 5. Vulnerable employment (% of total employment), 1991-2014, emerging G20 economies

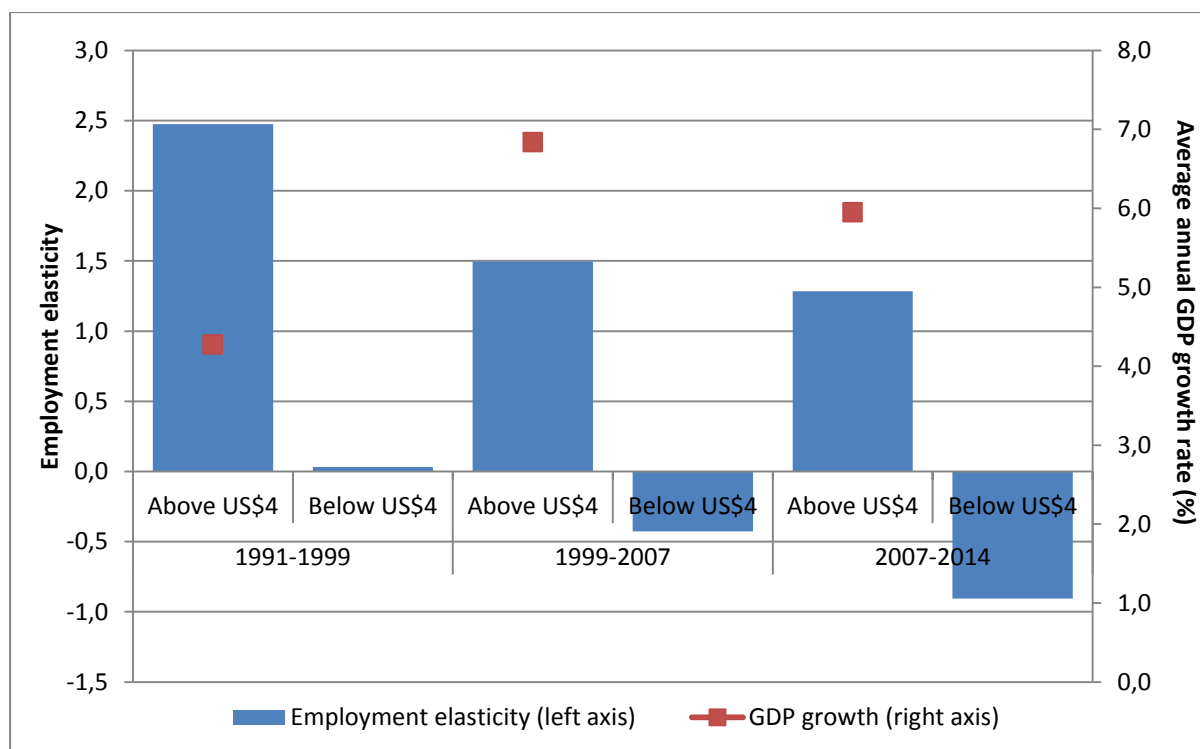


Source: ILO Research Department calculations based on ILO, *Trends Econometric Models*, July 2015.

Additional insight on employment growth, employment elasticities and the quality of jobs created in emerging G20 economies can be found in Figure 6, which provides estimates of the employment intensity of growth corresponding to employment across two different levels of household consumption: workers in households living on more than US\$4 in daily per-capita consumption and workers in households living on less than US\$4 per day (including the working poor below US\$2 per day and near poor workers between US\$2 and US\$4 per day). This can be considered an approximate representation of the quality of employment creation as well as the link between employment and poverty.

The figure shows that recent economic growth has been associated with a decline in jobs paying below US\$4. The significant reduction in the poor and near-poor employment elasticity between 2007 and 2014 suggests that productivity growth over this period was associated with reductions in the number of workers in poverty or near the poverty line. This may reflect creation of more higher-paying jobs. However since the measure is of household consumption, not wages per se, it may also reflect the stronger social protection systems put in place by many emerging G20 countries during the crisis, which helped lift workers out of poverty despite the economic downturn. Unfortunately, in addition to the favourable trend in poverty reduction, there has also been a decline in the employment intensity of growth for the above US\$4 group over the three periods. The decline in the 1999-2007 period coincided with a large acceleration in GDP growth, which actually led to a slight increase in overall employment growth in the above US\$4 group. In the 2007-2014 period, average annual GDP growth rates declined and each percentage point of GDP growth was associated with a smaller percentage increase in workers living above US\$4.

Figure 6. Elasticity of employment above and below US\$4 per day to GDP growth in emerging G20 economies, selected periods



Source: ILO Research Department calculations based on ILO, *Trends Econometric Models*, July 2015.

4. Opportunities to strengthen the link between growth and employment and create positive feedback loops

The employment challenges across most G20 countries are still very sizeable both in terms of quantity and quality of the available jobs. The substantial jobs gap and persistent weakness in job quality, wages and incomes are among the factors contributing to the shortfall of aggregate demand via their negative impact on consumption, investment and government revenue and expenditure. The current growth trajectory, if unchanged, will not by itself create enough quality jobs and sluggish growth in wages and incomes will continue to place downward pressure on consumption, living standards and global aggregate demand. Since for the G20 as a whole, the elasticity of employment to growth has been broadly stable, the implication is the need to deliver stronger growth to close the large and persistent jobs gap. However, where employment rates were too low to start, especially for some groups in the labor market (such as youth, females, older workers) and where concerns about job quality existed prior to the crisis, additional policy action should be considered.

A comprehensive and multisectoral approach is required to reverse the current self-reinforcing cycle of slow growth, low job creation and low investment. Policy interventions that address both the demand and supply sides of the labour market are needed, as are complementary policies to raise investment and achieve more rapid and sustainable growth.¹⁰ On the demand-

¹⁰ OECD 2015b analyses policies to overcome the recent weakness in public and private investment.

side, supportive macroeconomic policies feature prominently and should be pursued—a full discussion of these goes beyond the scope of this paper. This section addresses other major policy channels through which economic growth and labour markets interact, highlighting primarily their role in aggregate demand while also acknowledging, where relevant, supply side issues. By focusing on these channels, it is possible to identify policy options that could strengthen both growth and the relationship between growth and employment in terms of quantity and quality of job creation and thereby help close the persistent jobs gap. The key to success is the design and effective implementation of a comprehensive and coherent policy package that addresses the range of factors simultaneously and in an inter-related way.¹¹ Some of the elements of this package are within the areas of responsibility of labour and employment ministries, while others would fall under the responsibility of other ministries.

Fiscal policy and employment

Fiscal policy can support job creation in a number of ways, with the best course of action depending on country circumstances and the available fiscal space. An expansionary fiscal stance that supports growth has been shown to lead to an increase in labor demand, at least on a temporary basis.¹² If fiscal sustainability is in question and consolidation is necessary, deficit reduction can be designed and timed to minimize negative effects on employment. Fiscal stimulus in the form of investment in infrastructure is discussed in detail below.

On the revenue side, taxation policies can be designed or targeted to focus on their potential to provide incentives for job creation or labour force participation. At a general level, more progressive taxation policies can be used to address inequality. The latter has been shown to reduce overall economic growth¹³ and thus progressive redistribution through effective and efficient tax measures to reduce inequality could contribute to growth. The decline in the effective progressivity of taxes in many advanced economies over recent decades deserves attention in the context of slow growth and rising inequality. Some countries have achieved progress in addressing inequality or poverty through the use transfers in the form of tax credits, such as earned income tax credits. These measures can increase the progressivity of the tax system toward low-paid workers and also can provide incentives for labour market participation.¹⁴

In emerging market economies tax systems and tax collection are often underdeveloped and tend to rely on indirect taxes. These often have regressive income distribution effects, depending on the design, and thus may contribute to inequality and its negative effects on growth. More effective, equitable and efficient taxation can generate fiscal revenues which would be used for

¹¹ Paci, Revenga and Rijkers (2012).

¹² The IMF's 2014 *Fiscal Monitor* report shows that, in advanced economies, tax-based fiscal expansions of one percent of GDP are associated with a significant positive effect on jobs of 1.5 percent of working-age population in a two-year period in normal times. In protracted recessions, the expenditure-based fiscal expansion is more effective and an expenditure increase by one percent of GDP is associated with an employment increase by one percent of working-age population in a two-year period. As shown in the 2014 *World Economic Outlook* report, public infrastructure investment is also associated with a positive impact on growth, which would promote job creation.

¹³ ILO 2014a, 2015a and 2015b; OECD 2014a and 2015a; Berg and Ostry 2011a and 2011b; Dabla-Norris, Kochhar et al. 2015.

¹⁴ Tax measures can be supplemented by other measures to reduce inequality, including wage caps. For example, some countries have adopted wage caps to address the large increases in the ratio of top to bottom or average pay.

investments in physical and social infrastructure that could increase short, medium and long-term growth and job creation.

The G20 finance track has addressed international coordination on tax matters, including also through the Base Erosion and Profit Shifting (BEPS) initiative, and could also take up the question of the relationship between tax systems and inequality in response to Leaders' concerns.

A shift away from reliance on labour taxes can provide incentives to raise labour supply, but financing of the programs they support must be taken into account. Increasing the real wage of workers could induce labour supply and encourage greater participation. The extent to which a tax cut will boost employment depends on the elasticity of labour supply, which is affected by the degree of competition in the labour market and by labour market institutions.¹⁵ Employers' social security contributions typically represent the largest component of the labour tax wedge. Some G20 countries have reduced employers' social security contributions in an attempt to raise labour demand by reducing labour costs, although evidence on the impact of such reductions is mixed.¹⁶ Again, financing for the social programs they support will need to be addressed if employers' contributions are reduced.

In economies with a large proportion of informality, reducing or consolidating labour taxes and/or simplifying tax declarations and payments could reduce the cost of formal employment relative to untaxed informal employment. This could be particularly relevant for small and medium sized enterprises (SMEs). However it is important to note that labour taxes are generally low in emerging economies where informal employment is extensive. A variety of measures and integrated strategies to encourage formalization are set out in a recent ILO recommendation which benefited from extensive input and support from both governments and employers' and workers' organizations.¹⁷

Targeted fiscal policies could be used to address particular labour market problems, for example to encourage female labour force participation or to address employment of low-skilled workers.¹⁸ Replacing family income taxation with individual income taxation and removing tax penalties to secondary earners could boost female labour force participation. On the expenditure side, well-designed family benefits, appropriate paid leave policies, expenditure on the education of women and improving the affordability of child care could promote gender parity in labour force participation.¹⁹ Reducing disincentives for older workers to continue to work could help raise their labour force participation. It is important to assess revenue and expenditure measures jointly in determining the optimal fiscal policy response with regard to its effect on growth, employment, equity and fiscal balance.

¹⁵ An IMF study suggests that a tax reduction resulting in a 10 percentage point higher after-tax wage would raise total labor supply by 2 to 5 percent (IMF, 2012).

¹⁶ González-Páramo and Melguizo (2012); Lehmann, Lucifora et al. (2014).

¹⁷ ILO (2015c). <http://www.ilo.ch/ilc/ILCSessions/104/committees/informal-economy/lang-en/index.htm>. See also: ILO 2013b and 2014c.

¹⁸ Estimates by group of workers indicate higher labour supply elasticities for female workers, implying higher expected impacts of targeted measures on these workers (IMF, 2012). Single mothers exhibit the highest elasticity, often exceeding one. Female labor supply is also elastic to the price of childcare; a summary of 31 studies indicates that subsidies leading to a 10 percent decline in the childcare price would raise labor supply of young mothers by 1-2 percent (Gong et al. 2010; Kalb 2009). Labour demand for low-skilled workers is relatively more elastic, implying that a reduction of employers' cost could be effective (Hamermesh 1993).

¹⁹ OECD, ILO, IMF and World Bank Group (2014).

Investment in infrastructure

The G20 has long recognized the importance of investing in infrastructure as a key requirement for increasing medium and long-term growth. Under the Turkish Presidency, investment is one of the top three priorities for work in 2015, along with inclusiveness and implementation of past commitments. Infrastructure investment also emerges as a high priority in most of the G20 country Growth Strategies,²⁰ and international organizations estimate that the infrastructure-related commitments make the largest contribution to the G20 Leaders' collective goal of adding an additional two percent to economic growth by 2018.

Infrastructure investment also has the potential to strengthen the link between growth and quality job creation, in the short, medium and long term. In the short term, it creates additional job opportunities on infrastructure construction, with stronger employment creation if focused on labour-intensive projects and approaches. It also has relatively high multiplier effects.²¹ In emerging economies public works programs that focus on infrastructure development provide an effective—and reasonably easy to administer—way of delivering well-targeted social assistance.²² An ILO study that assessed the labour market outcomes of different investment scenarios in the US found that closing the infrastructure deficit identified by the American Society of Civil Engineers (at a cost of US\$250 billion annually for the next seven years) would create three million net new jobs if financed with government debt.²³ Similarly large employment impacts were also found for Europe in another ILO study that examines EU's new infrastructure investment plan (known as the Juncker Plan).²⁴ Careful consideration to the design and allocation of the program could lead to creation of around two million net new jobs by mid-2018. Employment impacts would be even higher if allocation favours high-unemployment countries (see Figure 7).

The current extraordinarily low interest rates, particularly in many advanced countries, make financing attractive. Recognized infrastructure deficits make such investments necessary to sustained growth. ILO research shows that the short-term impact on growth and employment of increased investment in infrastructure would be nullified if financed by cuts in social expenditures, which reduce aggregate demand.²⁵

In the medium and long term, better infrastructure is a key factor to promote productivity and more effective allocation of resources, thereby providing a sustainable foundation for increases in wages and living standards.²⁶ The slowdown in infrastructure investment in advanced economies has been convincingly linked to the slowdown in overall productivity growth over several decades. Ensuring that infrastructure projects include areas with high proportions of vulnerable populations is a key to make growth more inclusive.

²⁰ OECD and ILO (2015a).

²¹ IMF (2014c).

²² Paci, Revenga and Rijkers (2012).

²³ Bivens, J (2014).

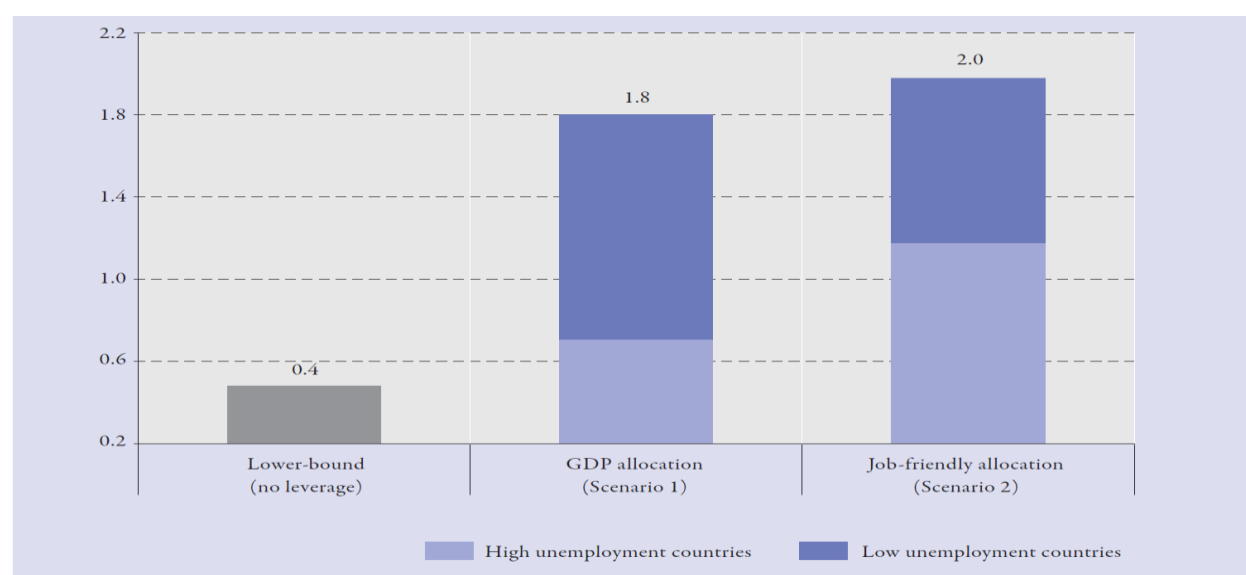
²⁴ ILO (2015d).

²⁵ ILO research shows that the short term impact on growth and employment of increased investment in infrastructure would be nullified if it is financed by cuts in social expenditures, which reduce aggregate demand. (ILO 2015b).

²⁶ Dabla-Norris, Guo, et al. (2015).

While infrastructure investments can create large numbers of jobs, they do not always prioritize or optimize job creation. In most cases the direct, indirect and induced employment effects of such investment are not considered in design and implementation or made a factor in decisions on technology used. A recent study by the ILO and the European Investment Bank²⁷ analyzed different employment outcomes of projects co-financed by the European Investment Bank (EIB) in four countries (Egypt, Jordan, Morocco and Tunisia). The employment creation was typically lower than originally estimated. Employment impacts were not monitored during implementation and reliable data were not available for proper impact analysis.

Figure 7. Potential employment impacts of European infrastructure investment according to different allocation scenarios (millions of jobs)



Note: The total potential investment of 315 billion Euros is assumed. Scenario I refers to simple allocation according to GDP, while Scenario II assumes more allocation for countries with higher unemployment. “Lower bound” refers to a scenario in which the investment plan is unable to leverage any private sector investment (and therefore has no positive multiplier effects).

Source: ILO, *An Employment-Oriented Investment Strategy for Europe*, 2015, Figure 6.

In G20 emerging economies investments in local infrastructure development through public works and employment programs can also play a role in combating poverty, as has been demonstrated by the Mahatma Gandhi National Rural Employment Guarantee Act in India, which offers 100 days of paid employment for each rural household that requests it, benefitting between 50 and 60 million households in recent years). Other important examples include the Expanded Public Works Program in South Africa, which targets creation of six million job opportunities in Phase 3 (2014-2018) and Indonesia’s Kecamatan Development Program and Padat Karya district/community and employment programs. These programs combine aspects of infrastructure investment with social protection and employment generation purposes.

To reap the full employment benefits from infrastructure investment both in the short-term and for the longer term, it is important to adopt policies to achieve both high growth returns and optimal job creation. These may include:

²⁷ EIB and ILO (2014).

- Optimizing selection of infrastructure projects and beneficiaries: In addition to their growth impact, serious consideration should be given to the employment, poverty and inequality impacts of infrastructure investment. For example, large-scale infrastructure projects which facilitate high growth potential sectors may be less labour-intensive during construction but lead to job creation when the sectors achieve their potential. Lower-cost infrastructure that serves a larger part of the population, including vulnerable groups and remote communities, can boost those local economies, connect their labour force and consumers to larger markets and reduce poverty, exclusion and inequality.
- Addressing skill gaps in infrastructure: In addition to formal training, on-the-job learning opportunities and apprenticeships should be utilized. Skills needs projection based on labour market information, feedback from employers and employment services can help coordinate skills development systems with infrastructure sectors.²⁸
- Assessing labour market outcomes of infrastructure investments: Targets for direct job creation of public investments have become more common in many countries. Ex post assessment is also important, capturing the short-term effects through indirect and induced employment effects of technology and investment choices, and also the longer-term impact on growth and its distributional effects.
- Assessing efficiency of infrastructure investments: Recent literature supports the view that investment efficiency matters for growth.²⁹ (IMF 2009, 2014, 2015). Cross-country regressions suggest that the growth dividend of investment is larger for high-efficiency than for low-efficiency countries, with the most efficient public investors facing twice the growth impact compared with the least efficient. Therefore, job creation can be supported not only by the level of infrastructure investment but also by more efficient investment.

Increasing aggregate demand by addressing inequality, labour income share, poverty

As discussed in a separate paper prepared for this meeting, many G20 countries have exhibited a sustained downward trend in the labour share of their national income, driven by significant losses in labour shares for middle- and lower-earning workers, with the effect of increasing inequality.³⁰ This can affect employment through a number of transmission channels.³¹ First, because these groups depend primarily on employment and wages for incomes and have a higher propensity to consume, a long-term decline in the labour share limits consumption. The long decline of labour share in some countries was masked for some years by household borrowing; however this proved unsustainable and was a factor in the financial crisis in those countries. Second, these negative consumption effects can in turn weaken investment, if firms do not see new sources of domestic consumption demand. Third, because the decline in labour shares has been widespread, it also affects demand at the global level, which can limit exports. Fourth, because taxes on labour income are typically the largest source of revenue for most governments, a declining labour share will reduce fiscal revenue and constrain the ability of governments to invest in infrastructure, social benefits, education, etc., further reducing aggregate demand. If the

²⁸ OECD and ILO (2015b).

²⁹ IMF (2014c); IMF (2015).

³⁰ ILO, IMF, OECD, World Bank Group (2015). For additional technical detail see ILO and OECD (2015).

³¹ ILO, OECD, and World Bank Group (2014); ILO (2014a).

redistribution of income from labour to capital does not sufficiently increase investment or if lower wages do not increase net exports sufficiently to offset lower domestic demand the decline in labour share will also further reduce demand for labour and job creation.

Declining labour share is associated with rising inequality in most countries, but other factors can also contribute to inequality. Among these are the degree of progressivity of fiscal policies (taxes and transfers), discussed above, and disadvantages faced by lower-income groups in terms of access to and quality of education and health. Thus, inequality can be addressed through labour market policies, fiscal policies, including tax and transfer systems that are sufficiently progressive to offset market inequality and education and health policies.

Labour market policies to address inequality and labour income share include the following:³²

- Minimum wages: Properly set minimum wages can be an effective policy tool to provide an adequate wage floor and thus secure a minimum living standard for low-paid workers and their families, avoiding in-work poverty and providing incentives to work. They have also proven effective in reducing inequality at the bottom of the wage distribution. A growing body of evidence suggests that the employment effect of raising minimum wages within ranges that are often observed tend to be small and can be either positive or negative. It is also worth noting that raising minimum wages does not increase fiscal demands and in fact can lower them, as many minimum and low wage workers are eligible for means-tested social benefits.
- Collective bargaining: Wage setting through collective negotiations has been eroded in many advanced economies as a result of the long-term decline in union density and/or collective bargaining coverage. This has weakened workers' bargaining power in those cases and affected their ability to negotiate wages in line with productivity and profitability. Accordingly, legal, regulatory or policy actions to reverse such declines can help close the wage-productivity gap and reverse the stagnation of lower and middle incomes observed in many advanced G20 countries. It is important to recognize that minimum wages, collective bargaining and other wage setting mechanisms should be seen as complementary rather than alternative policies to achieve the goals of better income distribution, poverty alleviation and growth of living standards in line with productivity. Where minimum wages are set too low, a heavy burden is placed on collective bargaining or other mechanisms to lift low-paid work above the poverty line and to keep overall wage growth in line with productivity growth. An adequate wage floor is necessary to deal with working poverty and to avoid overall downward pressure on wages. Similarly, if collective bargaining systems are weak or non-existent, minimum wages bear too heavy a burden in terms of achieving policy goals regarding equity, poverty and aggregate demand.
- Skills training targeted to low-income and low-skilled groups to raise their productivity and earnings capacity. This can also help address the increasing dispersion of salaries within the labour income share toward high-skilled workers.³³

³² A fuller discussion of these issues can be found in ILO, IMF, OECD, World Bank Group (2015).

³³ OECD and ILO 2015b.

Policies that combine fiscal, labour market and social policies to address inequality, poverty income and household consumption include:

- Fiscal transfers and social protection systems to address low incomes, vulnerabilities and inequality through income support such as cash transfers, guaranteed public employment, unemployment benefits and pensions. These can increase incomes for low-income households and smooth consumption in the face of economic shocks, as well as acting as automatic stabilizers to sustain demand at the macroeconomic level. When well-designed they allow recipient households to have adequate minimum security with regard to nutrition, health, housing and other necessities. They also provide the means for households to invest in their health and skills, including the education of children, and enhance the possibility of entrepreneurship.
- Public employment programs and employment guarantees can expand employment and raise incomes among low-income and vulnerable households, particularly in countries with large shares of informal, self-employed and unpaid work. If well designed, such programs can also be a venue for skills development and can be used for building basic necessary infrastructure for poor, rural or other communities that are underserved by public infrastructure, as noted above.

Policies that address inequality by improving access and quality of public education and health services can address inequality of opportunity and inherited or inter-generational disadvantages. Investment in public education and health care require particular attention to their quality and accessibility for low-income households. Enhanced investment in these services also contributes to productivity growth and medium-term economic growth and development, as it raises the level of health and education of the labour force. Public education and health budgets have declined in many countries, including as a result of the financial crisis, which can increase inequality.

Active labour market policies

Active labour market policies can help workers who are unemployed or wish to enter the labour market to find appropriate job openings. By increasing labour supply and matching workers' skills with employers' needs the overall level of economic activity can be increased. Activation policies – the combination of income and re-employment support to job-seekers – if well designed and implemented at the national and local level, promote this matching of job opportunities with job-seekers. There is no one-size-fits-all approach to promoting an effective activation strategy, which depends on the economic context as well as on the institutional setting and the administrative capacity of the country concerned. That said, effective activation strategies typically incorporate the following elements: i) people need to find useful support and motivation to search actively for work; ii) employability should be strengthened where a rapid return to work is unlikely; iii) the set of available employment opportunities needs to be expanded; and iv) the institutions that implement active labour market policies must be fit for the purpose.³⁴

³⁴ For a more detailed discussion of this framework, see OECD (2015b).

- **Motivation:** Unemployment and related benefits as well as cash transfers and public works programs provide essential protection for workers against the loss of income from work, thus allowing them to smooth consumption as they engage in job search. By “buying time” for the unemployed, such benefits also enable job searchers to find work that better matches their skills and experience. However, to promote active job search, clear eligibility criteria as well as requirements to participate in training and search activities can promote a quicker re-integration into employment. In addition, policies should be designed that make work pay, such as adequate minimum wages, tax-benefit rules that avoid excessively high marginal tax rates, as well as in-work benefits that supplement the incomes of those in work.
- **Employability:** Jobseekers who are relatively employable may mainly need access to good labour market information services, for example from Public Employment Services. Some individuals, however, may face additional barriers to employment and may need more intensive counselling or help to raise their employability through the acquisition of relevant skills, work experience or special support for specific health problems or disabilities or other needs. While such interventions have generally been found to raise the employment and earnings of participants,³⁵ evidence from a large number of North American welfare-to-work experiments suggests that they are most effective (in terms of the employment and earnings outcomes of participants) where they have a strong employment focus and prioritise job search and work experience (so-called “mixed-activity” programmes).³⁶ In emerging economies, public works programs can also be designed in such a way as to raise the employability of beneficiaries and enable more sustainable exits from unemployment and poverty in the long-run, by linking participation to training and other active measures.
- **Opportunities:** Bringing more people into employment also requires expanding available employment opportunities. This can involve addressing demand, as discussed elsewhere, and demand-side barriers, for example, through targeted wage subsidies to encourage employers to hire low-skilled youth. For other groups, expanding access to new employment opportunities will require a combination of activation policies with childcare, adaptation of the workplace or health or transport matters.
- **Institutions:** Successful implementation of activation strategies requires effective institutions, including strong links and coordination between the provision of public transfers (e.g., unemployment benefits, cash transfers) and re-employment services. This may require organisational mergers or co-location of services that combine employment assistance with benefit administration; partnership approaches between organisations and agencies to improve the co-ordination of service delivery; and the alignment of institutional incentives through sharing the cost of benefit payments and responsibility for active measures between national and sub-national actors. Careful performance management is also required, particularly where services are outsourced.

³⁵ Kluge (2010).

³⁶ Michalopoulos (2004).

Product market reforms and impact on labour markets

Product market regulatory reforms, if properly designed and implemented, can promote a more efficient allocation of resources, foster innovation and productivity and ultimately contribute to growth. It is not surprising, in this context, that the Growth Strategies adopted by many G20 countries have a focus on such reforms. Lifting barriers to firm entry in regulated industries can result in lower prices and higher output. This is because new firms tend to be more efficient and grow faster, while existing firms strive to increase their efficiency and maintain their market share. In addition, as competition increases and profit margins fall, firms have an increased incentive to make efficiency-enhancing investments in physical and human capital, research and development as well as training, ultimately leading to higher productivity. Product market reforms in non-tradable sectors also tend to have spill-over effects in tradable sectors, as lower prices translate into greater competitiveness and increased global market shares for the latter.

However, especially in the short-term, product market reforms could involve some adjustment costs associated with greater reallocation. Although product market reforms can increase employment in the long-run, they can entail some contraction of employment in the short-run because existing firms, in an attempt to deter entry or meet new competition, tend to react by reducing prices, re-organising and down-sizing, often beginning well before new competitors enter the market and start hiring. In particular, some jobs will be destroyed in low-productivity firms while new jobs are created in other new and expanding firms.

Appropriate labour market policies, discussed above, can play a role in supporting workers and facilitating their mobility from declining firms to expanding ones and to help job losers quickly back into work. It should also be noted that increased competition may reduce the wages of workers in existing firms, although the general fall in prices which may result from widespread product market reforms will tend to increase consumers' purchasing power, thereby raising aggregate demand in real terms.

5. Conclusion

Economic growth and employment are mutually dependent and they tend to be mutually reinforcing in either positive or negative directions (virtuous or vicious circles). The current pattern of low-growth at the global level as well as in many G20 countries has translated into inadequate employment growth and that in turn may hold back future growth. The goal of increasing growth, including the G20 Leaders' target of increasing overall G20 economic growth by more than 2 per cent by 2018, requires attention to both demand and supply in the economy and in the labour market. This paper has identified a number of policy tools through which this can be done, including policy tools at the macro, meso and microeconomic levels. To achieve optimal results, a comprehensive and multifaceted approach is required, consisting of an integrated policy package that simultaneously addresses deficits in demand, starting at the household consumption and investment levels, and deficits in supply. This in turn requires coherence and integration of policies across ministries and sectors. Clearly, the priority actions must be country specific. At the global level, good policies can have important positive spillover effects to other G20 countries and beyond, by increasing global aggregate demand, offsetting the

impact of negative shocks and reducing the temptation to engage in beggar-thy-neighbor policies with negative spillovers.

The joint discussion of these issues by G20 Finance Ministers and Labour and Employment Ministers presents an excellent opportunity to address these issues.

Annex A – Recent economic and labour market developments in the G20

Table A1. Recent changes in labour force participation, employment, unemployment and youth unemployment

	Labour Force			Employment		Unemployment rate		Youth unemployment rate	
	Latest (000s)	Labour force participation rate		Latest (000s)	% change since 2007	Latest (%)	Change in pt points since 2007	Latest (%)	Change in pt points since 2007
		Latest (%)	Change in pt points since 2007						
Argentina*	11,913	59.6	-0.9	11,047	7.5	7.3	-0.5	18.8	0.0
Australia	12,310	64.7	-0.5	11,563	10.8	6.1	1.7	13.3	3.9
Brazil	102,517	65.5	-3.1	95,880	7.5	6.5	-1.6	15.0	-1.7
Canada	19,125	66.0	-1.5	17,802	6.2	6.9	0.9	13.5	2.3
China	736,663	71.0		715,480		2.9		6.4	
European Union	235,370	58.2	0.5	211,556	-1.1	10.1	3.0	21.9	6.3
France	28,588	56.3	-0.2	25,769	0.9	9.9	1.9	23.2	4.1
Germany	41,944	60.4	1.2	39,857	4.7	5.0	-3.7	7.8	-3.9
India	407,436	53.4		392,726		3.6		10.7	
Indonesia	120,172	66.8	-0.2	112,761	12.8	6.2	-2.9	21.6	-3.6
Italy	25,515	49.6	0.9	22,279	-2.7	12.7	6.6	42.7	22.3
Japan	65,890	59.5	-1.0	63,520	-1.0	3.6	-0.3	6.3	-1.4
Korea	26,536	62.4	0.6	25,599	9.2	3.5	0.3	10.0	1.2
Mexico	51,837	59.9	-0.2	49,302	15.8	4.9	1.5	9.6	2.9
Russian Federation	75,428	68.9	1.8	71,539	1.1	5.2	-0.9	13.7	-0.8
Saudi Arabia	11,739	54.0	3.4	10,984	41.6	5.9	0.2	30.2	0.5
South Africa	20,392	53.3	-3.9	15,317	13.7	24.9	2.6	51.3	4.8
Spain	22,955	59.6	0.3	17,344	-15.7	24.4	16.2	53.2	35.1
Turkey	28,785	50.5	4.3	25,933	25.0	9.9	-0.4	17.9	-2.2
United Kingdom	32,639	63.3	0.1	30,608	4.7	6.2	1.0	16.3	2.2
United States	155,923	62.9	-3.2	146,307	0.2	6.2	1.6	13.4	2.9

Notes: *= Selected urban areas. Changes for Argentina with reference to 2008 instead of 2007. Latest data available refer to 2014, except for Brazil (2013), Indonesia (2013), India (2012) and China (2010).

Source: OECD Labour Force Statistics Database and ILO, ILOSTAT Database.

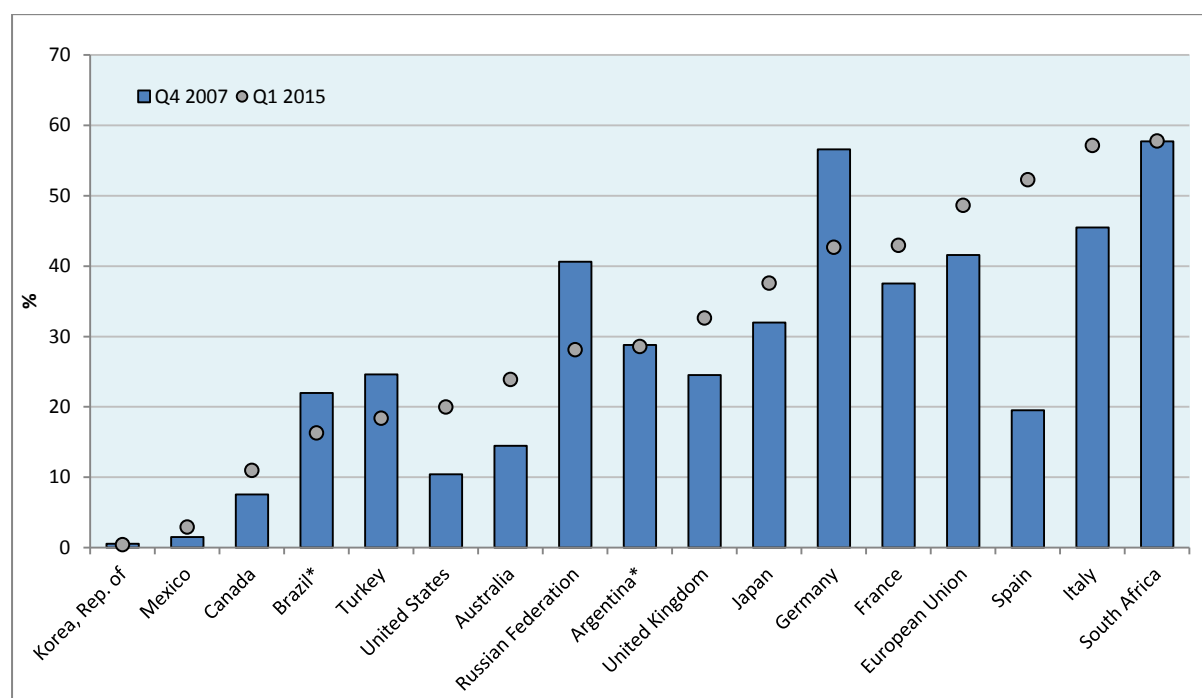
Table A2. Incidence of long term unemployment³⁷ (as a percentage of total unemployment)

	2007	2008	2009	2010	2011	2012	2013	2014
Argentina*	25.4	27.8	24.9	27.6	26.2	27.9	26.6	28.6
Australia	15.4	14.9	14.7	18.6	18.9	19.0	19.1	21.8
Brazil*	20.8	19.1	15.6	17.8	16.0	14.6	14.4	17.3
Canada	7.5	7.3	8.0	12.1	13.6	12.7	12.9	12.9
China	..	..	..	..	..	..	..	..
European Union	41.6	36.2	32.6	39.1	42.0	43.6	46.4	48.6
France	40.2	37.4	35.2	40.2	41.5	40.4	40.4	42.7
Germany	56.6	52.5	45.5	47.4	47.9	45.4	44.7	44.3
India	..	..	..	..	..	..	..	..
Indonesia	..	..	..	..	..	..	..	..
Italy	47.5	45.7	44.6	48.5	52.0	53.2	56.9	61.4
Japan	32.0	33.3	28.5	37.6	39.4	38.5	41.2	37.6
Korea, Rep. Of	0.6	2.7	0.5	0.3	0.4	0.3	0.4	..
Mexico	2.3	1.4	1.7	2.0	1.9	1.8	1.4	1.2
Russian Federation	40.6	35.2	28.7	30.0	32.9	30.9	31.0	28.1
Saudi Arabia	..	..	..	..	..	..	..	..
South Africa	57.7	50.2	50.1	56.7	59.7	58.5	57.8	57.8
Spain	20.4	18.0	23.8	36.6	41.6	44.4	49.7	52.8
Turkey	30.3	26.9	25.3	28.6	26.5	24.9	24.4	20.6
United Kingdom	23.7	24.1	24.5	32.6	33.5	34.7	36.2	35.7
United States	10.0	10.6	16.3	29.0	31.3	29.3	25.9	23.0

Note: *= Selected urban areas.

Source: OECD estimates based on various national surveys and ILO, ILOSTAT Database.

Figure A1. Incidence of long term unemployment³⁸ (as a percentage of total unemployment), Q4 2007-Q1 2015



Notes: *= Selected urban areas. Year 2014 for Argentina, Japan and the European Union, and year 2013 for the Republic of Korea (instead of Q1 2015).

Source: OECD estimates based on various national surveys and ILO Statistics, Short-Term Indicators Database.

³⁷ Defined as all persons unemployed for one year or more.

³⁸ Defined as all persons unemployed for one year or more.

Table A3. Incidence of informality (as a percentage of total employment)

	2007	2008	2009	2010	2011	2012	2013	2014
Argentina*	..	..	..	18.3	17.1	18.2	17.8	17.1
Australia	-	-	-	-	-	-	-	-
Brazil	48.8	47.4	46.0	..	41.0	39.9	38.7	..
Canada	-	-	-	-	-	-	-	-
China**	-	-	-	32.6	-	-	-	-
European Union	-	-	-	-	-	-	-	-
France	-	-	-	-	-	-	-	-
Germany	-	-	-	-	-	-	-	-
India	..	..	..	92.4	..	92.2	..	..
Indonesia**	-	-	72.5	-	-	-	-	-
Italy	-	-	-	-	-	-	-	-
Japan	-	-	-	-	-	-	-	-
Korea, Rep. of	-	-	-	-	-	-	-	-
Mexico	62.6	62.6	63.8	64.5	64.4	64.0	63.5	62.7
Russian Federation	-	-	-	-	-	-	18.0	-
Saudi Arabia	-	-	-	-	-	-	-	-
South Africa	..	40.8	39.0	39.0	38.0	36.8	37.3	36.9
Spain	-	-	-	-	-	-	-	-
Turkey	45.4	43.5	43.8	43.3	42.1	39.0	36.7	..
United Kingdom	-	-	-	-	-	-	-	-
United States	-	-	-	-	-	-	-	-

Notes: *= Selected urban areas. **= Informal employment as a percentage of non-agricultural employment.

Source: OECD estimates based on various national surveys and ILO, ILOSTAT Database.

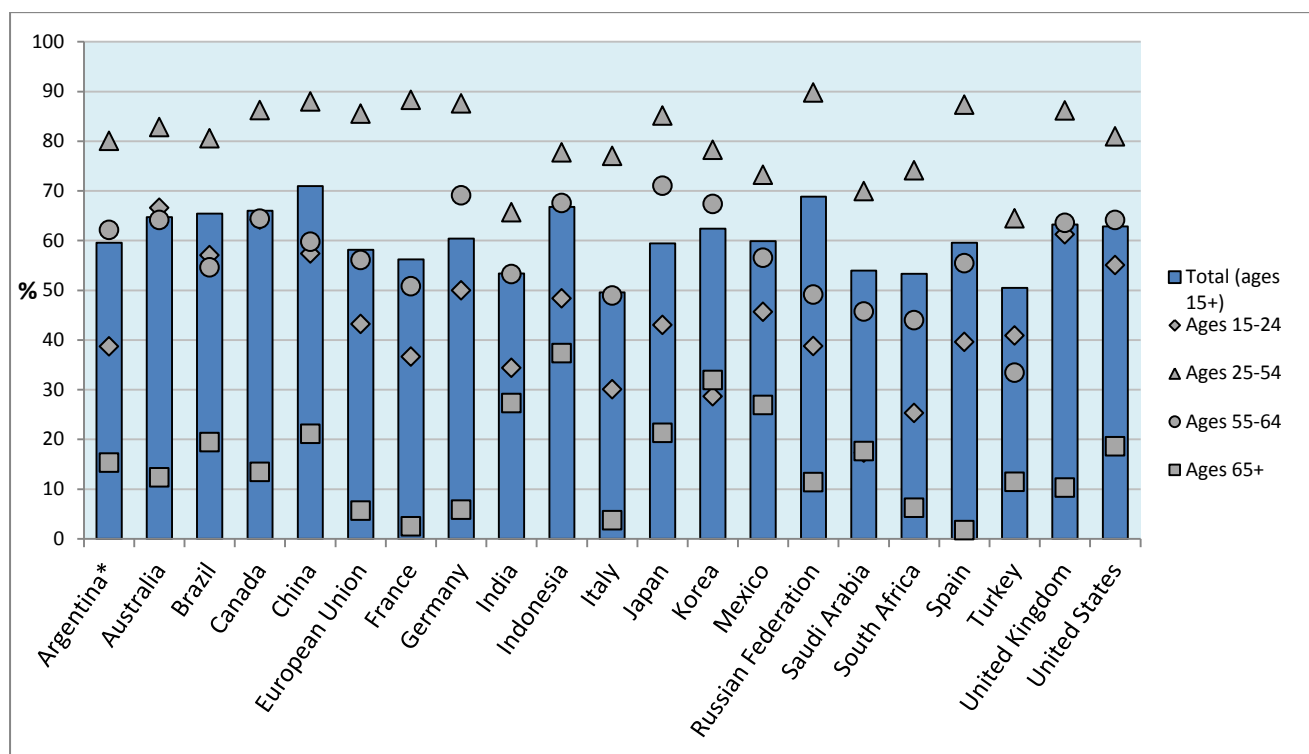
Table A4. Labour force participation rates by age group (in percentage, 2014)

	Total (ages 15+)	Ages 15-24	Ages 25-54	Ages 55-64	Ages 65+
Argentina*	59.6	38.7	80.0	62.1	15.3
Australia	64.7	66.6	82.8	64.1	12.3
Brazil	65.5	57.1	80.6	54.6	19.4
Canada	66.0	64.3	86.2	64.4	13.4
China	71.0	57.4	88.0	59.7	21.1
European Union	58.2	43.2	85.5	56.1	5.6
France	56.3	36.6	88.2	50.8	2.5
Germany	60.4	50.0	87.6	69.1	5.8
India	53.4	34.4	65.6	53.2	27.3
Indonesia	66.8	48.3	77.7	67.5	37.3
Italy	49.6	30.0	77.0	48.9	3.7
Japan	59.5	43.0	85.1	71.0	21.4
Korea	62.4	28.7	78.3	67.3	31.9
Mexico	59.9	45.6	73.2	56.5	26.9
Russian Federation	68.9	38.7	89.7	49.1	11.4
Saudi Arabia	54.0	17.3	69.9	45.7	17.6
South Africa	53.3	25.3	74.1	44.0	6.2
Spain	59.6	39.6	87.3	55.4	1.7
Turkey	50.5	40.8	64.4	33.4	11.5
United Kingdom	63.3	61.2	86.1	63.5	10.3
United States	62.9	55.0	80.9	64.1	18.6

Notes: *= Selected urban areas. Data for Brazil and Indonesia refer to 2013, data for India refer to 2012 and data for China refer to 2010.

Source: OECD Labour Force Statistics Database and ILO, ILOSTAT Database.

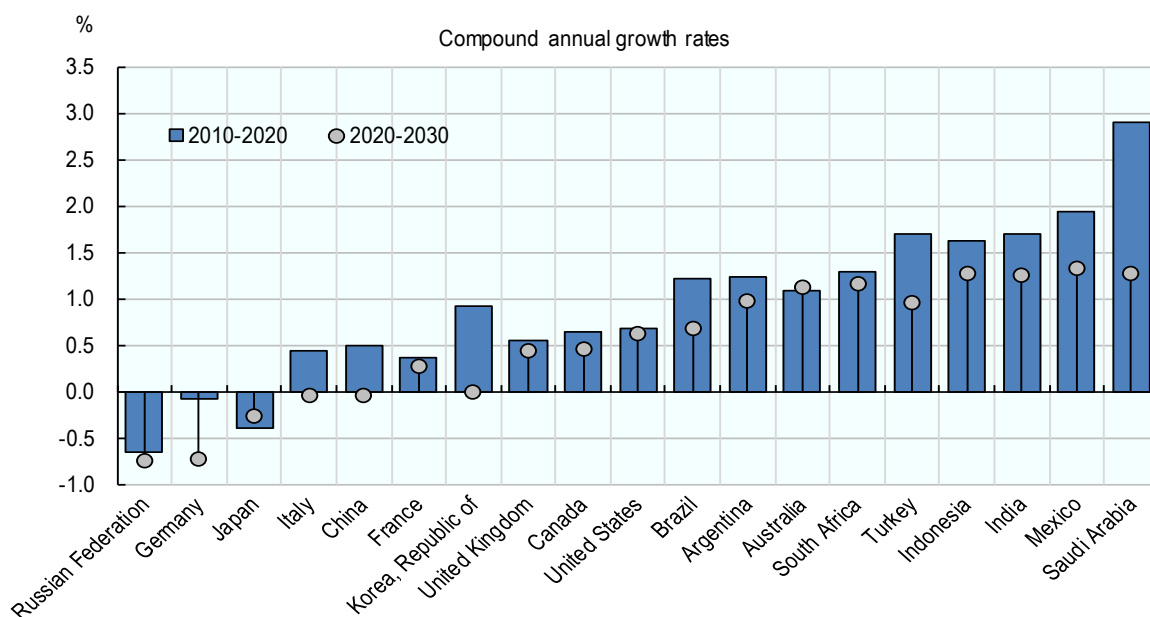
Figure A2. Labour force participation rates by age group (in percentage, 2014)



Notes: *= Selected urban areas. Data for Brazil and Indonesia refer to 2013, data for India refer to 2012 and data for China refer to 2010.

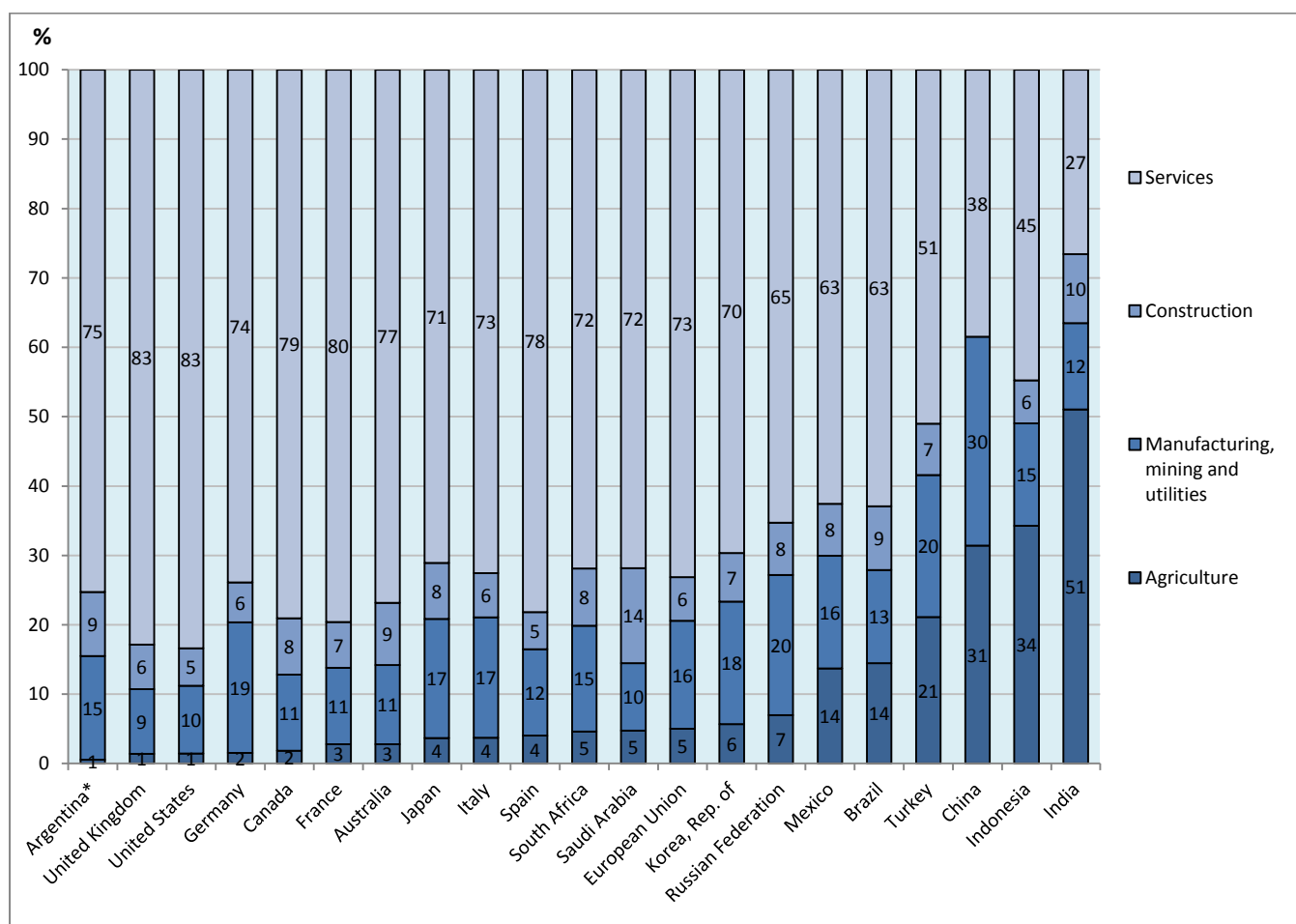
Source: OECD Labour Force Statistics Database and ILO, ILOSTAT Database.

Figure A3: Projected growth in economically active population



Source: ILO Economically Active Population (Estimates and projections), July 2013 Update.

Figure A4. Distribution of employment by main economic activity (in percentage, 2014)



Notes: *= Selected urban areas. Data refer to 2013 for Brazil, Canada, China, the Russian Federation and the United States. Data refer to 2010 for India. Manufacturing, mining and utilities include construction for China.

Source: Annual national accounts for Canada, the European Union, France, Germany, Italy, Spain, the United Kingdom and the United States; national labour force surveys for Australia, Brazil, Indonesia, Japan, Korea, Mexico, the Russian Federation, South Africa and Turkey; and ILOSTAT for Argentina, China, India and Saudi Arabia.

Annex B – Background on employment elasticities: interpretation and methodology

Interpreting employment elasticities

Employment elasticities provide a numeric measure of how employment growth varies with growth in economic output over time. They can also provide insights into trends in labour productivity and employment generation for different population subsets, and assist in detecting and analysing structural changes in employment over time.

More specifically, the employment elasticity is defined as the average percentage point change in employment associated with a 1-percentage point change in output growth over a selected period. Importantly, employment elasticities must be viewed in conjunction with economic growth rates, as interpretation depends on whether GDP growth is expanding or contracting (Table B1 provides details on interpreting employment elasticities).

Table B1. Interpreting employment elasticities³⁹

		GDP growth	
		Positive GDP growth	Negative GDP growth
Employment elasticity	$E < 0$	(-) employment growth (+) productivity growth	(+) employment growth (-) productivity growth
	$0 \leq E \leq 1$	(+) employment growth (+) productivity growth	(-) employment growth (-) productivity growth
	$E > 1$	(+) employment growth (-) productivity growth	(-) employment growth (+) productivity growth

- The upper-left box shows that in countries with positive GDP growth, negative employment elasticities (represented as “E”) correspond with negative employment growth and positive productivity growth. For instance, in an economy growing at 2 per cent per annum with an employment elasticity of -0.2, the average rate of employment growth is approximately -0.4 per cent, while the average rate of productivity growth is 2.4 per cent.
- The middle-left box shows that in countries with positive GDP growth, employment elasticities between 0 and 1 correspond with positive employment and productivity growth. Higher elasticities within this range means that growth is more employment-intensive (and less productivity-intensive). Hence, an economy growing at 2 per cent per annum with an employment elasticity of 0.6 is experiencing average annual employment growth of about 1.2 per cent and average annual productivity growth of 0.8 per cent.

³⁹ This box is based on S. Kapsos: “The employment intensity of growth: Trends and macroeconomic determinants”, Employment Strategy Paper, No. 12 (Geneva, ILO, 2005).
http://www.ilo.org/wcmsp5/groups/public/---ed_emp/---emp_elm/documents/publication/wcms_143163.pdf

This box typically represents the ideal growth-employment-productivity balance, whereby job growth is occurring hand-in-hand with gains in productivity.⁴⁰

- The lower-left box shows that in countries with positive GDP growth, elasticities greater than 1 correspond with positive employment growth and negative productivity growth.
- The three boxes in the right column indicate that the interpretation of employment elasticities vis-à-vis employment growth and productivity growth is exactly the opposite in cases in which the corresponding GDP growth rate is negative.

While the ultimate goal is balanced economic growth (driven both by gains in employment and productivity), as this will support sustainable increases in both employment levels and living standards, there is no one “ideal” employment elasticity figure. Rather, the ideal degree of employment intensity in a particular country at a particular time depends on several variables including the country’s rate of economic growth, the amount of surplus labour and labour force growth rate, the unemployment and labour force participation rates, the level and growth rate of labour productivity, and the poverty rate (especially among workers).

All else being equal, countries with relatively high economic growth rates do not require an employment elasticity that is as high as those in countries experiencing lower rates of economic growth. Countries with high labour force growth – or with large reserves of workers – require higher employment elasticities. To this end, developing economies often require higher employment elasticities for a given rate of economic growth than developed economies, as the former tend to have a surplus of labour. Accordingly, employment elasticities tend to gradually fall as a country becomes more developed and more labour scarce.

Data used and methodology

For employment elasticity estimates corresponding to the total employed population in each country, the employed across industries and across household consumption groups were taken from ILO, Trends Econometric Models, July 2015. Employment estimates in this dataset are based on national sources wherever available, but are harmonized to account for differences in coverage (e.g. age groups, geography, inclusion or exclusion of military conscripts).

GDP growth estimates were taken from IMF, World Economic Outlook, July 2015. Industry value added estimates were taken from United Nations Statistics Division, *National Accounts Main Aggregates Database*, January 2015.

Country-level point elasticities of employment to GDP growth were calculated on the basis of a log-linear regression model, as described in Kapsos (2005). To produce aggregate employment elasticity estimates across the G20 as a whole, the advanced and emerging G20 economies, country-level employment elasticity estimates were weighted by each country’s total labour force in the mid-point year of the period under consideration. To produce aggregate industry-level employment elasticity estimates and employment elasticity estimates by household consumption group, country-level employment elasticity estimates were weighted, respectively, by each country’s total employment in industry and each country’s total employment by consumption group, in the mid-point year of the period under consideration.

⁴⁰ Kahn (2001) found that employment elasticities in developing economies should ideally be around 0.7 until these economies attain upper-middle-income status. Kahn demonstrated that employment elasticities gradually fall as a country becomes more developed and more labour scarce. Labour-abundant economies, he argued, and especially those with relatively high incidences of poverty, need to achieve relatively higher employment intensity than do less labour-abundant economies. See A. Kahn: “Employment policies for poverty reduction”, Recovery and Reconstruction Department (Geneva, ILO, 2001).

http://ilo.org/wcmsp5/groups/public/---ed_emp/documents/publication/wcms_121233.pdf

Annex C – Statistical Annex on employment elasticities and GDP Growth

Table C1. G20 aggregate and country-level employment elasticities and GDP growth rates, selected periods

G20 Aggregates and advanced economies

	Employment elasticity				Average annual GDP growth			
	1991-1999	1999-2007	2007-2009	2009-2014	1991-1999	1999-2007	2007-2009	2009-2014
G20	0.27	0.26	0.24	0.24	3.1	4.1	1.0	3.9
G20 ex-China	0.37	0.36	0.36	0.32	2.5	3.3	-0.4	2.8
G20 Advanced	0.28	0.35	0.64	0.41	2.7	2.6	-1.6	1.7
G20 Emerging	0.27	0.23	0.12	0.19	4.2	6.9	4.9	6.4
G20 Emerging ex-China	0.42	0.36	0.20	0.27	2.2	5.3	2.3	4.9
Australia	0.48	0.71	0.60	0.40	3.7	3.4	2.7	2.6
Austria	0.31	0.47	0.03	0.38	2.4	2.4	-1.2	1.3
Belgium	0.29	0.52	0.12	0.25	2.1	2.2	-0.8	1.1
Bulgaria	0.20	0.30	0.62	-1.77	-0.8	5.7	0.2	1.2
Canada	0.47	0.71	0.61	0.48	3.2	2.8	-0.8	2.6
Cyprus	0.66	0.94	0.50	0.63	4.5	4.1	0.7	-1.7
Czech Republic	-0.02	0.09	0.30	0.53	1.6	4.5	-1.1	0.9
Denmark	0.13	0.26	0.40	-0.82	2.7	1.9	-2.9	0.5
Estonia	-0.60	0.22	0.49	0.40	2.0	8.0	-10.2	3.8
Finland	0.17	0.28	0.27	0.14	2.9	3.5	-3.9	0.5
France	0.20	0.55	0.08	0.17	2.0	2.1	-1.4	1.0
Germany	-0.08	0.30	-0.07	0.43	1.5	1.6	-2.4	1.9
Greece	0.55	0.24	0.14	0.93	2.2	4.1	-2.4	-4.9
Hungary	-0.26	0.08	0.44	0.87	1.4	3.7	-2.9	1.2
Ireland	0.54	0.61	0.92	0.69	7.5	5.5	-4.5	1.4
Italy	-0.38	1.20	0.21	0.40	1.4	1.5	-3.3	-0.5
Japan	0.27	-0.01	0.25	-0.01	0.7	1.5	-3.3	1.5
Korea, Rep.	0.19	0.28	0.13	0.43	5.9	5.4	1.8	3.7
Latvia	0.22	0.15	0.88	0.52	-3.9	8.6	-8.8	2.7
Lithuania	0.13	0.04	0.57	0.46	-3.9	7.6	-6.5	3.5
Luxembourg	0.25	0.42	-1.33	0.61	4.2	4.4	-2.5	2.5
Malta	0.22	0.40	0.37	0.66	5.0	2.2	0.5	2.6
Netherlands	0.60	0.52	0.06	-0.52	3.1	2.3	-0.6	0.3
Poland	-0.06	0.23	0.75	0.09	5.2	4.0	3.2	3.1
Portugal	0.41	0.28	0.92	0.94	2.6	1.5	-1.4	-1.0
Romania	0.44	-0.29	0.11	0.04	-0.7	5.8	0.3	1.4
Slovakia	-0.03	0.25	0.60	0.06	2.5	5.6	-0.1	2.6
Slovenia	0.57	0.31	0.13	0.74	3.3	4.3	-2.4	0.1
Spain	0.72	1.02	1.98	2.01	2.5	3.8	-1.3	-0.5
Sweden	-0.19	0.28	0.26	0.37	2.2	3.2	-2.9	2.4
United Kingdom	0.25	0.29	0.31	0.54	2.7	3.0	-2.3	1.7

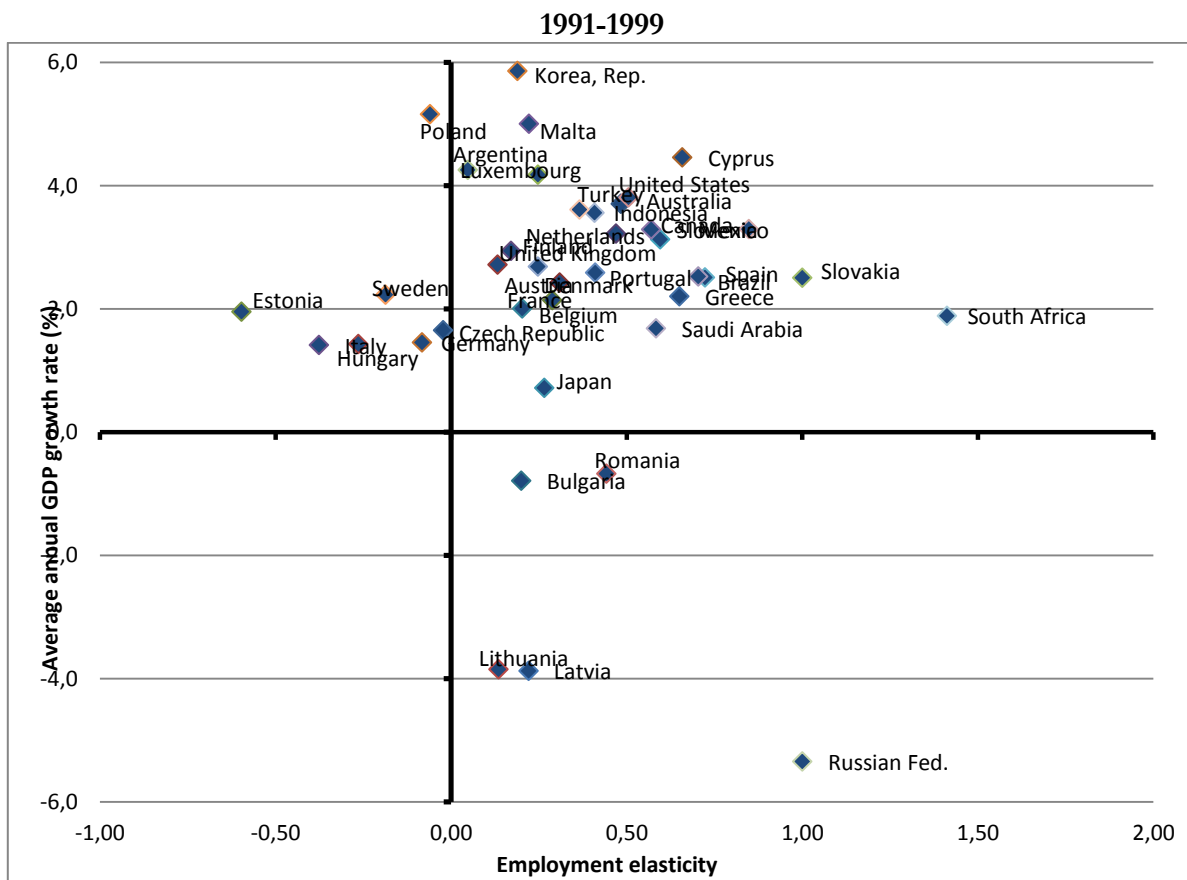
United States	0.51	0.30	1.26	0.51	3.8	2.6	-1.5	2.2
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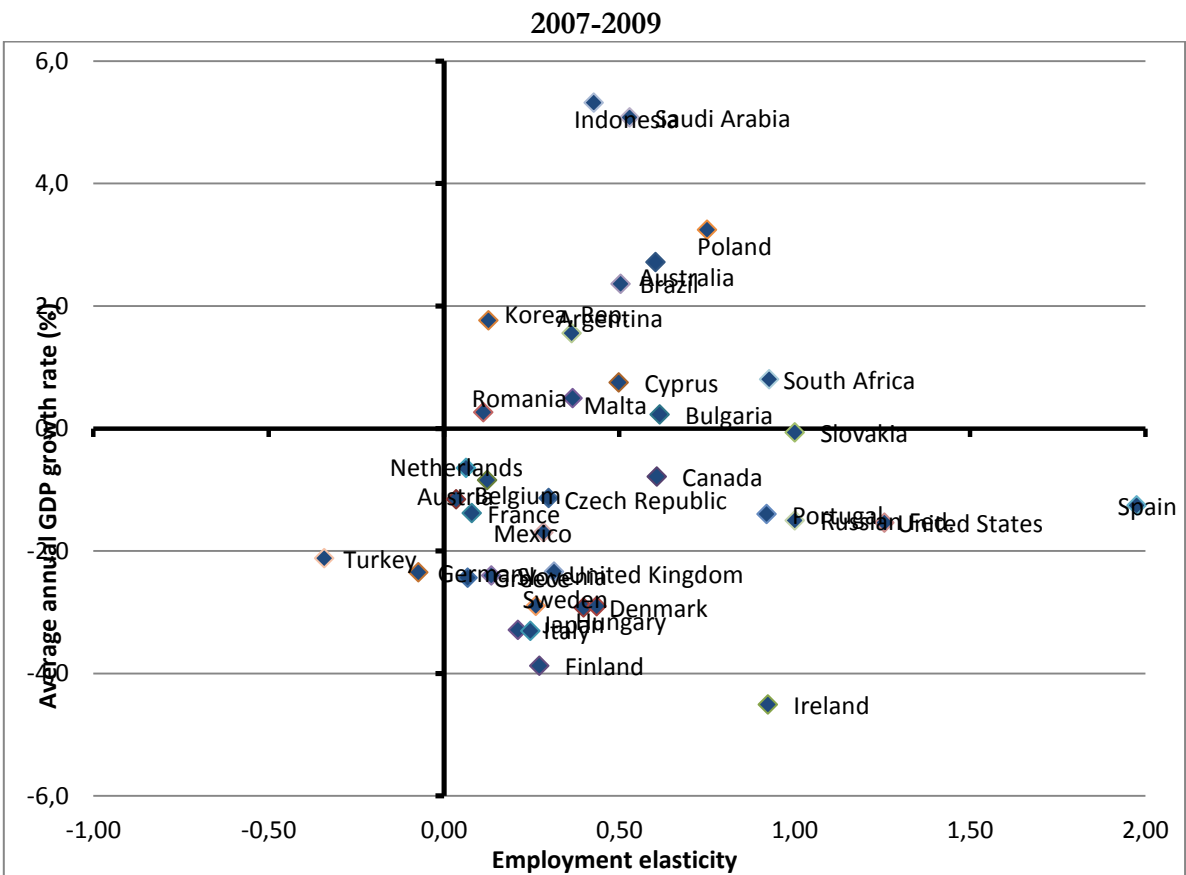
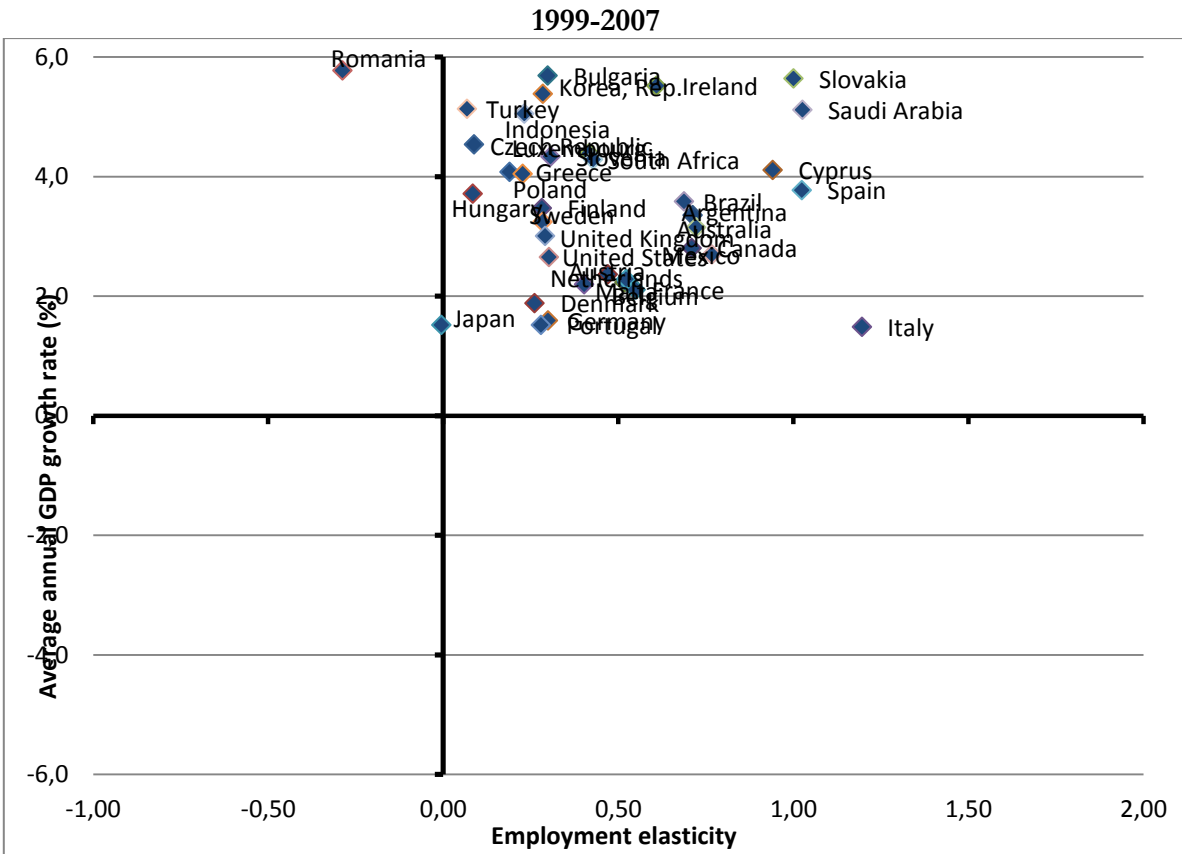
Emerging economies

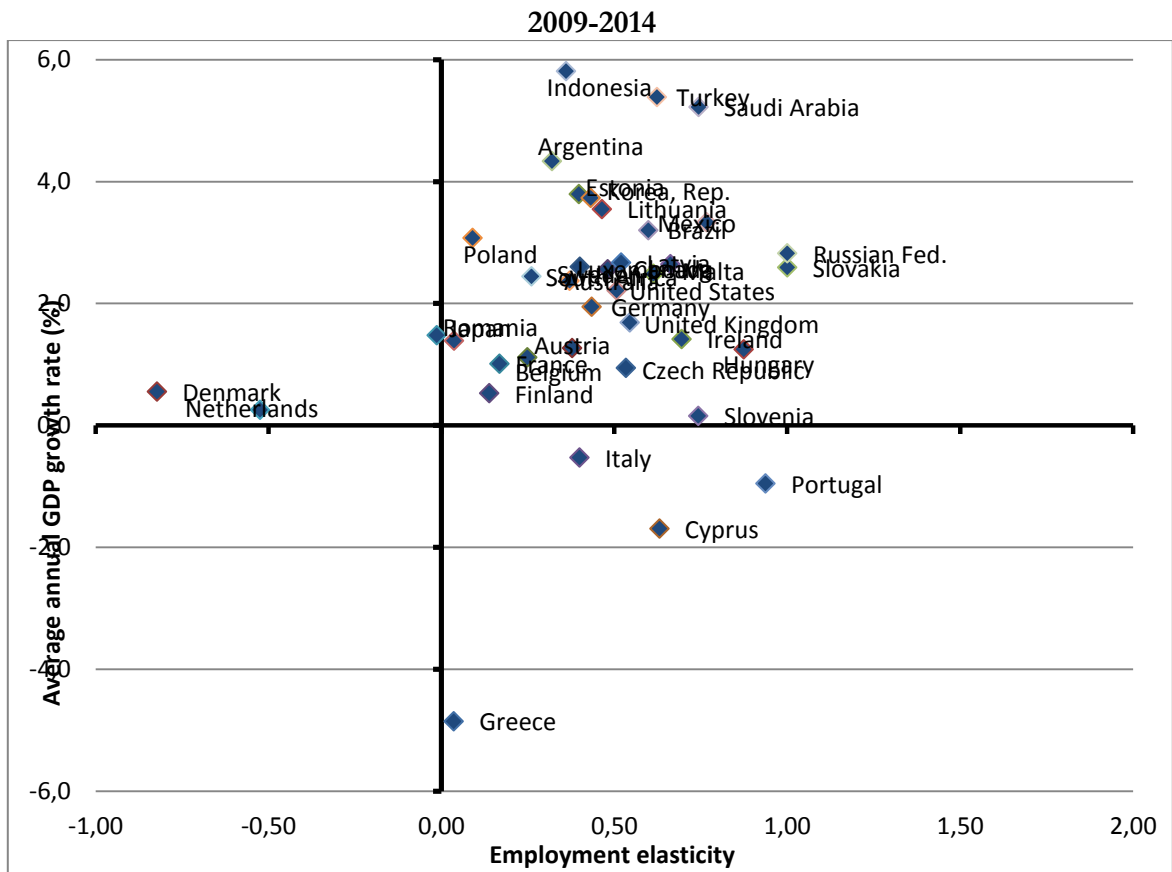
	Employment elasticity				Average annual GDP growth			
	1991-1999	1999-2007	2007-2009	2009-2014	1991-1999	1999-2007	2007-2009	2009-2014
Argentina	0.05	0.72	0.36	0.32	4.3	3.1	1.6	4.3
Brazil	0.70	0.69	0.50	0.60	2.5	3.6	2.4	3.2
China	0.11	0.10	0.03	0.09	10.8	10.5	9.4	8.6
India	0.33	0.31	0.00	0.15	6.4	7.0	6.2	7.2
Indonesia	0.41	0.23	0.43	0.36	3.6	5.0	5.3	5.8
Mexico	0.85	0.77	0.28	0.77	3.3	2.7	-1.7	3.3
Russian Fed.	0.27	0.23	0.28	0.16	-5.3	7.2	-1.5	2.8
Saudi Arabia	0.58	1.03	0.53	0.74	1.7	5.1	5.1	5.2
South Africa	1.41	0.43	0.93	0.26	1.9	4.3	0.8	2.4
Turkey	0.37	0.07	-0.34	0.62	3.6	5.1	-2.1	5.4

Source: ILO Research Department calculations based on ILO, *Trends Econometric Models*, July 2015 and IMF, *World Economic Outlook*, July 2015.

Figure C1. G20 country employment elasticities and GDP growth rates



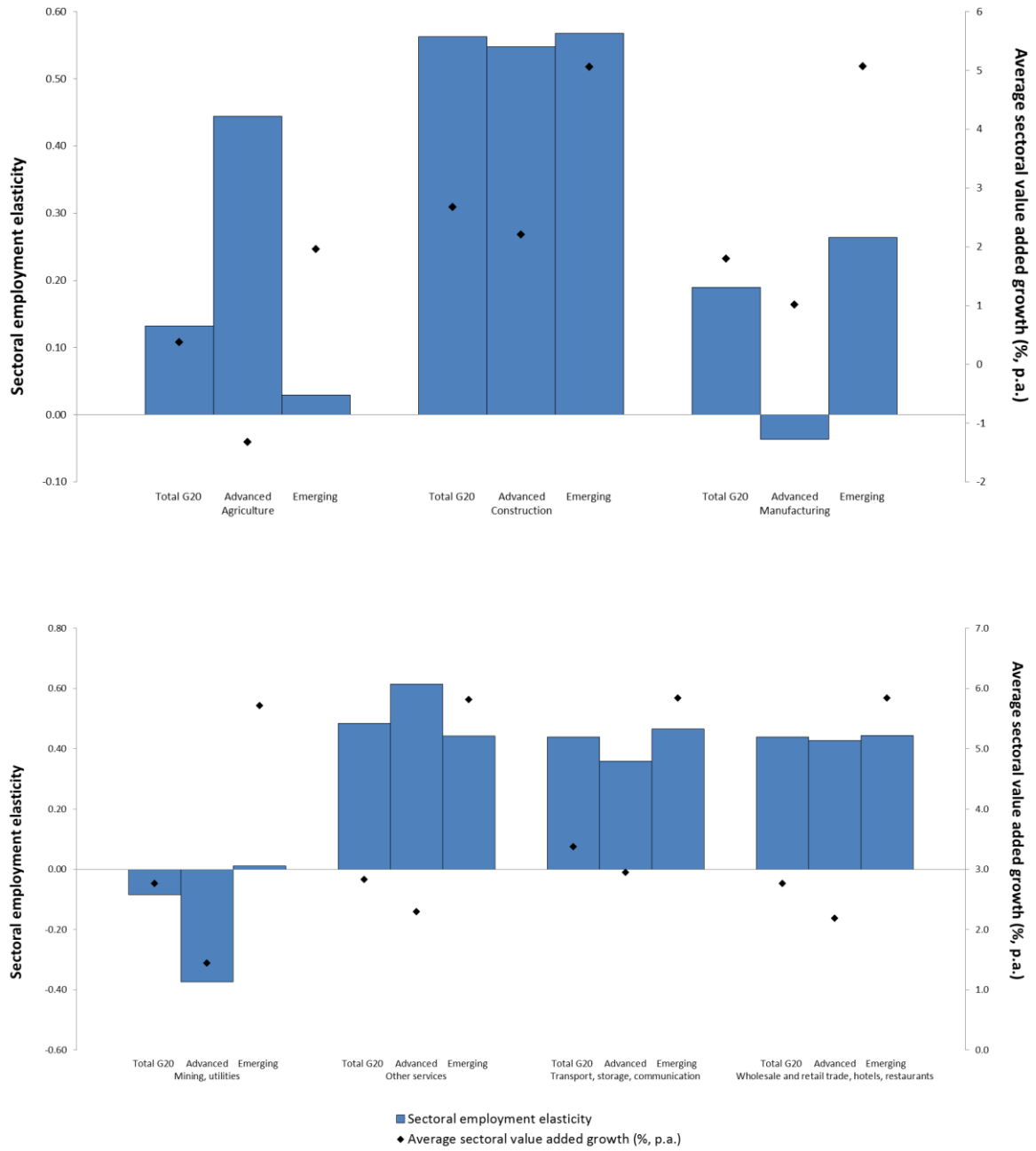




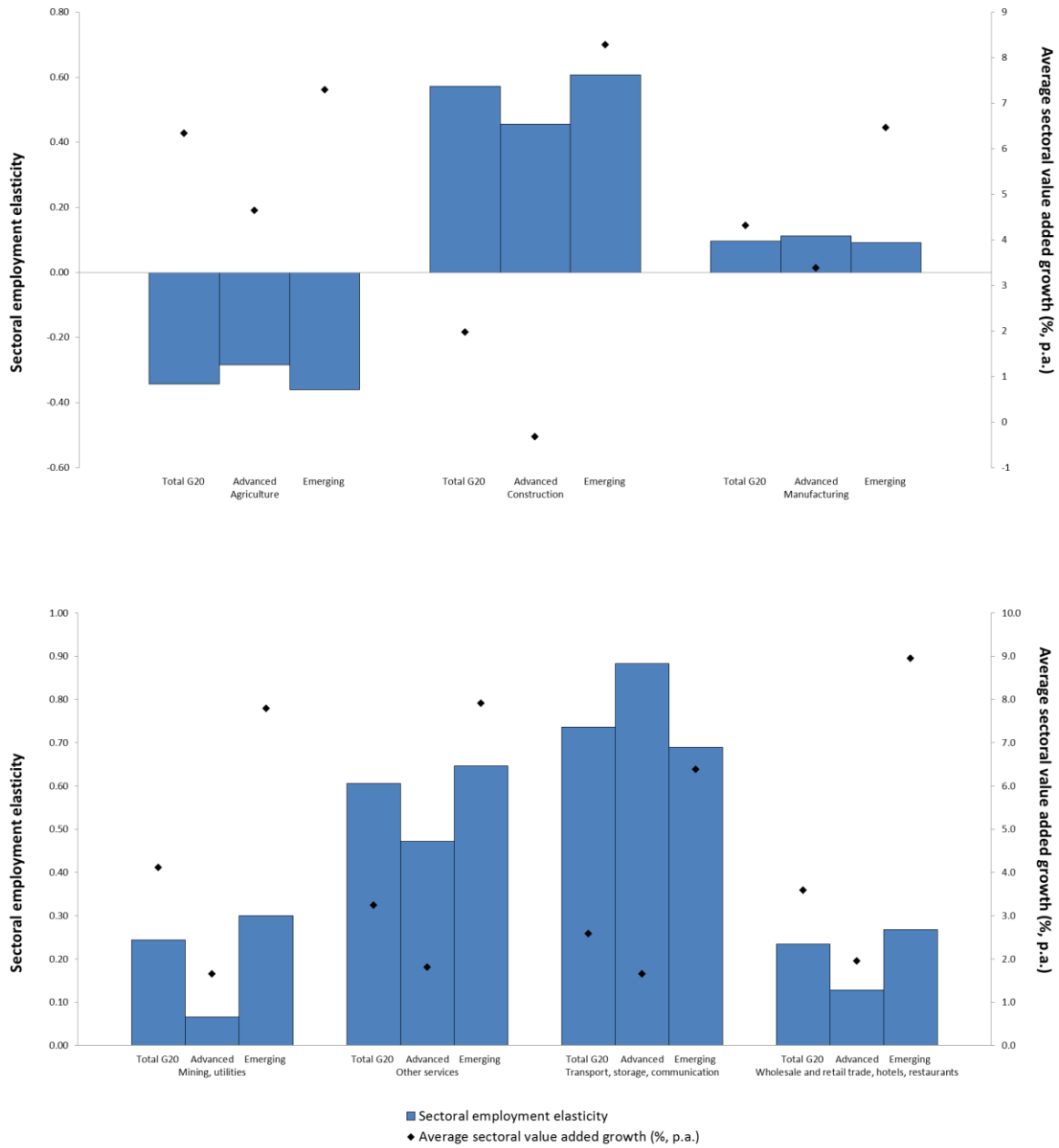
Source: ILO Research Department calculations based on LO, *Trends Econometric Models*, July 2015 and IMF, *World Economic Outlook*, July 2015.

Figure C2. Sectoral employment elasticities and value added growth, G20 advanced and emerging

1991-2007

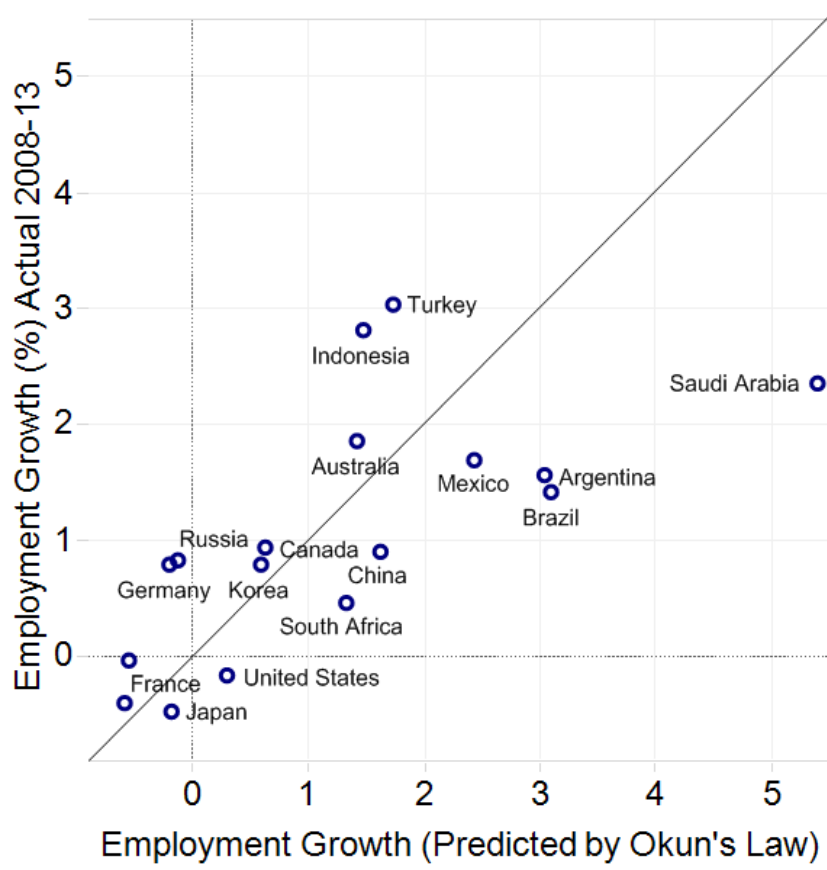


2009-2014



Source: ILO Research Department calculations based on United Nations Statistics Division, *National Accounts Main Aggregates Database*, January 2015 and ILO, *Trends Econometric Models*, July 2015.

Figure C3. Actual versus predicted employment growth in G20 economies, 2008-2013



Source: IMF, "G20 Labor Markets: An Assessment of Employment-Growth Linkages", Prakash Loungani and Saurabh Mishra, forthcoming.

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