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**PUBLIC FINANCE, ECONOMIC GROWTH AND INEQUALITY:  
A SURVEY OF THE EVIDENCE**

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**By Åsa Johansson**

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**ABSTRACT/RÉSUMÉ****Public finance, economic growth and inequality: A survey of the evidence**

This paper reviews the key issues concerning the impact of public spending and taxation on long-run growth and inequality and takes stock of existing theoretical and empirical studies. Overall, the evidence highlights that the size of the government matters for long-term growth as a too large government may undermine growth through the cost of financing public spending. A reallocation of public spending towards infrastructure and education would raise income in the long run, whereas increasing social welfare spending can reduce inequality as such spending increases redistribution and risk sharing. Similarly, the available evidence also supports the hypothesis that some taxes are more distortionary than others, with income taxes found to be more harmful for growth than consumption and property taxes. However, a tax shift from income towards consumption taxes has equity implications, since income taxes are generally more progressive than other taxes. The effect of a reallocation of spending and taxes on growth and inequality likely varies across countries depending on country characteristics.

JEL classification: D31; H11; H20; H21; H30; H50; O40; O43

Keywords: Public spending, taxation, fiscal policy, economic growth, income inequality

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**Finances publiques, croissance économique et inégalités: Une revue de littérature**

Ce rapport examine les principales questions liées à l'impact des dépenses publiques et de la fiscalité sur la croissance à long terme et les inégalités, et fait le point sur les études théoriques et empiriques déjà publiées. Il ressort de ces publications que la taille du secteur public exerce une influence sur la croissance à long terme, dans la mesure où un secteur public trop important peut freiner la croissance en raison de la charge financière qu'il représente. La réaffectation des dépenses publiques au financement des infrastructures et de l'éducation peut avoir un effet bénéfique sur le revenu à long terme, tandis que l'augmentation des dépenses allouées à la protection sociale peut contribuer à résorber les inégalités en favorisant la redistribution et la mutualisation des risques. Ces études corroborent en outre l'hypothèse selon laquelle certains impôts génèrent davantage de distorsions que d'autres : il est ainsi attesté que les impôts sur le revenu pèsent davantage sur la croissance que les impôts sur la consommation ou la propriété. Néanmoins, un transfert de la charge fiscale du revenu vers la consommation a des implications en termes d'équité, étant donné que les impôts sur le revenu sont généralement plus progressifs que les autres. Les conséquences qu'aurait, sur la croissance et les inégalités, une réaffectation des dépenses et des impôts varient selon les pays, en fonction des caractéristiques de chacun.

Classification JEL : D31 ; H11 ; H20 ; H21 ; H30 ; H50 ; O40 ; O43

Mots clés : dépenses publiques, fiscalité, politique budgétaire, politique fiscale, inégalités de revenu

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## PUBLIC FINANCE, ECONOMIC GROWTH AND INEQUALITY: A SURVEY OF THE EVIDENCE

Åsa Johansson<sup>1</sup>

### 1. Introduction

1. In most countries a key policy concern is to sustain long-term economic growth, while at the same time addressing redistributive concerns and ensuring that the debt path is sustainable. To achieve these outcomes, public resources should be spent in an efficient and equitable way and tax revenues should be collected in a way that minimises the cost of distortions to the functioning of labour, product and financial markets. The effect of public spending on long-run growth and inequality likely differs with the type and the effectiveness of spending. Likewise, all taxes are not equivalent in terms of their effects upon growth and some combination of taxes may be more redistributive than others. This underlines the importance of understanding how public spending and tax systems could best be designed to promote economic growth and well-being. Indeed, improving the quality of the public finances is a key policy issue for many governments. This paper provides an overview of the current knowledge of the key links between public finance, long-run growth and inequality. It also reviews the existing empirical evidence on these links.

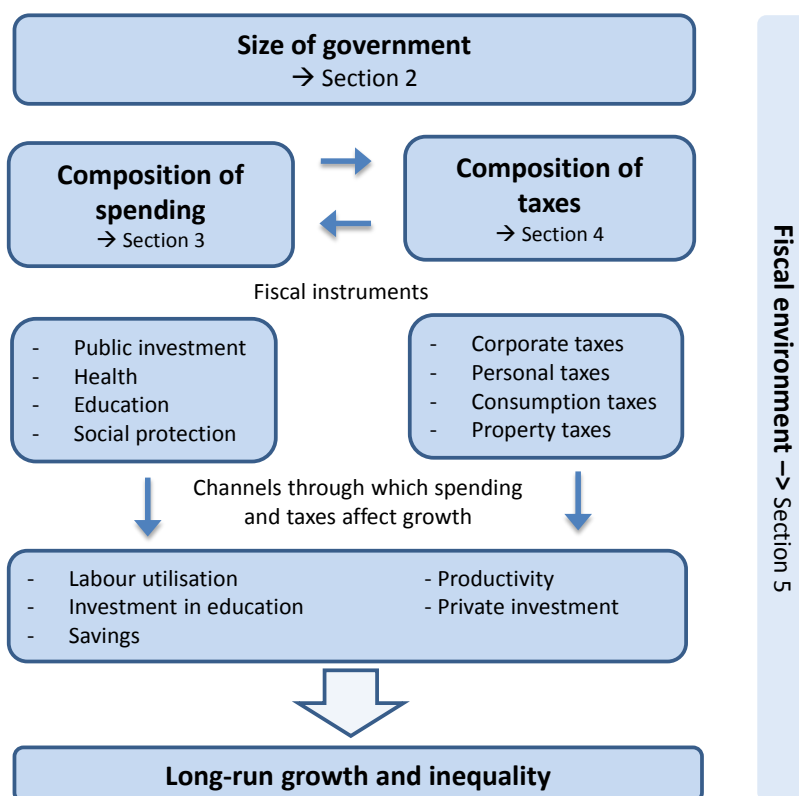
2. Public finance influences growth and inequality through several channels (Figure 1):
- **The size of the government sector** can influence long-run growth as a too large government may undermine growth through the cost of financing public spending. Moreover, if public investment and production are less productive than that of the business sector, large governments may undermine growth. However, also a too small government can be detrimental for growth due to a failure of providing basic functions necessary for economic development. Taxes influence households and firms' incentives to undertake various economic activities such as investment in human and physical capital, savings and labour supply. Taxes are crucial for raising revenues to finance public expenditure on transfers, health and education, which can favour low-income households.
  - **The composition and efficiency of government spending** can support long-run growth when spending is oriented towards increasing investment in physical and human capital, R&D or infrastructure, particularly where market failures lead to under-investment by the private sector. Social spending mainly has a redistributive and risk sharing purpose and can reduce inequality. When markets fail to provide adequate insurance for individuals, it can also be efficiency enhancing. For example, spending on active labour market policies and childcare can boost employment of certain groups.

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- **The composition and design of the tax system** can support growth as some tax mixes and tax designs are more conducive to growth than others. Though most taxes have disincentive effects, taxes that reduce incentives to invest in human and physical capital appear particularly damaging as they can undermine long-run productivity growth. More progressive tax systems make the post-tax income distribution more equal. However, it is the tax and transfer system in combination that is an important determinant of the distribution of disposable income.
- **The fiscal framework** can support growth to the extent that it can help achieve sound and sustainable public finances and play a role in macroeconomic stabilisation. Well-designed fiscal frameworks are typically associated with better budgetary outcomes in terms of deficit and debt developments, allowing for fiscal stimulus in downturns. Transparency and accountability in the budget process can also build citizens' trust in the government and increase the efficiency and effectiveness of government policies (OECD, 2015f).

Figure 1. Public finance and growth



## 2. The size of the government

3. Economic theory stresses the role of government spending and taxation as a driver of growth (see e.g. Barro and Sala-i-Martin, 1992; Tanzi and Schuknecht, 1997 and Myles 2009a for overviews). In neoclassical growth models, government spending and taxation affect the level of output through the saving rate, without affecting the economy's long-run growth rate (Solow, 1956 and Swan, 1956). Nonetheless, the temporary growth effects of government policy changes may last for several years as the economy adjusts to its new steady state. By contrast, in endogenous growth models, without diminishing returns to capital, government activity has permanent growth effects via its effect on technology (e.g. Romer, 1986; Lucas, 1988). This implies that the distortionary growth effects of taxes are eventually greater in endogenous than in neoclassical growth models. On the other hand, the potential growth gains

from productive government spending are also larger in endogenous growth models (Barro, 1990). Thus, the negative growth effects of higher distortive taxes may be off-set by government spending on education, R&D and health care, which can lead to higher long-term growth by affecting technical progress.

4. In standard Keynesian models, a short-term fiscal stimulus, either via a tax cut or increased government spending, increases total demand and output via multiplier effects. For instance, additional government spending on investment generates an increase in the demand for firms' products and, as a result, increases firms' production and employment. In turn, higher employment increases households' income and consumption.

### ***2.1. Evidence on the link between the size of the government and growth***

5. There is a vast empirical literature investigating the relationship between the size of the government and economic growth (see Slemrod, 1995; Myles, 2009b; Bergh and Henrekson, 2011 for overviews). Generally, the empirical studies in this area suffer from methodological problems, mainly due to endogeneity and reverse causality, making it difficult to draw clear conclusions.<sup>2</sup> Another limitation is that in practice it is difficult to distinguish the effect of public policies on the level of GDP from that on growth rates. This is because policies that raise the long-run level of output will raise the growth rate since effects on GDP levels take time to materialise.

6. Most of the early cross-country studies found a negative link between government size (measured as the ratio of public expenditure or tax revenues to GDP) and economic growth (see e.g. Landau, 1983; Barro, 1990 and Slemrod, 1995 for an overview). However, most of these studies did not control, or only included a few controls, for other factors affecting growth besides the size of the government. Indeed, the inclusion of additional control variables in the empirical specification has been shown to wipe out this bi-variate link (e.g. Levine and Renelt, 1992; Easterly and Rebelo, 1993; Agell et al., 2007). Recent studies, exploiting cross-country panel data and including a wider range of control variables, provide better insights on the link between the size of the government and growth. A review by Bergh and Henrekson (2011), based on papers published in peer reviewed journals after 2000, suggested a negative relationship in OECD countries. Likewise, a recent OECD study also found a negative relationship between the size of government and GDP growth in a sample of OECD countries (Fall and Fournier, 2015).

7. Yet, it is important to keep in mind that a negative correlation does not imply causality. In the short-run, reflecting automatic stabilisers, a negative correlation between government spending and growth is expected. For instance, in upturns government spending on unemployment benefits will be lower, while the opposite is the case in downturns.<sup>3</sup> Besides, complementarities may exist between the size of government and other policies and institutions, affecting this relationship. For instance, Freeman (1995) showed that in Sweden the mix of growth-friendly structural policies with a high level of trust in public institutions may have off-set the adverse growth effect of a large government sector.

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2. The lack of good instruments for government size implies that it is difficult to settle the issue of causality.

3. The reverse causality bias works in the opposite direction for taxes, with higher growth leading to higher tax revenues leading to a positive correlation.

## ***2.2. Optimal size of the government***

8. The direction of the link between the size of the government and growth may vary with the income level and could be hump-shaped (Armey, 1995). At low levels of income, there is a positive association between government size and growth, if the government is successful in collecting taxes and providing the basic functions necessary for economic growth such as protecting property rights and enforcing the rule of law (Slemrod, 1995; Bergh and Henrekson, 2011). Moreover, when such a minimal government expands its activities to provide infrastructure, health care and education, the effect on growth is likely positive. If government spending is characterised by diminishing returns, at some level of spending the negative effect of taxes will dominate the positive effect of increased productive spending. In addition, the distortive effects of taxation may increase with the level of taxation. In fact, increasing tax rates beyond a certain point can even become counter-productive for raising tax revenue further (i.e. so-called Laffer curve).

9. A number of studies have focused on the non-linear relation between the size of the government and growth. The results are mixed. Some studies support the hypothesis of an inverted U-shaped relation in selected countries (e.g. Vedder and Gallaway (1998) for the United States, Canada, Denmark, Italy, Sweden and the United Kingdom; Pevcin (2004) for eight European countries). The existence of a non-linear relationship allows calculating the optimal size of government. A number of studies have done so, with varying estimates depending on the estimation approach, time period and country coverage. For instance, Vedder and Gallaway (1998) estimated that the optimal size of federal government spending in the United States over 1947-1997 was about 17% of GDP. Pevcin (2004) found that the level of government spending was on average 19% above the optimal level of spending in eight European countries (i.e. Italy, France, Finland, Sweden, Germany, Ireland, Netherlands and Belgium). Chobanova and Mladenova (2009) estimated that the growth maximising size of government spending as share of GDP was 25% in a sample of 29 OECD countries over 1970-2007.

## **3. Composition of spending**

10. Public finance theory provides no clear guidance on the optimal allocation of spending across various expenditure items. In public finance theory, public expenditure and the production of public goods are often justified on the basis of the existence of market failures, inefficiencies and redistributive concerns. Public expenditure that addresses market failures and externalities can be growth enhancing. In theory, for instance, investment in public infrastructure and provision of funding for liquidity-constrained households to invest in human capital can raise labour and capital productivity. Public expenditure aimed at creating social safety nets, particularly where the market fails to provide for them or when the government is more efficient in providing them, and redistributive expenditure can be equity enhancing. In practice, the effect on growth and inequality depends on the effectiveness of government interventions in addressing market failures and achieving the desired outcomes.

### ***3.1. Evidence on the role of the composition of spending for growth and inequality***

11. The empirical literature has identified a role for the composition and the efficiency of government spending for long-run growth (e.g. Kneller et al., 1999; Gemmel et al., 2011; Cournède et al., 2013). In this strand of research, government spending is classified into productive and non-productive, depending on whether they are included in the production function or not (see Barro, 1990). In practice, existing empirical studies generally focused on the impact of main expenditure items such as public investment, categories of public consumption and social welfare or redistributive spending on growth.

12. In the earlier empirical literature, there was a widespread non-robust impact of various spending items on growth (Kneller et al., 1999; Levine and Renelt, 1992). This non-robustness may in part reflect



that most studies focused on a certain spending item while leaving others aside, without considering the linear restriction implied by the government's budget constraint (Kneller et al., 1999).<sup>4</sup> In more recent empirical studies, which explicitly consider the government's budget constraint, the findings tend to be more robust. For instance, Teles and Mussolini (2014) found in a sample of developing and developed countries, that productive spending affects economic growth positively, though this impact declines as public debt increases. Gemmell et al. (2014) focused on the long-run GDP impact of changes in total government spending and in the shares of different spending categories in OECD countries. Their results implied that reallocating total spending towards infrastructure and education would raise income in the long run. Increasing the share of social welfare spending was associated with modestly lower long-run GDP levels. The effect of a reallocation of spending on growth and inequality likely varies across countries depending on their initial level and mix of spending.

13. Thus, a reallocation of public expenditure towards certain spending items is one strategy to improve the quality of public finance. However, a reallocation towards infrastructure away from social protection spending may have adverse redistributive consequences as cash transfers reduce income dispersion more than taxes in most OECD countries (Joumard et al., 2012). The magnitude of this trade-off is not clear. As mentioned, Gemmell et al. (2014) found that such a reallocation of spending may not induce sizeable growth effects. However, more research is needed to better understand the effect of a change in the detailed composition of social expenditure on growth and inequality. In any case, efficiency gains are likely to be large from a more efficient use of public resources, including improving the quality of spending, and money saved could be used for cutting distortive taxes or raising growth-enhancing and redistributive spending (Box 1).

#### **Box 1. Estimates of public spending efficiency**

Data Envelopment Analysis (DEA) is one method for evaluating the efficiency of public expenditure. The idea is to evaluate the relative efficiency with which inputs are turned into an output or outcome by comparing a country's outcome in an area of public policy with that of the best performing countries. A country's relative distance to the DEA-estimated frontier is interpreted as a measure of achievable efficiency gains. Results from DEA analysis should be interpreted with caution as the estimates are sensitive to the composition and size of the sample, the choice of input and output variables as well as to the statistical package used. In particular, the DEA-estimated frontier is only driven by the observations that are close to the frontier, and hence by a small part of the sample. In addition, cost efficiency analysis should be interpreted with care when there are sizeable relative price differences that contribute to the apparent efficiency. Even so, DEA estimates can give an indication of a country's performance relative to other countries.

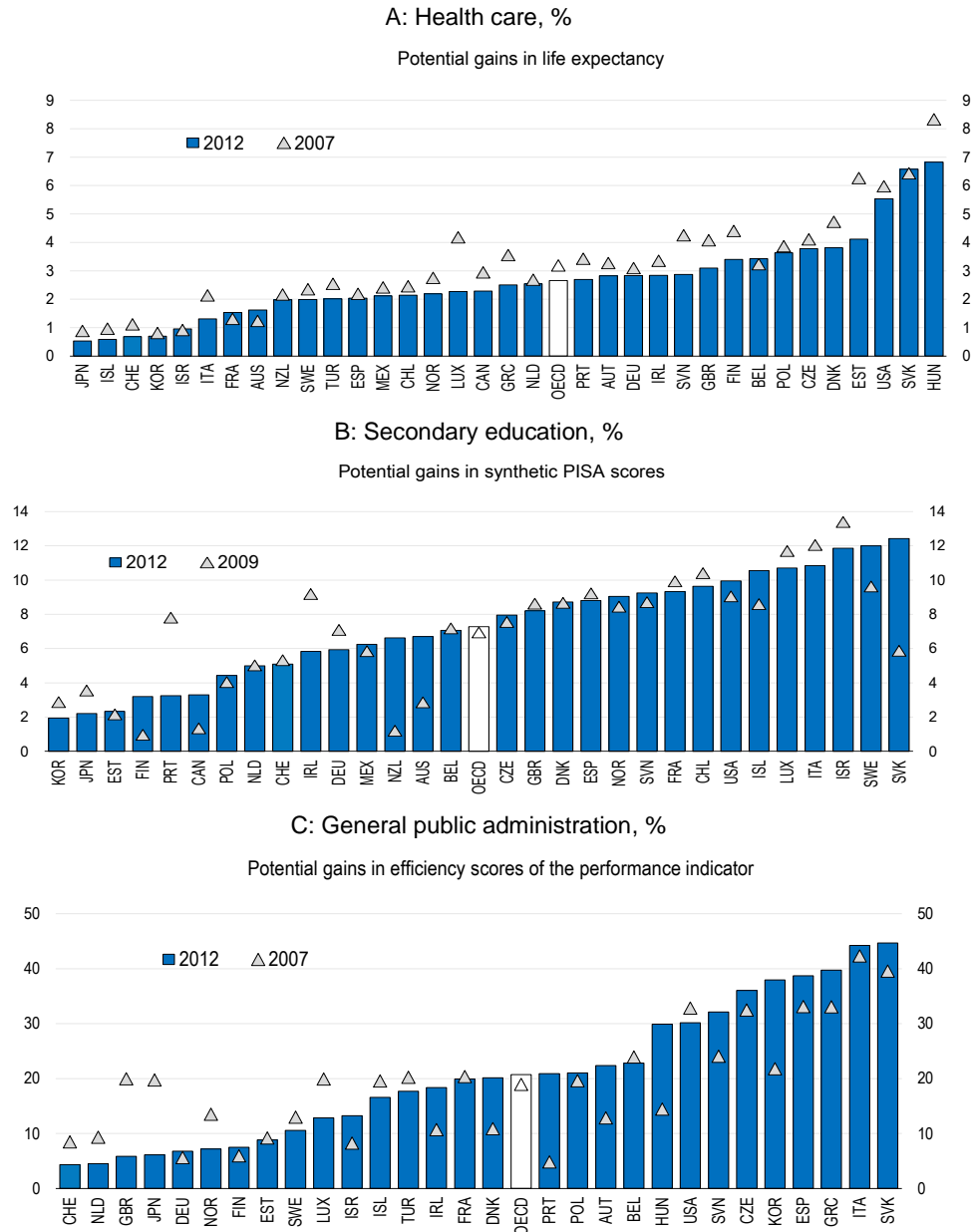
A recent OECD study updated previous OECD efficiency estimates for health care, secondary education and general administration (Dutu and Sicari, 2016). The results show significant potential efficiency gains in a number of countries (Figure 2). In some cases the potential gains appear very large and they should be interpreted with caution.

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4. Not controlling for the government's budget constraint will yield biased estimates due to misspecification of the model.

**Box 1. Estimates of public spending efficiency (cont.)**

**Figure 2. Potential output efficiency gains in OECD countries**



Note: Panel A shows that in Hungary life expectancy could be increased by about 7% if Hungary were to match the best performing countries with similar levels of spending. Panel B shows that in Slovakia on average PISA scores could be raised by 12% if Slovakia were to match the best performing countries with similar levels of spending. Panel C shows that in Slovakia public administration performance (measured by a composite indicator) could be increased by about 45% if Slovakia were to match the best performing countries with similar levels of spending. Life expectancy is life expectancy at birth. Secondary education is the mean PISA score of reading literacy, mathematics and science. General public administration is a composite index aggregating (with equal weights) indicators on the quality of justice, the pervasiveness of corruption, government inefficiency and bureaucracy and product market regulation.

Source: Dutu R. and P. Sicari (2016), "Public Spending Efficiency in the OECD: Benchmarking Health Care, Education and General Administration", *OECD Economics Department Working Papers*, No. 1278, OECD Publishing, Paris.

### 3.2. *Spending instruments, drivers of growth and inequality*

14. Public spending influences growth and the distribution of income via a number of channels including the accumulation of physical and human capital, innovation and health. A large number of empirical studies have focused on the impact of specific spending items on various drivers of long-term growth and inequality. This section summarises the key findings of this literature.

#### *Public investment*

15. Public investment is an important driver of economic growth (IMF, 2015). Investment in infrastructure, education and innovative activities adds to a country's capital stock, which enhances the economy's long-run productivity growth (Romp and de Haan, 2007). There is a large literature estimating the effects of public investment on long-term growth (e.g. Straub, 2011; Romp and de Haan, 2007 for overviews). A recent meta-analysis by Bom and Ligthart (2014) found that the impact of public investment on economic activity is positive. Some studies showed that public investment may have non-linear effects with stronger growth effects at lower levels of provision (e.g. Sutherland et al., 2009). Moreover, the effect of public investment may vary with the type of investment, with some (e.g. R&D) being more likely to promote economic activity than others (BIS, 2015; Guellec and van Pottelsberghe, 2003).

16. Interactions between public investment and fiscal institutions may exist, affecting the return on public investment and, in turn, its impact on economic activity. Institutions that are transparent, stable, enforce property rights and establish trust in governments may affect the effectiveness of investment. For instance, Agenor (2010) showed that in countries with weak public investment management processes, public investment is unlikely to fully translate into growth effects. A recent IMF study also found that better public investment management practices enhance public infrastructure quality and economic growth, particularly in emerging and lower-income economies (IMF, 2015). Bergh et al. (2015) highlighted that countries with weak institutions also often have a low capital stock. This implies that the returns to additional capital can be high in these countries even though they have weak institutions.

17. Public investment can also affect growth by influencing business investment. In this context, growth theory suggests that more public investment could either increase or decrease private investment (Aschauer, 1989; BIS, 2015). Public spending, such as on infrastructure and research could generate positive spillovers and complementarities that induce the private sector to invest more. Conversely, public investment could simply be a substitute for private investment. It could also lower the rate of return on private investment, and thereby reduce business investment. The large empirical literature on the effect of public investment on private fixed investment is mixed (e.g. Sen and Kaya, 2013; Erden and Holcombe, 2005).

#### *Fiscal incentives and productivity*

18. The findings in the empirical literature suggest that fiscal incentives to R&D boost private R&D expenditure. Ultimately, it is important that they raise productivity growth (Andrews and Criscuolo, 2013). Fiscal R&D incentives could be expected a priori to have positive effects on productivity growth, since they induce additional business R&D and such investment has important effects on productivity growth (Westmore, 2013). However, empirical evidence on the impact of fiscal R&D incentives on productivity growth is not clear-cut (Brouwer et al., 2005; Lokshin and Mohnen, 2007; Westmore, 2013). The failure to find an effect on productivity growth could reflect several factors. For instance, projects financed by fiscal incentives could have a lower return than other projects, they could lead to duplication or re-labelling of existing non-R&D activities and measurement and identification issues exist (Andrews and Criscuolo, 2013).

19. Part of the observed rise in wage inequality in past decades reflects an increasing dispersion in average wages paid across firms (Song et al., 2015; Card et al., 2013). One possible explanation for this phenomenon is growing productivity differentials across firms. Research also shows that one source of the productivity slowdown over the past decades is the slowing of the pace at which innovations spread throughout the economy (OECD, 2015a; Comin and Mestieri, 2013). Taken together this suggests that improving productivity performance of less-productive firms could reduce wage inequality. Stronger competition can enable the diffusion of existing technologies to laggards, raising their productivity. A fiscal environment that does not maintain inefficient business structures such as poorly managed family businesses via inheritance tax exemptions may also improve productivity (OECD, 2015a).

#### *Education spending and student performance*

20. Public spending represents on average more than 80% of total spending on education in OECD countries (OECD, 2012). Private spending is more prevalent at the pre-primary and the tertiary education level. The justification of government funding of education is based on the presence of market failures in the provision of education. Specifically, if the public benefits of education are greater than the private benefits, markets alone may fail to provide an adequate amount of education. The case for public funding is less strong for tertiary education where individual relative to societal returns tend to be the highest.

21. Economic theory has put forward several channels through which education may affect economic growth. First, education increases the human capital of the labour force, which increases labour productivity and growth (Mankiw et al., 1992). Second, education may increase the innovative capacity of the economy (e.g. Lucas 1988; Romer 1990; Aghion and Howitt, 1992). Third, education may facilitate the diffusion of knowledge and the adoption of new technologies, which promotes economic growth (Benhabib and Spiegel, 2005).

22. In the empirical literature, a controversy has emerged whether it is the level of education (often proxied by years of schooling) or the change in education that drives growth. Earlier studies found a positive effect of schooling levels, but not of changes. Later studies suggest that both the level and change in the years of schooling are positively associated with growth (e.g. de la Fuente and Doménech, 2006; Cohen and Soto, 2007; Hanushek and Woessmann, 2012 for an overview). More recently, Hanushek and Woessmann (2012) showed that students' cognitive skills (measured by test scores) are positively associated with growth. Even though theory and evidence support a link between education and growth, the evidence of the role of schooling inputs such as resources, class size and teacher pay for student achievement is less clear (e.g. Hanushek, 1986; Card and Krueger, 1992). Indeed, research tends to show a weak relationship between the amount of educational spending and student performance (e.g. PISA scores) (Hanushek and Woessmann, 2011). Instead, research points to the importance of the quality of resources and how these resources are used (OECD, 2013a).

23. Education is a key transmission mechanism in generating intergenerational social mobility, promoting the matching of skills with needs and changing patterns of inequality (OECD, 2015b; Causa and Johansson, 2009). Equity in education is crucial in order to ensure that all students reach a basic level of skills regardless of their family background or socio-economic circumstances. Recent research has found that investing in early childhood education yields high returns as it makes it easier to acquire skills and knowledge later on, particularly for children from disadvantaged backgrounds (OECD, 2014; Heckman, 2011; Cuhna et al., 2010; Woessman, 2008). Financial constraints that hamper access to higher education are likely to be more important for children from low-income backgrounds. There is suggestive evidence that universal government-supported loan systems can reduce liquidity constraints, thereby enhancing the equality of access, while maintaining incentives for swift and successful study completion (Oliveira Martins et al., 2007).

24. From an equity perspective, greater cost-recovery of public spending should be sought at higher levels of education as the private returns are high. However, this may come at the expense of equitable access for post-secondary and tertiary education among poorer households (OECD, 2002). Thus, the allocation of limited educational resources at different levels of education entails a non-trivial trade-off between efficiency and equity (OECD, 2008).

#### *Health spending and health outcomes*

25. Health can affect economic growth in a similar way as education by affecting the quality of labour. Healthier workers are more productive and are less likely to be absent due to illness. Improvements in health status also increase the incentive to acquire education since these investments can be amortised over a longer working life. Physical capital per worker may also rise because the increase in labour input from healthier workers will increase capital's marginal product (Bloom et al., 2004; Weil, 2007). The empirical literature, estimating the contribution of health to economic growth, usually relies on health outcomes (e.g. life expectancy, mortality etc.) rather than health inputs. The consensus stemming from this research is that the population's health status is significantly associated with economic growth, although causality is unclear (Swift, 2011; Acemoglu and Johnson 2007; Bloom et al., 2004 for a survey). Turning to the link between spending and health outcomes (e.g. life expectancy, mortality), the empirical evidence is so far inconclusive about the strength of the link between health care spending and health outcomes (Martin et al., 2008; Joumard et al., 2010). This is partly because other factors such as life-style, diet and environment are perceived as key factors determining health outcomes.

26. All OECD countries use a mix of private and public financing of health care. On average across the OECD almost three-quarters of total spending comes from public sources (OECD, 2015e). Even in countries where the public sector plays a key role in financing, the provision of healthcare varies in terms of the mix of public and private providers. Health care systems also vary in the extent that they steer the demand and the supply via market mechanisms (e.g. fee-for services, private insurances etc.) or via public command and control (OECD, 2010). On balance, research has shown that no health care system performs systematically better in delivering cost-effective health care. Rather it is how the system is managed that matters for effective outcomes (Joumard et al., 2010).

27. Equity in health care can promote income growth and a more equal income distribution. Low-income households tend to consume less health and preventive care and their life expectancy and perceived health status is lower than that of high-income households. Differences in health status reflect many factors, including living and working conditions as well as life style factors. Low-income households may also have more limited access to certain health services or use these services less for financial reasons, notably certain preventive services (OECD, 2013c). Equity in health care access can contribute to improvements in health status and life expectancy for low-income households. In turn, this can raise these households' productivity and employment opportunities and thereby underpin inclusive growth.

#### *Social protection and labour utilisation*

28. Social protection expenditure affects growth in various ways. Social protection spending can raise growth. This can be the case when it provides liquidity-constrained households with funding to invest in education or when it creates a social safety net where the market fails to provide efficiently for it (Hubbard and Judd, 1987; Imrohorglu et al., 1995). However, social protection may affect growth adversely. It can discourage individuals from working (e.g. OECD, 2011d) and can reduce household saving which may reduce the amount of capital available for investment.

29. There is a vast empirical literature investigating the effect of various social spending items on the drivers of growth (Morgan and Mourougane, 2003 for an overview). A particular focus has been on

exploring the effect of unemployment benefits and spending on active labour market policies on labour utilisation. A consistent finding in this literature is that too generous unemployment benefits increase aggregate unemployment and reduce employment prospects (OECD, 2006; Flaig and Rothman, 2011; Murtin and de Serres, 2014). By contrast, spending on certain active labour market programmes (ALMPs), such as well-designed labour market training and private sector incentive programmes, can improve re-employment chances and is associated with lower unemployment (Kluve, 2010). Interactions between policies may exist. Bassanini and Duval (2006) found that the adverse impact of unemployment benefits on unemployment was mitigated by high public spending on ALMPs, possibly because high spending on ALMPs is accompanied with an emphasis on activation. Research on the effects of early retirement incentives embedded in pensions systems and other social transfer programmes suggests that a high implicit tax on continued work deters older workers from continuing to work beyond certain ages (Bassanini and Duval, 2006; Duval et al., 2011).

30. Social spending mainly has redistributive and risk sharing purposes. Apart from affecting households' income directly, labour market institutions (e.g. unemployment benefits and active labour market policies) can affect the distribution of income via their impact on employment. There is a growing empirical literature investigating the effects of various social spending items on measures of inequality (i.e. labour earnings or disposable income inequality). The findings of this literature are mixed. For instance, some empirical studies have found support for the inequality reducing effect of unemployment benefits (Koeniger et al., 2007; Causa et al., 2015 for unemployment benefits to the long-term unemployed), while others have not. There is also some evidence that when active labour market programmes increase jobseekers' employment chances and wages once in employment, they reduce income inequality (Salverda and Checchi, 2014; Causa et al., 2015). Some research also suggests that public employment can have an inequality-reducing effect (Alesina et al., 2000; Fournier and Koske, 2012). However, other research has found that direct job creation measures typically provide few long-run benefits for the claimants and society (Martin, 2000). In any case, the overall redistributive effect of the public finances depends on the combined effect of transfers, taxes and in-kind benefits (Box 2).

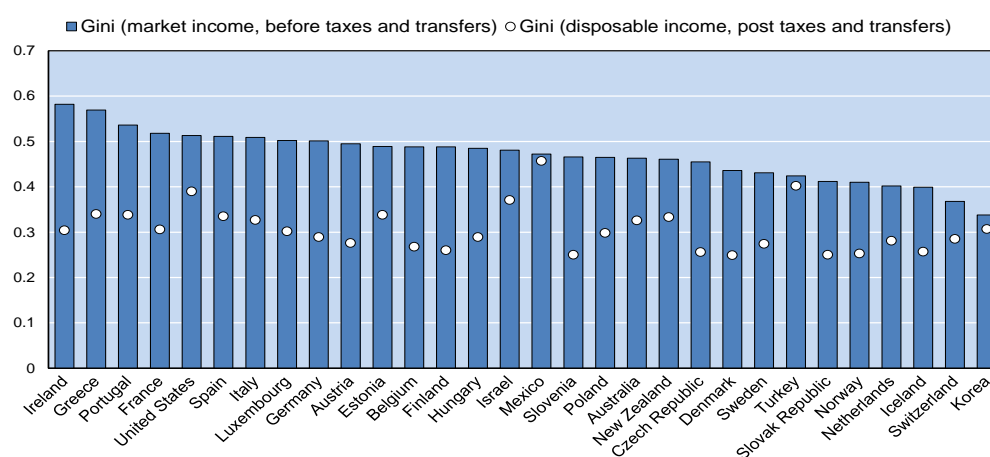
**Box 2. Redistribution due to fiscal instruments**

Redistribution due to taxes and transfers varies across countries (Figure 3). In some countries disposable income inequality (measured by the Gini coefficient) is nearly halved as compared to market income inequality (e.g. Ireland, Slovenia, Belgium and Finland). In other countries, redistribution via taxes and transfers is limited (e.g. Mexico, Korea and Turkey). In most countries the bulk of redistribution occurs via transfers. On average in the OECD, about three-quarters of the reduction in inequality between market and disposable income are due to transfers. These estimates of redistribution do not factor in in-kind benefits via publicly provided services (e.g. education, health etc.), which are often sizeable. Past work showed that publicly provided services reduced income inequality in the late 2000s by between one-fifth and two-thirds depending on how inequality is measured, but country rankings in terms of inequality change little (OECD, 2011a).

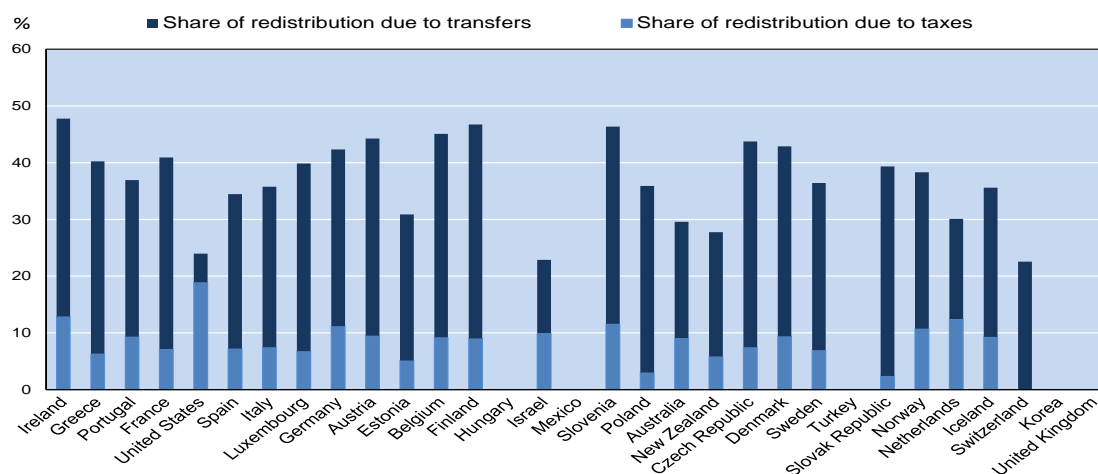
**Figure 3. Redistribution due to the tax and transfer system**

2012

A: Gini coefficient



B: Reduction in the Gini coefficient due to taxes and transfers, %



Note: Panel A shows the Gini coefficient on market income which measures the extent to which the distribution of income among individuals within a country deviates from a perfectly equal distribution. A coefficient of 0 represents perfect equality, while a coefficient of 1 implies perfect inequality. Panel B shows the per cent reduction between the market income and disposable income Gini coefficient as well as the contributions of transfers and taxes to this reduction. Detailed data on the share of redistribution via taxes and transfers is not available for Hungary, Mexico, Turkey, Korea and the United Kingdom.

Source: OECD (2016), "Income distribution", OECD Social and Welfare Statistics (database). DOI: <http://dx.doi.org/10.1787/data-00654-en>

#### 4. Composition of taxes

31. Tax systems are primarily aimed at financing public spending. They are also used to promote equity and to address social and environmental concerns (see Brys et al. 2016 for an overview). In many countries a favourable tax treatment exists to promote investment in certain assets such as housing and R&D. Taxes influence households' decision to save, supply labour and invest in education and housing, the decisions of firms to produce, create jobs, invest and innovate, as well as the choice of savings channels and assets by investors. Not only the level of taxes matters for these decisions, but also the design and mix of different tax instruments. Economic theory suggests that differences in the tax structure may play a role in explaining differences in economic performance since some tax instruments are more distortionary than others (Box 3). Likewise, some tax structures and designs are more progressive and redistributive than others (Joumard et al., 2012).

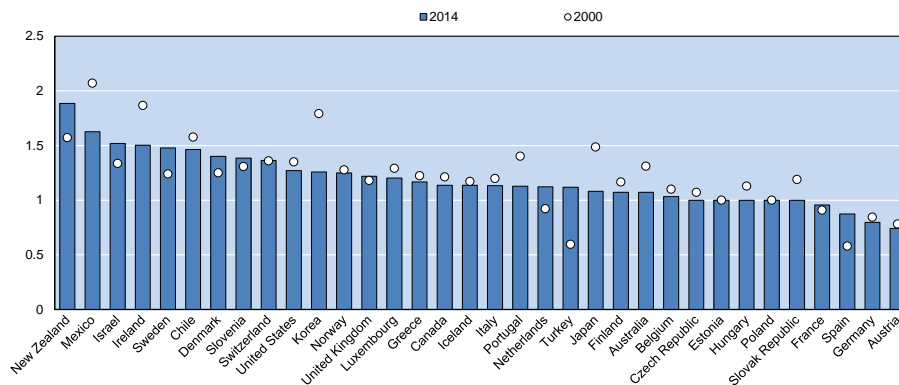
#### Box 3. Tax policy design: Insights from tax theory

Tax theory provides a number of insights for tax policy design based on stylised models that focus on the behavioural response of households and firms to taxes (Mankiw et al., 2009 for an overview). In practice, the design of tax systems should also reflect a range of other considerations such as efficiency, equity, tax avoidance and effectiveness of the tax administration. These considerations vary across countries, implying that there is no one-size-fits-all optimal tax system. Generally, a low tax rate with a broad tax base is desirable.

- **Early studies suggested that a flat income tax where the same marginal tax rate applies at every income level is close to optimal** (e.g. Mirrless, 1971; Mankiw et al., 2009). Taking into account broader aspects of tax systems (e.g. complexity, avoidance etc.), **other studies have shown that higher rates at low and high incomes may be warranted** (Mankiw et al., 2009; Saez, 2001). To gauge the flatness of the tax system the marginal tax rate at 167% of average earnings is compared to the rate at 67% (Figure 4). According to this measure, the flatness of the tax system has remained broadly unchanged since 2000 in most countries.

**Figure 4. Flatness of the tax system**

Ratio of the marginal tax rate at 167% to 67% of average earnings



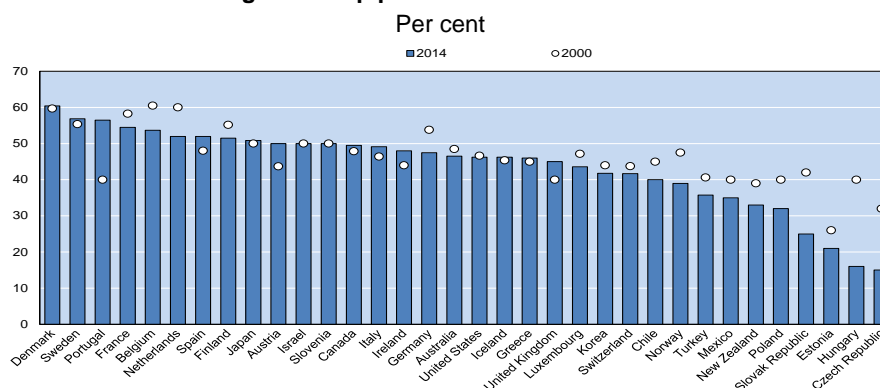
Source: OECD (2015), "Personal Income Tax: Marginal rates and social security contributions (Edition 2015)", OECD Tax Statistics (database). DOI: <http://dx.doi.org/10.1787/179a0c55-en>

- **Tax theory is unclear on the optimal top income tax rate.** Early studies showed that the income tax rate could decline at high incomes (Mirrlees, 1971), while the more recent literature found the opposite (Piketty et al., 2014; Saez, 2001). Despite this ambiguity, in several OECD countries the top personal income tax rate declined during the past 15 years, although in a few countries they slightly increased or remained unchanged (Figure 5).



### Box 3. Tax policy design: Insights from tax theory (cont.)

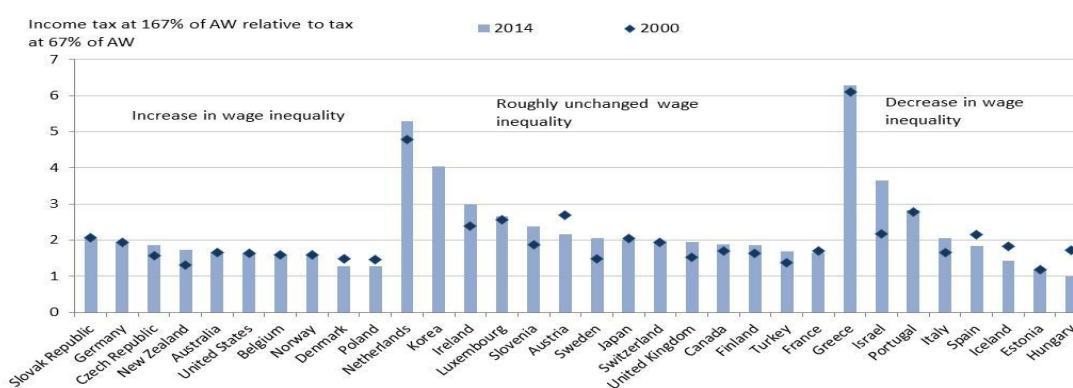
#### Figure 5. Top personal income tax rate



Source: OECD (2015), "Personal Income Tax: Marginal rates and social security contributions (Edition 2015)", OECD Tax Statistics (database). DOI: <http://dx.doi.org/10.1787/179a0c55-en>

- **The optimal degree of redistribution should increase with wage inequality.** On average, the progressivity of the personal income tax (measured as the income tax rate at 167% of average earnings relative to the one at 67%) has not changed drastically (OECD, 2015d). There is no clear sign that tax systems have become more progressive in countries that experienced a greater increase in wage inequality (measured as the ratio of the wage at the 90<sup>th</sup> to the 10<sup>th</sup> percentile) than elsewhere (Figure 6).

#### Figure 6. Income tax progressivity



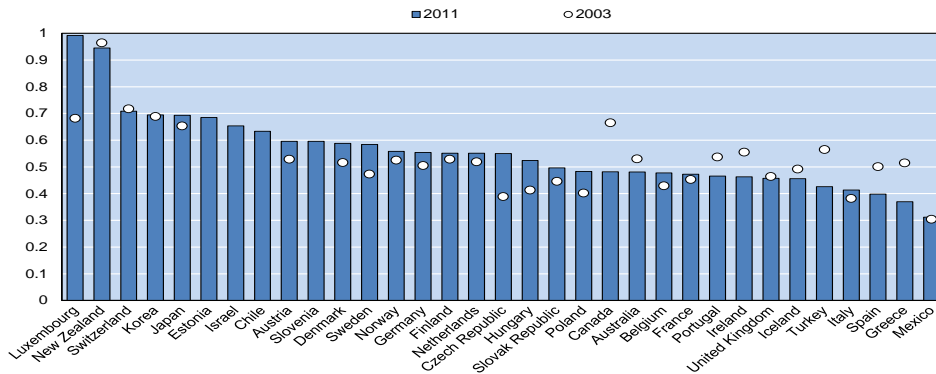
Note: The change in wage inequality is measured as the difference in the ratio of the wage at the 90<sup>th</sup> to the 10<sup>th</sup> percentile between the early 2000s and 2012 (or latest year available). An increase refers to a change in this ratio of greater than 5%; unchanged to a change less than 5% and greater than -5%; and a decrease to a change below -5%.

Source: OECD (2015), "Personal Income Tax: Marginal rates and social security contributions (Edition 2015)", OECD Tax Statistics (database). DOI: <http://dx.doi.org/10.1787/179a0c55-en>

- **There are strong arguments for a uniform broad-based tax rate on consumption goods** (Diamond and Mirrless, 1971). A non-uniform rate can be justified for certain price inelastic goods (Ramsey, 1927). Another exception is the case of goods that generate negative externalities. One option of a consumption tax is VAT, which exempts intermediate business inputs through a credit system. Many countries have differentiated consumption taxes due to exemptions and zero ratings on certain goods and services (e.g. groceries, books, tourism etc.) to address inequality. Indeed, the VAT revenue ratio (which captures the effect of exemptions, reduced rates and non-compliance on VAT revenues) is well-below unity in most countries (Figure 7). However, targeted transfers to low-income households are better than VAT exemptions for equity and efficiency (OECD, 2009).

**Box 3. Tax policy design: Insights from tax theory (cont.)**

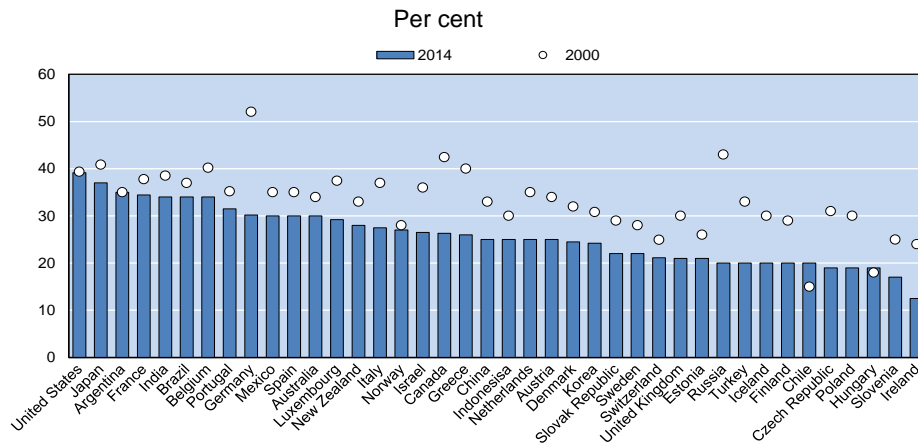
**Figure 7. VAT revenue ratio**



Note: The VAT revenue ratio measures the difference between the VAT revenue actually collected and what would theoretically be raised if VAT applied at the standard rate to the entire potential tax base and all revenue was collected.  
 Source: OECD (2015), "Revenue Statistics: Comparative tables (Edition 2015)", OECD Tax Statistics (database). DOI: <http://dx.doi.org/10.1787/6e3323fd-en>

**Traditional theory suggested that capital income should not be taxed in the long run** (Atkinson and Stiglitz, 1976; Judd, 1985; Chamely, 1986). **In recent models, with wage uncertainty and inheritance, a positive capital tax is part of the overall tax mix** (Piketty and Saez, 2013; Golosov et al., 2006). One marked trend over the past decades is a reduction in statutory corporate tax rates (Figure 8). Even though, corporate tax revenue has remained fairly stable as a share of GDP, suggesting that in many countries a broadening of the base has accompanied the cuts in the rate (OECD, 2015c).

**Figure 8. Statutory corporate tax rate**



Source: OECD (2015), "Personal Income Tax: Marginal rates and social security contributions (Edition 2015)", OECD Tax Statistics (database). DOI: <http://dx.doi.org/10.1787/179a0c55-en>

**4.1. Evidence on the role of the tax structure for growth and inequality**

32. The empirical literature on the effect of the tax structure on growth is fairly limited in comparison with the vast number of studies assessing the impact of the size and structure of government spending. Nonetheless, the findings of the existing empirical studies tend to support the hypothesis that some taxes

are more harmful for growth than others. In this research, taxes are classified in broad categories depending on their *a priori* theoretical distortionary effect on growth. Corporate and personal income taxes are considered relatively more distortionary than consumption taxes. An early study by Kneller et al. (1999) concluded that distortionary taxes reduce growth while non-distortionary taxes do not. One of the key insights of this study is the importance of controlling for the government's budget constraint as failing to do so would yield biased estimates. More recent studies, Gemell et al. (2011) and Gemell et al. (2014) rely on longer time series data for OECD countries and confirm the earlier findings of Kneller et al. (1999).

33. In line with this research, a past OECD study, based on a standard empirical growth model and controlling for the government's budget constraint, found a "tax and growth ranking" of taxes with respect to their negative effect on GDP per capita in a panel of OECD countries (Arnold et al., 2011). Specifically, the study suggested the following order from the most to the least harmful tax for growth: 1) corporate income taxes; 2) personal income taxes; 3) consumption taxes; and 4) recurrent taxes on immovable property. This ranking implies that replacing part of the revenues from income taxes with revenues from taxes that have smaller distortionary effects, for a given overall level of the tax burden, could bring economic gains. Studies focusing on both OECD and non-OECD countries established broadly similar results. Acosta-Ormaechea and Yoo (2012) confirmed that property and consumption taxes are less detrimental to growth than income taxes (particularly personal income taxes). Likewise, McNabb and LeMay-Boucher (2014) found that a tax shift away from income taxes to trade or consumption taxes would boost GDP growth.

34. However, a tax shift towards consumption or recurrent taxes on immovable property would reduce the overall progressivity of the tax system as these taxes are less progressive than income taxes. For example, micro-simulations of a tax shift from the personal income to the value added tax (VAT) confirm the regressive impact of this shift (e.g. Pestel and Sommer, 2013; Decoster et al., 2011). Some studies have found that after accounting for labour-supply adjustments, the adverse distributional impact is smaller due to increased work incentives. Thus, this type of tax shift entails a trade-off between equity and growth, with the magnitude of this trade-off depending on the level of inequality, behavioural responses and preferences for redistribution.

#### **4.2. Tax instruments, drivers of growth and inequality**

35. The tax structure matters for growth because of the way different taxes affect economic decisions of individuals and firms. In general, income taxes have larger effects on these decisions than other taxes, and therefore they create larger welfare losses. A number of empirical studies have investigated the impact of individual tax instruments on various drivers of growth. The main insights from this research are summarised in the following section. When possible, this section also highlights the redistributive implications of different taxes and tax designs.

##### *Corporate income tax: investment and productivity*

36. The corporate income tax influences investment and productivity. First, corporate income taxes discourage firms' investment by reducing its after-tax return. In a similar way, domestic corporate and cross-border taxation affect the after-tax return on foreign direct investment (FDI). Existing evidence, including OECD work, confirms that higher effective corporate tax rates reduce firms' investment (e.g. OECD, 2009; Djankov et al., 2010). However, in an increasingly global economy, the sensitivity of investment to corporate taxes may depend on the possibility to exploit international tax planning. Indeed, a recent OECD study found that tax planning reduces the effect of corporate taxation on investment of tax-planning MNEs (OECD, 2015c). There is also a vast literature, including past OECD work, suggesting an adverse effect of the host country corporate tax rate on foreign investment (Hajkova et al., 2006; Feld and Heckemeyer, 2011). But corporate taxes are only one among many factors (e.g. labour and product market

regulation, size of the market, labour taxes, governance and infrastructure etc.) affecting firms' location choice. For instance, their influence appears relatively small in comparison with labour taxes (Hajkova et al., 2006).

37. Second, corporate taxes affect productivity in several ways. High corporate taxes may reduce incentives to invest in innovative activities, with adverse implications for productivity (OECD, 2009). Given that corporate taxes reduce FDI and the presence of foreign multinational enterprises they can hinder technology transfers and knowledge spill-overs to domestic firms. Also, corporate taxes distort corporate financing decisions, favouring debt over equity since interest payments on debt are generally deductible from taxable profits, while dividend payments are not (de Mooij, 2011; 2012). This can affect productivity if it distorts the allocation of investment towards firms that can raise debt easily over those that have to rely on equity finance, such as knowledge-based innovative firms investing in intangible assets (OECD, 2009). The empirical literature on the impact of corporate taxes on productivity is fairly limited. Nonetheless, the few existing studies suggest that corporate taxes adversely affect productivity. Past OECD work found that lowering statutory corporate tax rates can lead to particularly large productivity gains in firms that are dynamic and profitable, i.e. those that can make the largest contribution to GDP growth (Arnold et al., 2011). Similarly, Gemmel et al. (2012) found that corporate taxation reduces productivity growth of small firms that are furthest from the technological frontier.<sup>5</sup>

#### *Distributional aspects*

38. Many OECD countries have moved away from taxing all types of income at progressive tax rates (i.e. comprehensive tax systems) to taxing capital income at a proportional and often at a lower rate than labour income (e.g. dual or semi-dual income tax systems). This change in the taxation of capital income was in most cases not accompanied by a broadening of the capital income base (Brys et al., 2016). At the same time, corporate income tax rates have declined and special tax incentives exist in many countries (e.g. R&D tax credits, exemptions for small firms etc.). In combination, this has decreased the tax burden on capital and the progressivity of the tax system, particularly since wealthier households own and earn more income from capital than lower-income households.

39. In any case, the distributional effect of corporate taxes depends on who bears the burden of the tax. In theory, the impact of corporate taxes on wages and capital income over the long run depends on the relative mobility and substitutability of capital and labour (Auerbach, 2006). In a globalised economy, the incidence of corporate taxes will tend to fall on wages, if labour is relatively immobile, with the effect being reduced when the country is large enough to influence the international rate of return on capital (Kotlikoff and Summers, 1987). Indeed, recent empirical evidence on the long-run incidence of corporate taxation suggests that a significant share of the tax burden falls on wages (IMF, 2014).

#### *Personal income taxes: labour utilisation and productivity*

40. Taxes on labour income can have adverse effects on labour utilisation by affecting both labour supply and demand. Labour taxes affect labour supply through both the decision to work and average hours worked (Hausman, 1985; Meghir and Phillips, 2010; Koskela, 2002). In theory, a decrease in labour taxes can have both a substitution and an income effect on participation and hours worked, with the net effect on labour supply being an empirical matter. Labour taxes also influence firms' labour cost especially when the tax burden cannot be shifted on to lower net wages. In this case, lower taxes reduce labour costs and firms

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5. Recent research highlights that preferential tax treatment of intellectual property can attract research activities with potential positive implications for productivity. But, it can also induce artificial relocation of the ownership of intangible assets without attracting any real R&D activities (Griffith et al., 2014; OECD, 2015c).

respond by increasing labour demand (Nickell, 2004; Pissarides, 1998; Layard et al., 1991). Social security contributions (SSC) can have a smaller impact on labour supply than other taxes, if the benefits that workers receive are related to the amount of contributions that they have paid (e.g. Disney, 2004).

41. The empirical literature on the impact of labour taxes on labour utilisation is vast. Generally, empirical studies have found hours worked to be only modestly responsive to labour taxes while participation is much more responsive to them (Heckman, 1993; Blundell et al., 1999). Most empirical studies also find that the estimated elasticity of hours worked with respect to the after-tax wage is very small for men while for women/second-earners it is larger (Saez et al., 2012; Meghir and Phillips, 2010; Causa, 2008). Empirical studies, including past OECD work, investigating the effect of labour taxes on employment have found that high tax wedges reduce employment by increasing labour cost (e.g. Bassanini and Duval, 2006). The degree of progressivity of labour taxes may also affect individuals' decisions to supply labour and invest in education as it affects their after-tax return. There is some empirical evidence that progressivity reduces GDP per capita (Arnold et al., 2011).

#### *Distributional aspects*

42. Low-income and second-earner workers tend to be more responsive to work incentives than other income groups. Interactions between tax and benefit systems can create high average and marginal effective tax rates for certain groups, affecting labour force participation, hours worked and employment (OECD, 2011b). One way of raising work incentives of low-income earners is by providing "in-work benefits", which aim at increasing the financial reward from moving from inactivity to work. Most of the empirical evaluations of the labour supply effect of such schemes have focused on the United Kingdom and the United States (Immervoll and Pearson, 2009 for an overview). These benefits or tax credits, which top up the earnings of low-income earners, have had some success in reducing "inactivity traps" of some groups of workers (Brewer, 2006; Blundell et al., 2009; Aaberge and Flood, 2013). There is some evidence that lack of information and administrative complexity can hinder take-up of benefits among disadvantaged households (Currie, 2006). This suggests that the design of transfer programmes should be simple as this could lower administrative costs and increase take-up.

43. From an equity perspective, financing spending and redistribution by levying higher taxes or phasing out tax expenditures at higher incomes can be justified. There is evidence that the labour supply response of high-income earners is low, especially when the tax base is broad and tax avoidance opportunities are limited (Piketty et al., 2014; Saez et al., 2012). However, high top marginal income taxes may discourage risk-taking and entrepreneurship with potential adverse effects for growth, indicating a trade-off between equity and efficiency.

#### *Consumption taxes: labour utilisation*

44. Consumption taxes can affect labour supply by reducing the after-tax real wage in a similar way as a proportional income tax. Otherwise, consumption taxes are perceived as neutral as they do not discourage savings and investment. The empirical evidence on the impact of consumption taxes on labour supply and employment is limited as most studies exclude consumption taxes from the relevant labour tax wedge (OECD, 2011b). Some studies that include the consumption tax in the overall labour tax wedge found that an increase in the overall tax wedge reduces employment (e.g. Nickell, 2004; Bassanini and Duval, 2006). However, these studies did not estimate a separate effect of consumption taxes on employment.

45. Consumption taxes and VAT are typically perceived as regressive. The reason is that low-income households spend a larger share of their income on consumption as compared to high-income households. Recent micro simulations have shown that the regressive nature of consumption taxes depends on whether

the tax burden is measured as a per cent of current income or expenditure, with current expenditure possibly better reflecting lifetime income. Consumption taxes are less regressive when measured as a percentage of household income, while they are proportional or slightly progressive when measured as a percentage of household expenditure (OECD/KIPF, 2014). In line with this, in France the regressivity of the VAT is reduced when the distributional effects consider the entire life-cycle (Georges-Kot, 2015).

#### *Property taxes*

46. Property taxation consists of recurrent taxes on land and buildings, taxes on financial and capital transactions, taxes on net wealth and taxes on gifts and inheritances. These taxes vary in their distortionary effects. However, not much empirical work exists on the impact of the various property taxes on the drivers of growth. Nonetheless, theory suggests that recurrent taxes on land and buildings are more efficient than other types of taxes. This is because these taxes do not affect the decisions of economic agents to the same extent as some other taxes. By contrast, taxes on financial and capital transactions are highly distortionary as they discourage both the ownership and the transfer of ownership of the asset (Diamond and Mirrlees, 1971). Net wealth taxes and inheritance taxes are potentially less distortionary than most other taxes, unless they induce wealthy households to move assets to lower-tax countries. Wealth taxes may discourage savings, while inheritance taxes have the advantage of avoiding taxation of most life-cycle savings.<sup>6</sup>

47. The distributional impact of recurrent taxes on immovable property is difficult to gauge due to capitalisation of taxes into house values. Progressive recurrent taxes on residential property can increase the progressivity of the tax system. This is the case if tax reliefs are introduced to reduce liquidity constraints for low-income households with illiquid assets (e.g. generous basic allowance). On distributional grounds, there is a strong case for inheritance taxes and net wealth taxes, especially if exemptions are made for low-income asset-rich households.

#### *Environmental taxes*

48. Taxes that penalise the production and consumption of “bads” such as taxes on pollution can improve environmental outcomes by placing a direct cost on environmental damage. Compared with regulations such as emission limits, environmental taxes have the advantage that they encourage incentives for abatement for each pollution unit. The design of environmentally related taxes plays an important role. In general, taxes levied closer to the actual source of pollution (e.g. taxes on CO<sub>2</sub> emissions rather than on motor vehicles) likely provides a stronger environmental impact (OECD, 2011c).

49. Environmental taxes are traditionally seen as a cost or burden to economic activity, at least in the short to medium term. Compliance with environmental taxes directly raises firms’ cost due to pollution abatement and indirectly via increases in input prices in industries affected by the tax. However, the effects of environmental taxes on productivity are complex and *a priori* uncertain (Kozłuk and Zipperer, 2013 for an overview). Indirect effects of taxes may actually increase productivity in some sectors. For instance, workers may become more productive if the adverse effects of air pollution on their health are reduced (Graff Zivin and Neidel, 2012). In addition to encouraging the adoption of known pollution abatement measures, environmentally related taxes can provide significant incentives for innovation as firms and consumers seek new, cleaner solutions in response to the price put on pollution (Ambec et al., 2013).

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6. Not all bequests are accidental or unplanned and in these cases inheritance taxes will affect savings decisions.

## 5. Fiscal policy environment

50. The institutional environment within which fiscal policy operates can influence the quality of public finance, growth and well-being in several ways. The fiscal environment is shaped by formal institutions such as rules, regulations and legal systems and cultural traits (or “informal” institutions) including values, beliefs and trust. Institutions and cultural traits interact and therefore it is difficult to disentangle the two (e.g. Alesina and Giuliano, 2015). The focus in this paper will be on the following features: (i) rules and regulations that facilitate contract enforcement, secure property rights and ensure an impartial judiciary; (ii) budget practices such as budget and expenditure rules and budget procedures that determine how public budgets are prepared, executed and monitored; (iii) fiscal councils that monitor fiscal policy; and (iv) the degree of fiscal decentralisation. Together these factors create the environment in which fiscal policy operates and as such they affect fiscal policy outcomes.

### 5.1. Regulatory and judiciary environment

51. Economic theory highlights that well-designed regulatory and judiciary rules facilitate long-term growth. In this strand of literature, a key factor driving growth is the setting of rules and their conduciveness for trust in the government. In particular, regulations and rules shape incentives of key economic actors and, in turn, influence investment in physical and human capital and technology (e.g. Robinson et al., 2005). There is a consensus in the empirical literature of the importance of the rule of law and enforcement of property rights for growth (Asoni, 2008 provides a review).<sup>7</sup> Indeed, cross-country differences in the regulatory framework are found to play a key role in explaining differences in long-term growth in developed and emerging economies (Acemoglu and Robinson, 2010; Rodrik et al., 2004; Acemoglu et al., 2001).

52. Inclusive regulatory and judiciary rules and institutions, which level the playing field and provide all citizens with opportunities to participate in and shape public policy, may increase redistribution and reduce inequality (Acemoglu et al., 2015 for an overview). For instance, research has shown that democracy has an “equalising” effect by extending the political power to the poorer segments of society, which increases the demand for redistributive policies (Melzer and Richard, 1981). However, in practice democracy may be constrained or captured (Acemoglu and Robinson, 2006). For example, lobbying may allow those with greater organisational and financial resources better access to decision-making processes as compared to others (OECD, 2013d).<sup>8</sup>

### 5.2. Budget practices

53. Budget practices, notably the rules that determine the preparation and execution of the budget play an important role for the quality of public finances. Government spending is often targeted to certain groups, while it is financed by all tax payers. This implies that governments may engage in excessive spending, since the voters they represent do not bear the full cost of spending programmes.<sup>9</sup> In turn, this can create inefficient and overly large public sectors, potentially undermining growth and the sustainability of the public finances. Hence, public budgeting may suffer from co-ordination failure, if governments

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7. For instance, a seminal paper by Acemoglu et al. (2001), which addresses the potential endogeneity problem of institutions with respect to growth, established a robust positive effect of better institutions on growth.

8. Becker (1985) found that the adverse effect of lobbying is higher when there is highly unequal access to political influence.

9. In a dynamic context, time inconsistency can lead to excessive deficits as governments do not fully internalise the cost that future governments will bear in servicing public debt (e.g. Krogstrup and Wyplosz, 2010).

cannot overcome the pressure of interest groups. To address this co-ordination failure it is crucial to create incentives that induce governments to recognise the true marginal costs and benefits of spending programmes (e.g. Hallerberg and von Hagen, 1999). One way to do this is to set medium-term targets for the budget. An alternative is to delegate the budget responsibility to a part within the government that is less prone to respond to special interests and instead takes a comprehensive view of the allocation of spending across areas.

54. There is evidence that well-established and enforceable fiscal rules mitigate expenditure and deficit biases. For instance, Hallerberg et al. (2007) found that fiscal contracts that require and enforce multi-year budget targets increase fiscal discipline, particularly in countries with ideologically dispersed coalitions. Centralisation of the budget was found to restrain public debt in countries with one-party government or coalition governments with similar ideologies. Recent OECD research found that fiscal rules affect fiscal performance. For instance, a budget balance rule was found to have a positive and significant effect on the primary balance and a negative and significant effect on spending (Fall et al., 2015). Still, a significant association between stricter fiscal rules and fiscal performance may not necessarily imply causality. It may reflect the fact that governments that are more concerned with long-term sustainability are also likely to implement stricter rules (Bergman et al., 2013).

55. Transparency and accountability in the budget process via, for instance, budget practices such as open and participatory budgeting, can affect the quality of public finance by enhancing fiscal discipline (Debrun and Kumar, 2007). Likewise, prioritisation in the allocation of expenditure and performance-based budgeting may improve the quality of public finances by raising cost-effectiveness of public spending across policy areas (Kastrop et al., 2016). Inclusive political and budget processes can also create more responsive and equitable policies and public services that are better suited for diverse needs (OECD, 2014). In addition, access to public sector information and transparency can enable citizens to exert more effective control over public servants, which can improve outcomes (Gellner, 1994). It can also build citizens' trust in government (OECD, 2015f). In turn, a high level of trust can reduce transaction costs in economic and political relationships and may help increase the efficiency and effectiveness of government operations (OECD, 2013d).

### **5.3. Fiscal councils**

56. Independent fiscal institutions (IFIs) are independent bodies set up by governments or parliaments to improve oversight of fiscal policy. IFIs have existed for a long time in some countries (e.g. Netherlands, Denmark, Germany and the United States). Recently the establishment of IFIs has multiplied. The remit of these institutions varies across countries and often it includes assessments of fiscal plans, long-term sustainability, and the evaluation or provision of macroeconomic and budgetary forecasts (IMF, 2013; Fall et al., 2015; OECD, 2016). To the extent that IFIs promote stronger fiscal discipline, long-term sustainability, transparency and credibility they may improve the quality of public finance. The empirical evidence on the effect of fiscal councils on fiscal performance is fairly limited and is mostly based on the earlier established IFIs. An IMF study found that fiscal councils can promote fiscal discipline as long as they are well-designed (IMF, 2013). The OECD Principles for Independent Fiscal Institutions (2014) aim to assist countries to design an effective enabling environment while codifying lessons learned and good practices that are firmly grounded in the experience of practitioners to date. Fall et al. (2015) showed that fiscal councils can underpin transparency, fiscal discipline and the credibility of fiscal rules particularly in the case of complex rules.



#### 5.4. Fiscal decentralisation

57. The theoretical literature on the economics of fiscal federalism has identified several potential channels through which fiscal decentralisation influences economic growth. The traditional literature focuses on the efficiency aspects of decentralisation (Tiebout, 1956). Decentralisation increases economic efficiency as local governments can be better than national governments in providing services to citizens due to closeness and informational advantages. Furthermore, the possibility of experimentation and competition between local governments in the delivery of public services, coupled with mobility of households and firms, promotes a more efficient provision of services. By contrast, the more recent literature argues that decentralisation can increase corruption and government inefficiency, if local governments shield businesses operating in their jurisdiction from laws applying at the central level, thus effectively eroding the rule of law. Moreover, local governments may be more easily captured by special interest groups (Martinez-Vazquez and McNab, 2003 for an overview).

58. The empirical evidence on the impact of decentralisation on growth is ambiguous. A recent meta-analysis, based on 31 empirical studies, found that the evidence on the effect of decentralisation on growth is inconclusive (Baskaran et al., 2014). The failure to find clear-cut results partly reflects problems of measuring the autonomy of sub-federal jurisdictions accurately.<sup>10</sup> Nonetheless, an OECD study found that decentralisation (measured by revenue or spending shares) was positively associated with GDP per capita (Bloechinger et al., 2013). Furthermore, the impact of decentralisation was found to be stronger for revenue than for spending decentralisation. The research also found that investment in physical and human capital was significantly higher in more decentralised economies.

59. Similar to the literature on growth, the theoretical and empirical literature provides no clear-cut answer on the link between fiscal decentralisation and inequality (Tselios, 2012). Fiscal decentralisation can reduce inequality. Decentralisation brings governments closer to their citizens, making local officials better informed about local needs than central governments. By contrast, fiscal decentralisation may lower the likelihood of attracting skilled officials as the supply of skills may be limited at the local level and, in turn, reducing the efficiency in delivering redistributive policies (Prud'homme, 1995). A recent OECD study provides ambiguous results on the association between fiscal decentralisation and inequality, with the results depending on the particular inequality and decentralisation measure considered in the analysis (Blöchliger, Bartolini and Stossberg, 2016).

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10. The majority of studies measure decentralisation by the share of sub-federal spending (or revenue) in total government spending (or revenue). Theoretical models assume autonomy of sub-federal decision-making over the provision and financing of public goods. However, spending decentralisation may simply indicate the extent of administrative federalism within states, rather than actual autonomy (e.g. Stegarescu, 2005).

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