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Cultivating Long-Run Economic Growth in the Republic of Ireland: A Very Brief Glance

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SUMMARY

New ideas and their subsequent diffusion are the ultimate source of long-run quality of life improvements. In many respects the stories of economic growth and human history are the stories of technological change and changing beliefs and ideas. Economic growth comes from the accumulation of labour and capital inputs combined with improvements in the productivity of labour and capital arising from on-going scientific progress and technological change.

Sustainable long-run growth in per capita output depends on innovation driving improvements in labour productivity. Investing in education and skills (human capital), equipment and infrastructure (physical capital), and in the production, diffusion and use of new ideas, is the only way to sustain growth in productivity over the long-term. Insufficient investment in skills, infrastructure and innovation will constrain future economic growth. Underlying all of this is the need for a supportive institutional architecture to incentivise innovation and ensure the efficient use of labour and capital.

KEY POINTS

- This NERI inBrief touches on a number of ways to increase the Irish economy's long-run growth potential. Sustainable growth in per capita economic output depends on productivity gains arising from innovation.
- A country's innovative capacity is a function of education levels; the cost of knowledge; the quality of capital markets and government policies that support R&D. Human capital is a complement to innovation and is therefore fundamental to economic change.
- The best way to sustain productivity growth is to increase investment in education and skills, particularly early years learning; to increase investment in the production, diffusion and use of new ideas, and to increase investment in productivity enhancing infrastructure.
- With some exceptions tax incentives and subsidies are cautioned against. In general, they negatively affect growth by distorting allocative efficiency, by creating inefficiencies in production and consumption, and by diverting activity toward rent-seeking behaviour.

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Introduction

Per capita output is determined by: (A) the proportion of the working-age population as a percent of the total population, (B) the percent of the working age population working for pay or profit, (C) the average number of hours worked per person working and, (D) the average output per unit of hour worked (i.e. labour productivity).

Policies to increase output are those that either increase the amount of labour inputs employed or those that increase average labour productivity. The best way to sustain growth in productivity over the long-term is to invest in education and skills, in productivity enhancing infrastructure, and in the production and diffusion of new ideas.

Economic Growth and Change

Economic growth comes from the accumulation of labour and capital inputs combined with improvements in the productivity of labour and capital inputs arising from on-going scientific progress, technological change and innovation, scale economies and efficiency of factor use. Influencing the cost of finding and using new ideas is the key to economic growth and in many respects the stories of economic growth and human history are the stories of technological change and changing beliefs and ideas.

Useful ideas are the source of sustainable economic growth because ideas are non-rivalrous in use. One person's use of a new idea does not prevent others from using that knowledge. Unlike rivalrous inputs such as workers, materials and buildings, once an idea is produced, for example as a recipe or set of instructions, it does not need to be reproduced every time we want to use it. In this way, the non-rivalrous nature of new ideas explains economic growth by giving rise to increasing returns to scale. The more new ideas spread, or diffuse, the greater the benefits across the economy. The potential for growth in incomes across the economy depends on exploiting the existing stock of ideas and the cost of accessing and using that knowledge.

Growth Performance and Prospects

Irish real annual GDP growth averaged a strong 4.3% over the period 1990-2014. Irish over-performance, compared to other advanced economies, was most pronounced for Total Factor Productivity (TFP). TFP made a 1.1 percentage point contribution to annual growth in Ireland compared to an average of just 0.2 percentage points for a 25 country group of advanced western economies. However, TFP made a negative contribution to GDP growth over the period 2000-2014, partially reflecting changes in the composition of employment.

The key parameters underlying future growth prospects are demographic changes, the participation and employment rates, the investment rate, and changes in TFP. Ireland's growth potential depends on the economy's ability to generate employment and productivity gains year-on-year. Ireland is now a high productivity economy with GDP per worker close to US levels. This suggests the opportunities for catch-up productivity gains may be lower in the future than has prevailed in the past.

Human Capital

Labour productivity increases along with learning and experience. Human capital represents the knowledge, skills, competences, creativity and other attributes embodied in individuals that are relevant to economic activity. Human capital development, which is a life-long process, not only enhances labour productivity but is also a necessary input for and complement to innovation and technology adoption. The early years are the most important for development, and external factors, like poverty, can have extremely damaging and lasting effects on human capital.

Spending on education generates positive externalities for the wider economy to the extent that it represents genuine investment in human capital. Despite having a comparatively young population government spending on education was just 4.1% of GDP in 2013 compared to 5.0% for the EU and 5.5% for the UK.

Table 1: Selected high-level measures to increase the economy's potential output

Area	No.	Measure
Employment	1	Provide substantial state subsidies for childcare
	2	Gradually taper down housing and welfare supports with increases in income instead of making supports conditional on employment status
	3	Eliminate and avoid creating step-effects in the tax and social insurance system
	4	Remove barriers to inward migration and migrants working legally in the economy
Infrastructure	5	Spend more on independently evaluated public infrastructure projects (circa 3% to 4% of GDP)
	6	Establish an infrastructure bank to facilitate the provision of stable, long-term finance for infrastructure and to engage in counter cyclical investment
	7	Establish an expert group to independently evaluate infrastructure needs and co-ordinate evaluation of specific projects
Human capital	8	Annually review the efficacy of activation programmes and training schemes and reallocate resources to well-performing programmes and schemes
	9	Increase education budget for early years learning (particularly for disadvantaged children)
	10	Use fiscal policy to reduce economic inequality (income and wealth) and promote social and economic inclusion
	11	Protect childcare, family and housing supports and healthcare services at sufficient levels to avert child poverty
	12	Increase teacher autonomy and accountability and reduce classroom sizes
Innovation	13	Increase public spending on basic and applied research as % of GDP – many breakthrough innovations had their origins in public research
	14	Incentivise (subsidise) take-up of science, technology, engineering and mathematics courses at undergraduate and postgraduate levels
	15	Reform the patent system to promote innovation and the use of new technologies
	16	Establish a state investment bank to raise affordable funding for innovating enterprises including seed funding for high potential start-ups
	17	Provide grants to SMEs for adoption of new technology
	18	Increase support for horizontal links between the state, higher level institutes and enterprises
	19	Reform bankruptcy law to not overly penalise failure
	20	Address market failures in the provision of high speed broadband access
Efficiencies	21	Gradually phase out the system of tax expenditures (simplify the tax code) and ensure horizontal equity of tax treatment across all asset classes to the greatest extent possible (though see no.26 below)
	22	Gradually phase out *most* subsidies for home ownership, business and agriculture (though see no.1, no.14 and no.17)
	23	Expedite moves towards a genuine banking union to facilitate financial market development and competition
	24	Guarantee independence for all existing regulators including the Central Bank. This includes powers to break-up dominant market operators and enforce macro prudential policies as appropriate
	25	Establish independent regulators with enforcement powers for all professional bodies
	26	Rebalance the tax system with increased taxes on land, property, wealth, inheritances, passive income and gifts

Source: McDonnell (2015)

Innovation Capacity

Innovation and R&D levels are determinants of productivity gains, competitiveness and growth. An economy's 'innovative capacity' refers to the ability to generate original ideas and communicate and assimilate existing innovations. The economy's innovative capacity is a function of education and skills levels, the cost of knowledge, government policies that support R&D, and the quality of capital markets, among other things.

The inability of private knowledge producers to internalise all of the benefits of R&D investments reduces the incentive to undertake such activit, leads to a socially suboptimal level of knowledge production and justifies state intervention. Gross domestic expenditure on R&D was just 1.6% of GDP in 2012 compared to 2.4% for the OECD and 2.8% for the US. Combined government and higher education spending on R&D was 0.44% of GDP in 2012 compared to 0.72% for the EU and 0.74 per cent for the US.

Productive Infrastructure

Efficient investment in infrastructure is strongly related to long-run increases in the economy's productive capacity. Increased investment in public infrastructure raises output in the short-term because of demand effects and in the long term as a result of supply effects. The WEF places Ireland just 36th in the world in terms of the overall quality of infrastructure.

Public spending on gross fixed capital formation is close to 2% of GDP in 2015. This is well below the EU average of 2.9% and almost certainly lower than Ireland's medium-term growth potential. Such a low rate of public investment, if maintained, is likely to produce infrastructure bottlenecks and impede Ireland's growth potential. The weakness of Ireland's financial market development makes a case for establishing a Strategic Investment Bank (SIB). An independent SIB could centralise and leverage financing for investment in infrastructure and innovative capacity.

Economic Efficency

Cross-country differences in productive and allocative efficiencies may be just as, if not more, important for output per worker than technology differences. Lack of competition will lead to inefficiencies in the absence of robust regulatory measures. Subsidies for home ownership, business and agriculture are deleterious to long-run growth because they skew economic activity and distort resource allocation. Even so, there are some areas where well-designed subsidies can be appropriate. Good examples include subsidies for R&D and for childcare.

Tax breaks change the incentive structure for households and firms, thus influencing their behaviour. The resulting behavioural changes can have positive and negative impacts on both short-run and long-run economic growth. However, in general, tax breaks negatively affect growth by distorting allocative efficiency, by creating inefficiencies in production and consumption, and by diverting economic activity toward rent-seeking behaviour.

Other Considerations

Increasing potential output is not just about labour productivity. Output also depends on employment levels and on the average number of hours worked in the economy. Just 61.7% of the working age population were in employment in 2014 compared to 71.9 per cent for the UK.

One way we can increase employment and the number of hours worked in the economy is by removing barriers to labour market entry. The very high cost of childcare is one such barrier. State subsidised childcare would incentivise the labour force participation of second earners and lone parents. This would increase the effective size and quality of the available workforce while retaining human capital within the workforce.

Conclusion

Table 1 describes a non-exhaustive set of measures to sustainably increase long-run economic output whether as growth effects or as level effects. Many, though not all, of these measures carry a substantial fiscal cost. There appears little evidence that the revenue-to-GDP has much if any effect on long-run growth in advanced economies, and in this context it is important to re-evaluate plans to cut taxes in future budgets and instead take a more strategic approach to nurturing growth in the Irish economy. Education, investment and innovation are the keys to unlocking productivity gains and productivity is the key to growth.

References

This NERI *Research inBrief* is a much simplified summary of NERI *Working Paper* No.31 – '*Cultivating Long-Run Economic Growth in the Republic of Ireland*.' This paper is the first in a series of NERI contributions on economic growth and contains a full list of the references, data and findings used in this *inBrief*.

McDonnell, T. (2015) *Cultivating Long-Run Economic Growth in the Republic of Ireland*, NERI Working Paper No. 31. Dublin, NERI.