Regional aspects of inequality in Ireland

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The importance of promoting communities and economies that are regionally balanced should not be overlooked. People tend to establish ties in the area where they grew up through social, familial, and other bonds. Uprooting them due to a lack of prospects can cause significant harm to not only the people in question but to the communities they leave. Overpopulation in urban centres leads to congestion, and lowers the quality of life. Few benefit then when regional differences are so large that social and economic life outside of major urban centres becomes unviable.

At the same time, it is not enough to promote balanced development between regions of the country if the distribution of resources within our villages, towns, and cities is so massively skewed. It is by now well-established that inequality is associated with range of negative social outcomes from poor physical and mental health, violence, and also community breakdown. Highly unequal urban centres are hotbeds for crime and isolated rural communities are often deprived, unable to, for instance, access important social and public services.

This short paper examines regional components of inequality in Ireland. It first looks at differences in income and living standards between regions, overviewing literature as it relates to the period up to 2000. It finds that foreign investment has played a decisive factor over the last half century, initially contributing to convergence, but more recently leading to divergence. During the 2000s the property bubble narrowed regional disparities, but the export-based recovery largely reversed this process.

The paper then looks at inequality within regions of different population density, essentially within rural communities, towns, and cities. The welfare state plays an important role in reducing inequality in all locales, though inequality is found to be higher in densely-populated areas. Inequality in each group broadly follows nationwide trends as it grew somewhat during the 2000s, fell post-crisis, and has risen somewhat since the recovery.

Inequalities between regions

Regional differences up to 2000

Economic development tends to be a lumpy process. Regions within an economy do not grow or develop at the same rate. These tendencies can multiply over time so that regional disparities often snowball as countries grow. A standard explanation is the existence of cluster economies. This is the process whereby firms and economic activity tend to gravitate toward existing prosperity for a variety of reasons. This includes local demand effects, the greater ability to cost-effectively source inputs, the importance of local infrastructure, knowledge exchange or spill-overs between firms, and more (see Gardiner et al., 2013). The loss of one region is often the gain of remaining regions, which also magnifies disparities (ibid.).

The absence of an industrialisation process comparable to other countries has meant that such factors have not been as important in Ireland. Instead, the uneven distribution of good agricultural land, which tends to be of lower quality in the West and North, as well as differences in farm size, have had an important impact on regional development. The stronger urban structures that resulted in the South and East positioned them to benefit more in attracting industry as the state promoted industrialisation in the 1930s[1]. On top of that, the historic use of Dublin as the principal colonial outpost and main port for external trade resulted in an unusually dominant capital city (Breathnach, 2010).

The move from inward-oriented industrial promotion to attracting foreign firms for export brought with it attempts to equalise the geographic distribution of economic activity. A significant part of foreign investment in the 1960s and especially the 1970s flowed to rural areas, albeit overwhelmingly low-tech and with few roots to local economies. Nevertheless, coupled with the damage done to existing urban-based indigenous industry by the global recession of the 1970s, and the entry of Ireland into the EEC in the same period, the 1970s witnessed a significant convergence in living standards within the country (Breathnach, 2014; O'Leary, 2002).

Breathnach (2014) notes, however, that little to none of the foreign industry that came to non-urban and rural Ireland in the 1970s remains today. The recessionary period of the 1980s and rising wages left the plants vulnerable to closure given they were, as mentioned, relatively unlinked to the domestic economy. The period from 1979 to 1993, where the latter is typically dated as the beginning of the Celtic Tiger, thus displayed a pattern of weak regional divergence (O'Leary, 2002). At the same time, the failure of foreign investment to provide lasting roots in Ireland's towns and rural communities led to a shift in policy - no longer was there to be an emphasis on dispersing foreign investment through Ireland's regions.

The IDA now focused on attracting higher-skill and higher-tech industries, which naturally gravitated towards the urban centres. In particular, it was successful in attracting mostly US electronics firms keen to use Ireland as an export base to the EU market. Unsurprisingly, the Celtic Tiger years of the 1990s saw a pronounced growth in regional disparities. This was mostly driven by large differences in employment performance with the South West, Dublin, and the East of the country enjoying the largest increases (ibid.).

Regional differences since 2000

We now turn to the development of regional income differences since 2000. The 2000s are noteworthy in that the orientation of economy shifted inward as the country underwent a large construction boom. Since the crash and recovery, however, exports have grown though with now a greater weighting toward services. From a regional perspective we might expect

[1] We wish to thank one of the reviewers of the paper for these insights.

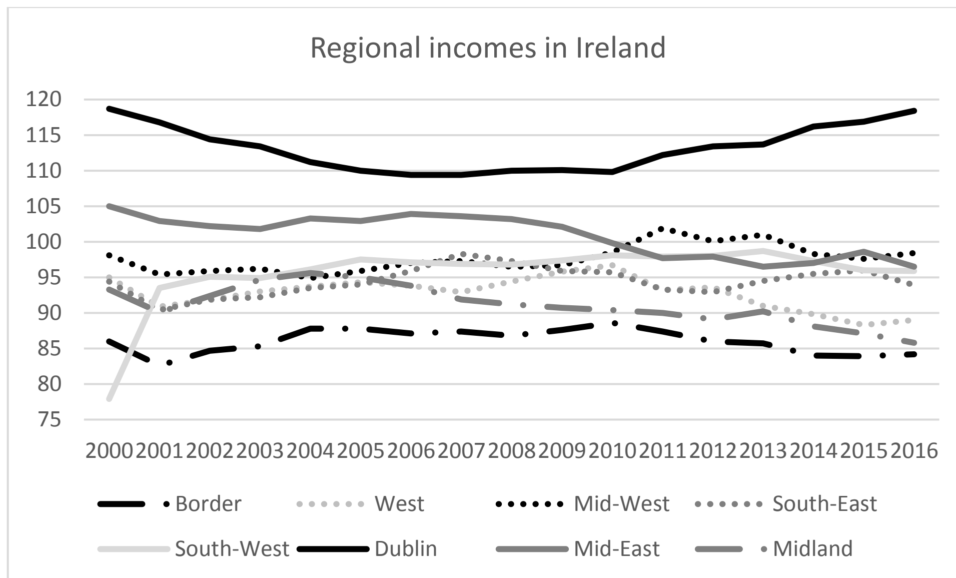

Figure 1: Income differences between Irish regions.

Source: CSO.

disparities to have declined up to the crisis, and to have risen afterward, which we explain more fully below.

Figure 1 above shows the evolution of disposable (after taxes and transfers) income per person relative to the national average in eight different regions of the country. Through the 2000s up until the crisis, a process of convergence is indeed apparent, evidenced by the lines getting closer to one another. The process of convergence is then largely reversed as the collapse of the economy hit certain regions harder, and as the recovery was particularly strong in the capital.

More specifically, we see that over a period of 16 years Dublin's premiership as the most income-rich region in the state remains unchallenged. In 2016 the income of a typical Dubliner was just under a fifth higher than the national average. Though its relative income fell in the 2000s, in 2016 its level is as it was in 2000.[2] The surrounding Mid-East, which has typically been its nearest rival, maintained its position up to the crash, after which it began a gentle but steady decline. There is less change in the Mid-West and Border regions which essentially maintained their relative incomes. Similarly the South-East begins and ends the series with 95% of national income.

The remaining regions are the South-West and West. The movement of the South-West is largely explained by a sharp recovery in the first year of the series. The West's share of income stayed constant up to the beginning of the crisis in 2008, after which it fell slightly. The CSO Survey of Income and Living Conditions, which begins later but has data up to 2017, largely mirrors this trend but shows a sharp spike in 2017. There the West recovers from 88%

[2] In 2017, Dublin income edged to marginally higher to one fifth of national income (CSO, 2019). This is based on EU-SILC median equivalised real disposable income. Its latest data is 2017, but only extends back to 2004.

to 99% of national income in the latest year of data. As the two series largely match[3], this suggests that the West had indeed made up its lost ground in recent times. But overall it is the strong performance of Dublin that has been the major driver of divergence in recent years.

Turning now to the distribution of unemployment across different sectors, Table 1 below presents the regional evolution of the unemployment rate. Unemployment as presented here relates to the rate for persons between 15-74 years old. The earliest and latest data are presented along with peaks and troughs. So Q4 2000 was the lowest recorded unemployment since the series began, Q2 2012 represents the worst of the crisis, and so on.

	1998Q1	2000Q4	2002Q2	2005Q4	2012Q2	2019Q1
State	8.9	3.8	4.8	4.3	15.9	4.8
Border	9.8	4.3	6	4.1	15	3.9
Midland	11.1	5	5.1	4.3	22.1	6.2
West	7.9	4.1	5.7	4.2	17.4	5.5
Dublin	8	2.7	4.2	4.5	12.7	4.4
Mid-East	9.9	4	4.4	3.6	16.2	4.1
Mid-West	9.5	4.8	4.7	4.9	19.3	5.5
South-East	8.9	4	4.3	4.7	17.1	6.7
South-West	9	4.1	5	3.7	15.5	4.0

Source: CSO.

Note: 2011Q3 and 2012Q3 also registered state-wide unemployment rates of 15.9%, but 2012Q2 is displayed over the former because GNI* was lower, and over the latter because 2012Q3 is closer to the recovery.

What we see is high rates of unemployment persisting into the late 1990s, though with considerable variation. At the peak of the Celtic Tiger, a large drop in unemployment is evident across the country into late-2000. There is, though, significant variation. Unemployment in Dublin was more than two percentage points lower than in the Mid-West. After the bursting of the global tech-bubble in the early 2000s when unemployment was 4.8, late-2005 represented the peak of the boom. Consistent with Figure 2, unemployment during this period is much less dispersed. Again, this is primarily a result of the large increase in construction employment. The collapse saw sharp spikes in joblessness everywhere, but with some regions harder hit than others, again consistent with the increase in regional differences post-crisis outlined earlier.

Interestingly the border area's unemployment performance is relatively strong given it is the poorest region in the country in terms of income. The latest figures indicate its unemployment rate is currently below Dublin. However, its lower income can be more readily

[3] For instance, in 2016 according to the CSO-SILC survey (real equivalised median disposable) incomes in the West were 88% of national average, whereas according to the national accounts regional statistics disposable income per capita was 89% the national level for that year.

explained by looking at its participation rate, the proportion of people working or looking for work. Only 59.6% of the working age population participate in the labour market in the Border area, the third lowest in Ireland after the South-East and the Midland (CSO, 2019). The best performer for unemployment is now the South-West, likely a result of the concentration of FDI in Cork. The major unemployment blackspot is the South East. Though it survived the worst of the recession comparatively well – three other regions were worse off – it has failed to capitalise on the recovery as others have. Its participation rate of 58.5% is, as mentioned, only above the Midland (ibid.).

The income and unemployment trends are then mostly consistent, at least their most important features. Dublin weathered the storm better than any other region in unemployment terms, which coincides with the Dublin-led divergence in living standards since the recession. Some of the anomalies such as the low and stagnant income of the Border region despite a very strong labour mark performance can, as discussed, be more readily explained by employment and participation rates. The fit is, of course, not perfect, but is good enough.

As to what explains these trends, the obvious explanation for convergence in the 2000s is, as intimated earlier, the construction-led boom that persisted for much of the decade. Construction mostly responds to factors internal to the economy such as the level of demand, but is also prone to speculative bubbles. Construction does not rely and specialised knowledge, business, and infrastructure networks which cluster in specific regions in the way, say, high tech exports do. A general boom of the construction sector is therefore likely to be felt throughout the economy and contribute towards income and employment convergence.

In contrast, divergence since the crisis can be attributed to the greater ability of certain sectors to withstand economic shocks, with regions specialising in traded products proving the more resilient (O'Connor et al., 2016). Though the salience of computer and electronics-based exports has waned as other low-cost producers emerged, these have been replaced by other key sectors. Dublin is an important 'producer' of ICT, business, and financial services while the surrounding Mid-East is an important exporter of chemicals. Cork is particularly strong in pharmaceutical trade, while Galway is somewhat of a centre for exporting medical devices (ibid.). In essence, the diminished role of the foreign sector in affecting regional differences in the 2000s has proven to be only temporary as the emergence of the export-based recovery has been driven by the major urban centres.

<u>Inequalities within Ireland</u>

Whereas inequalities between regions of Ireland have predominantly been driven by the sectoral makeup of those regions, understanding inequality in the country as a whole requires a different focus. Ireland has a set of labour market institutions that predispose it to high levels of inequality as trade union membership and coverage are low, and it is comparatively easy to fire people. Combined with Ireland's below average labour force participation and high levels of low-work intensity households, so-called market income inequality is high. The

Irish state is redistributive through taxation and especially transfers which means that Ireland now ranks in the middle for income inequality among EU countries (see Sweeney, 2018a)[4].

In terms of inequality internal to or within regions, several factors should be borne in mind. Because inequality tends to be driven by gains of the rich, and opportunities to earn high incomes are disproportionately located in urban areas, cities tend to be more unequal than rural areas. Migration of lower skilled workers in search of opportunity among high–skilled professionals may also play a role (Glaeser et al., 2009), in part through driving down wages. Deprivation tends to be higher in cities as high prices, especially for property, induce hardship for the unemployed and low-paid. On the other hand, unemployment tends to be higher in rural areas, so that the risk of poverty tends to be higher (O'Donoghue et al., 2014a). Remote rural areas, isolated from economic activity and essential social services, may also display levels of deprivation comparable to urban areas.

Figure 2 below shows the trajectory of inequality in Irish regions through time based on equivalised disposable household income per person. We measure inequality using the standard Gini coefficient where a value of 0 means perfect equality – everyone receives the same income – and a value of 1 means complete inequality – one person receives all income. Income is measured according to equivalised income per person, namely household income per person adjusted for household composition[5]. It is based on the European Survey of Income and Living Conditions (EU-SILC) microdata[6] which allows inequality to be broken down according to inequality within densely populated areas, intermediate or medium population density areas, and sparsely or thinly populated areas[7].

[4] It is worth emphasising that Ireland has historically had high levels of income inequality. It is now in the middle only because other countries have become much more unequal while things have been comparatively stable here. Moreover, other countries have higher levels of universal public provision whereby the poor access services for free at the point of use, so that Ireland's position in the middle is flattered somewhat.

[5] For instance, a household with a given income shared between two adults will have a lower standard of living than a household sharing the same income between an adult and a child. However, as resources and bills are shared, that same two-adult household has a higher standard of living than if the two adults lived separately.

[6] The figures are normalised so as to be consistent with Eurostat. For instance, if we calculate that inequality in rural areas is 0.9 the nationwide level, but that our figure for nationwide inequality differs from the Eurostat figure we adjust rural inequality (which is not available in Eurostat) accordingly so that it remains 0.9 the nationwide level (based on Eurostat). The discrepancies were small.

[7] An area is densely populated if there are at least 1,500 inhabitants per km^2 with a minimum of 50,000, medium density if there are at least 300 inhabitants per km^2 with a minimum of 5,000, and sparsely populated if it does not meet either of the previous two criteria.

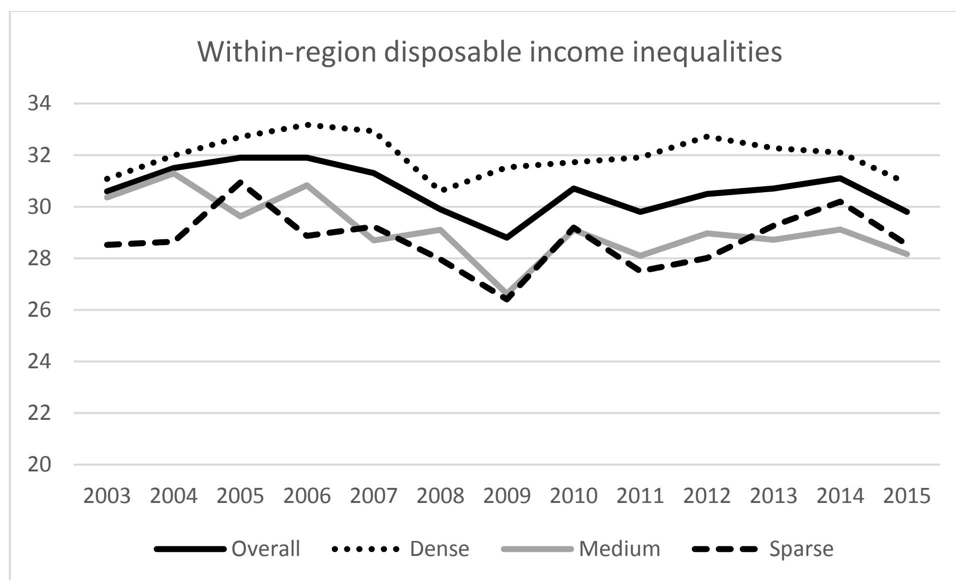

Figure 2: Equivalised household disposable income in Ireland.

Source: EU-SILC.

As can be seen, ranging from about 0.29 to 0.31, 2015 displays little variation. The limited difference in disposable income inequality rates has been a persistent feature of the Irish landscape, at least from the beginning of the series in 2003. Whether considering dense, medium, or sparsely-populated areas, inequality in each category closely follows the overall trend. At times the gap widened, as in the peak of the boom in 2006 and the depths of the aftermath in 2012. Medium-density and sparsely populated areas have frequently switched places in the income distribution pecking order. But generally small differences in the level of inequality for areas of different population density have been the norm in Ireland.

Figure 3 examines labour income inequality through time. Labour income is measured at the individual level as opposed to the household level in the previous figure. It is the most important source of income and is the sum of employment and self-employment income for each person at work. As high levels of part-time and seasonal work would potentially result in high labour market inequality, we adjust for working time using the methodology of Brandolini et al. (2010), and also employed by Eurofound (2017). In essence, the Gini coefficient of equivalised labour income measures how unequally pay per unit time is distributed.

Compared to the equivalised disposable income, changes in labour income inequality across areas of different population density are more erratic. Though overall or nationwide inequality is more stable, with the onset of the crisis inequality in medium-density areas fell sharply. Inequality in thinly-populated and dense areas fell too, but less noticeably. During the boom years inequality rose in all areas, as it has done in the recovery. In other words, income from work becomes more unequal in good times and the opposite happens in bad times.

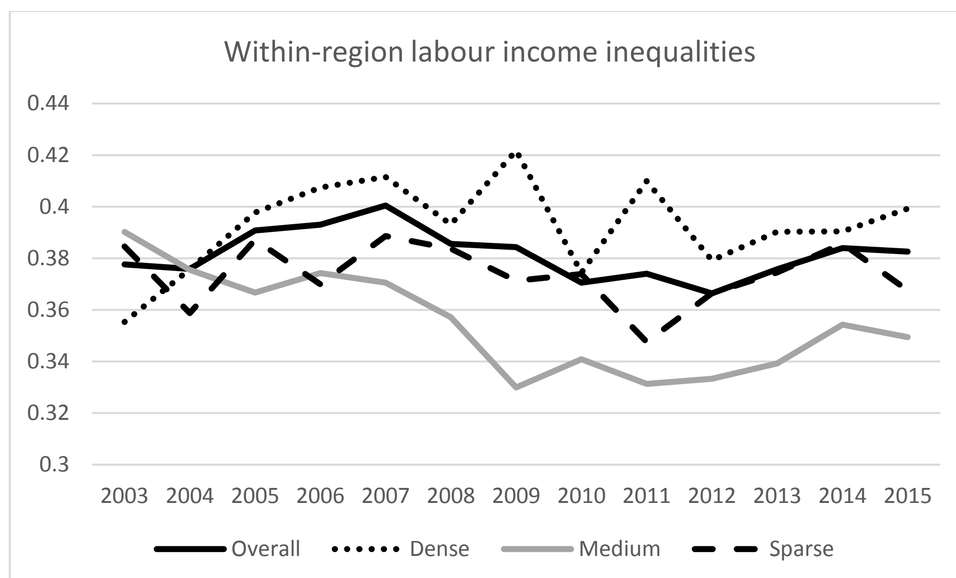

Figure 3: Labour income inequality in Ireland.

Source: EU-SILC.

The greater volatility of labour income versus disposable income is to be expected. The redistributive role of the welfare state dampens inequality generated in the market. Higher earners pay more tax, so that a given increase in the labour income of higher earners translates into a smaller increase in disposable income. Disposable income inequality therefore increases less during, for instance, good times compared to labour income inequality.

As to why inequality, especially labour income inequality, increases in booms and decreases in busts, the distribution of bargaining power between owners and workers tends to change only slowly over time. As such, changes in the occupational and sectoral makeup of the labour force are likely to have a stronger effect than shifts in the balance of power between labour and capital. For instance, firms might be more willing to let go low-skilled, and hence lower-paid employees in times of recession given the lower retraining costs and the less value they generally add to a company. The shedding of lower-paid occupations in a recession would then lower disparities in labour income inequality. Given that lower density areas are more dependent on lower paid jobs and sectors, the shedding of this segment of the workforce is more likely to hit those areas harder, and consequently lower inequality more there. A similar argument could be made about the rise in inequality during boom times as highly-skilled and highly-paid occupations and sectors creating more inequality, especially in high-density/urban areas.

Unfortunately, the EU-SILC is not designed to capture the sectoral composition and occupational structure of the workforce. Despite considerable effort to extract the information on our part, the microdata's sample size was too small to reliably breakdown the changing sector and occupations of the workforce in areas of differing population density. That said, state-wide trends in inequality are potentially fruitful as they broadly track what

happens elsewhere – when overall inequality increases, inequality increases in dense areas too, for instance. The decision then is whether to use EU-SILC data to look at trends in the sectoral composition of the workforce, or another source such as the Labour Force Survey (LFS) which is more appropriate, but which may contradict somewhat the data from which we calculated inequality.

Without presenting all the permutations, we restrict our comments to when EU-SILC and the LFS are in broad agreement, which is most of the time, and to high and low-paid sectors[8]. Both series agree that gains or losses in the share of the workforce in low-pay sectors may have contributed to an increase in inequality up to the crisis, but a reduction in their share was not responsible for the fall in inequality afterwards[9]. The two series contradict each other in relation to changes in the employment shares of higher paid sectors as EU-SILC shows finance and ICT employment to be relatively stable, but LFS shows an increase in recent years. The fall in nationwide inequality post-crisis, and hence in other regions of the country, may therefore have been driven by the loss of opportunities to earn very high incomes as the economy crashed, and not just or primarily by the changing composition of the workforce. A more definitive answer would require further investigation.

Discussion and Conclusion

For the past half century or so flows of foreign investment have been pivotal to regional living standards in Ireland. The initial inflow contributed to a convergence in living standards as low-tech foreign firms were scattered throughout the country in the 1970s, but since then higher-tech firms have gravitated towards urban centres. The construction bubble of the 2000s briefly arrested the trend of divergence, after which the export-based recovery signalled a return to growing regional differences.

As to inequality within Ireland, we find densely-populated or urban areas to be the most unequal. Town and rural areas are more or less the same except when the distribution of labour income is isolated, as since the crisis inequality has fallen in towns. It is not entirely clear why the different groups have somewhat different trajectories, except to say that they all follow the national trend. Inequality grew somewhat during the boom, fell in the immediate period after, and has been gently growing since then.

In comparative terms, it is not straightforward to establish Ireland's position among other countries in terms of how balanced or regionally unbalanced it is. Standard measures

[8] Obviously, there was a very large increase in construction employment in the 2000s and a very large fall afterwards. Other than the large increase in unemployment, it does not have obvious distributional implications given the sector is neither unusually well nor poorly paid. Similar comments can be made about the public sector whose share of employment increased significant after the crisis. Initial exploration of the data according to occupational structure did not reveal any obvious distributional trends.

[9] They two series show that the share of employment in the combined hospitality, and wholesale and retail sector grew from by two percentage points. From 17% to 19% according to EU-SILC and from 20 to 22% according to the Labour Force Survey (CSO, 2019).

of unemployment and income dispersion suggest the country is comparatively balanced[10]. The problem with such measures is that regions are not categorised in a consistent manner across countries as Ireland has eight regions, but, say, the UK has 179, with Northern Ireland alone having 11[11]. This does not permit accurate comparisons across countries. Internally, the distribution of income in Irish cities is similar to rural areas, whereas the inequality difference seems to be greater in other countries[12]. This is also consistent with Ireland being comparatively balanced, but the evidence is far from conclusive.

Even if we assume that regional differences in living standards and employment are comparatively small, despite the unambiguous evidence they have grown in recent decades, in population terms Ireland is an unbalanced country. As discussed, Ireland is unusual given the dominance of its capital city where the combined population share of Dublin and the surrounding region is 40 percent, and which is set to increase over the coming years (Morgenroth, 2018: 6). Consequently, second tier cities are relatively weak, and so provide a comparatively weak focal point to the surrounding areas. Overcapacity in the capital is evidenced through rising property costs and a congested transportation system, despite being only a medium-sized city (Pope and Hilliard, 2019). In addition to protecting rural communities and non-urban ways of life, there is an economic imperative to rebalance away from Dublin.

Given the government's commitment to attracting higher-tech FDI, improving the productivity of indigenous industry in laggard regions is central to balanced regional development. Best and Bradley (2018) find generally low innovation in indigenous sector in the Border region, despite some exceptions. For them, Ireland's current industrial policy should move away from focusing on grants and subsidies to individual companies but rather attempt to foster the capability of the region, including the encouragement of alliances. They point to a 'flaw in the Irish government's separation of enterprise development into a foreign sector run by the IDA and an indigenous sector run by Enterprise Ireland' (ibid: 194). Greater focus on indigenous industry development could be complemented with greater delegation of political and fiscal authority to local government, and the heretofore absent integration of regional development plans into overall national investment strategies (see Breathneach, 2010; 2017).

As to inequalities within regions, improvements in the productivity of indigenous firms also play a role in equalising the distribution of income. Ireland has a comparative glut of the traditional low pay sectors (O'Riain, 2014: 46-48). Moving up the value chain would boost the incomes of workers towards the bottom end, reducing inequalities in cities, towns, and villages alike. Though the traditional low pay sectors of hospitality and retail are evenly

[10] The coefficient of variation (COV) in regional unemployment was 13.4 in Ireland in 2017, and 36.0 on average in the EU. The 2015 COV for GDP per capita was 25.4 in Ireland in 2015 versus 36.4 for the EU on average. For most of the period since 2000 the Irish COV has been below that of the average EU level (CSO, 2019).

[11] Again, we thank a reviewer for pointing this out.

[12] A previous version of this paper compared internal inequality in areas in Ireland to other small EU countries and the UK using EU-SILC microdata. In Ireland the ratio of the Gini coefficient of equivalised disposable income for densely-populated areas to that for thinly-populated areas was 1.08 in 2015. For Austria, Belgium, Denmark, Finland, Sweden, and the UK, the figure was 1.25 on average.

dispersed throughout the country, Ireland also has comparatively large and rural-dominated agricultural sector, much of which would be economically unviable were it not for CAP transfer. A more regionally oriented industrial policy would not necessarily be restricted to promoting manufacturing or high-tech services, but should also attempt to raise the living standards of poorer farms, in a way that is also environmentally just.

In the shorter-term, public spending as a proportion of national income is set to decline in the coming years (Sweeney, 2018b). The burden of this adjustment is to fall on health spending and public pension provision through raising the retirement age. As rural communities are poorer and older, the impact of slimming the welfare state is likely to be disproportionately felt there. Despite the major deficiencies in Ireland's procurement processes, the state should invest more in rural and local transportation infrastructures, and also roll-out high-speed broadband to Ireland's towns and villages. Ensuring access to credit for local SMEs should be another priority, perhaps with a view to assisting local tourism, wind energy, agricultural and food business, and other industries with the potential for independent growth (see O'Donoghue et al., 2014c).

A number of challenges lie ahead if congestion in the capital is to be stemmed or greater rebalancing of the economy is to be achieved. This would benefit of not only people living in towns and rural communities, but residents of urban centres as well.

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