

# ESRI Research Note

## *Capacity constraints in the Irish economy? A partial equilibrium approach*

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Kieran McQuinn

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# CAPACITY CONSTRAINTS IN THE IRISH ECONOMY? A PARTIAL EQUILIBRIUM APPROACH

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\* Kieran McQuinn<sup>1</sup>

## 1. INTRODUCTION

Given the consistently high growth rates experienced by the Irish economy since 2013, an inevitable policy question is whether the economy will face capacity constraints in the short to medium-term. By capacity constraints we mean capital, labour or financial constraints which may prevent the economy from reaching its potential level of output and from growing on a sustainable basis.

Typically, one way to assess capacity constraints from a macroeconomic perspective is to estimate an 'output gap' and to assess, as a result, whether actual output levels in the economy are above or below the potential level. While estimates of the output gap in an Irish context are problematic in general due to the small open nature of the domestic economy, they are particularly difficult at present due to the well-cited issues with the National Accounts.<sup>2</sup> As a result, in this Note, we take a partial approach to the question by addressing a variety of different issues to do with the labour market, net migration and the total amount and allocation of credit in the economy.

In assessing the potential presence of capacity constraints, we pay particular attention to the property market and the financial sector for two reasons:

1. It was the confluence of financial sector and fiscal policy issues which led to the significant difficulties experienced in the Irish economy in the period after 2007/2008;
2. A significant increase in housing related activity is likely in the domestic economy in the coming years both from private and public sector sources.

In evaluating the presence of capacity constraints, we adopt two approaches; first, we examine the historical trends in the particular indicator/variable and secondly, where possible, we conduct a cross-country comparison. Both

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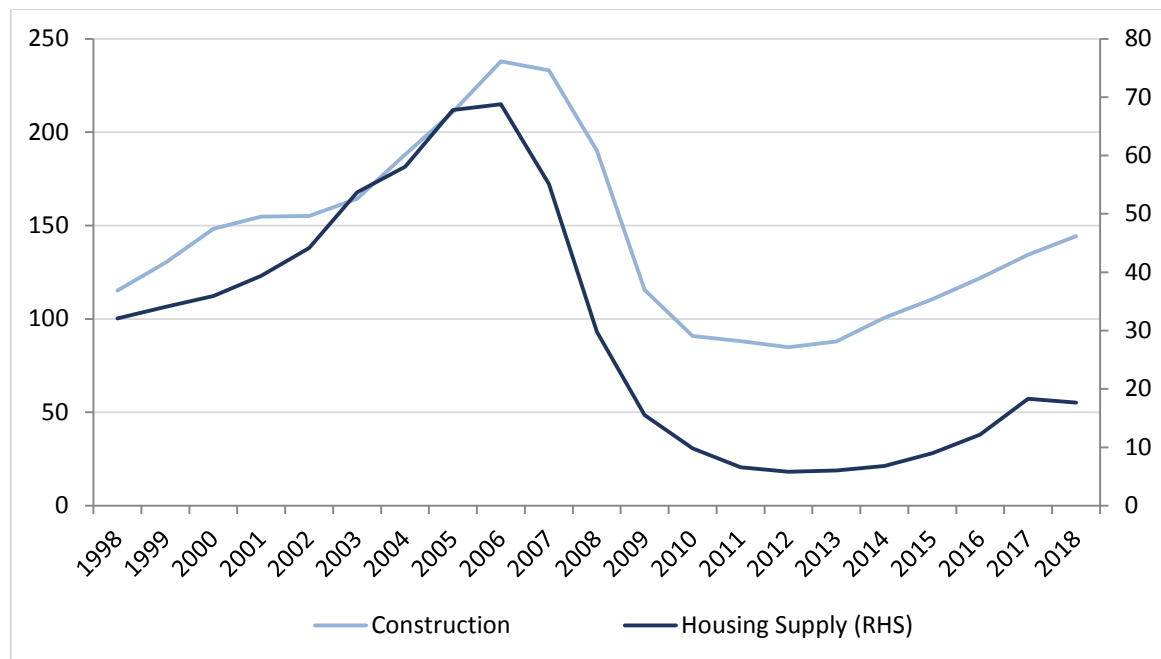
<sup>2</sup> For a discussion of this, see Casey (2018).

approaches help provide an indication as to whether present activity levels are sustainable or not with implications then for future developments.

## 2. LABOUR MARKET AND MIGRATION

In Figure 1, we examine the level of employment in the construction sector in the country and compare this with the level of housing supply. The data are compared over the period 1998-2018.

**FIGURE 1 HOUSING SUPPLY AND EMPLOYMENT IN CONSTRUCTION ('000)**



Sources: Central Statistics Office and QEC calculations.

From the chart, a clear relationship can be observed between actual housing supply and the total numbers in construction related activity. At present, the numbers in construction are still somewhat below the heights witnessed back in 2007 and 2008. However, what is also clear is that given the present low level of housing supply vis-à-vis previous levels, the numbers in construction employment are actually high on a relative basis. Therefore, if housing construction is to increase in future, in the absence of significant efficiencies in the sector, employment would have to increase quite substantially. Figure 2 plots the share of total employment in construction over the same period.

**FIGURE 2 SHARE OF TOTAL EMPLOYMENT IN CONSTRUCTION (%)**

Sources: Central Statistics Office and QEC calculations.

From the chart, it is apparent that construction level employment as a percentage of the total is at rates observed back in the mid-1990s. As a cross-country comparison, in Table 1, the relevant share of construction sector employment in 2017 for a select number of European countries is listed.

**TABLE 1 CONSTRUCTION AS A SHARE (%) OF TOTAL EMPLOYMENT IN 2017 FOR SELECT EUROPEAN COUNTRIES**

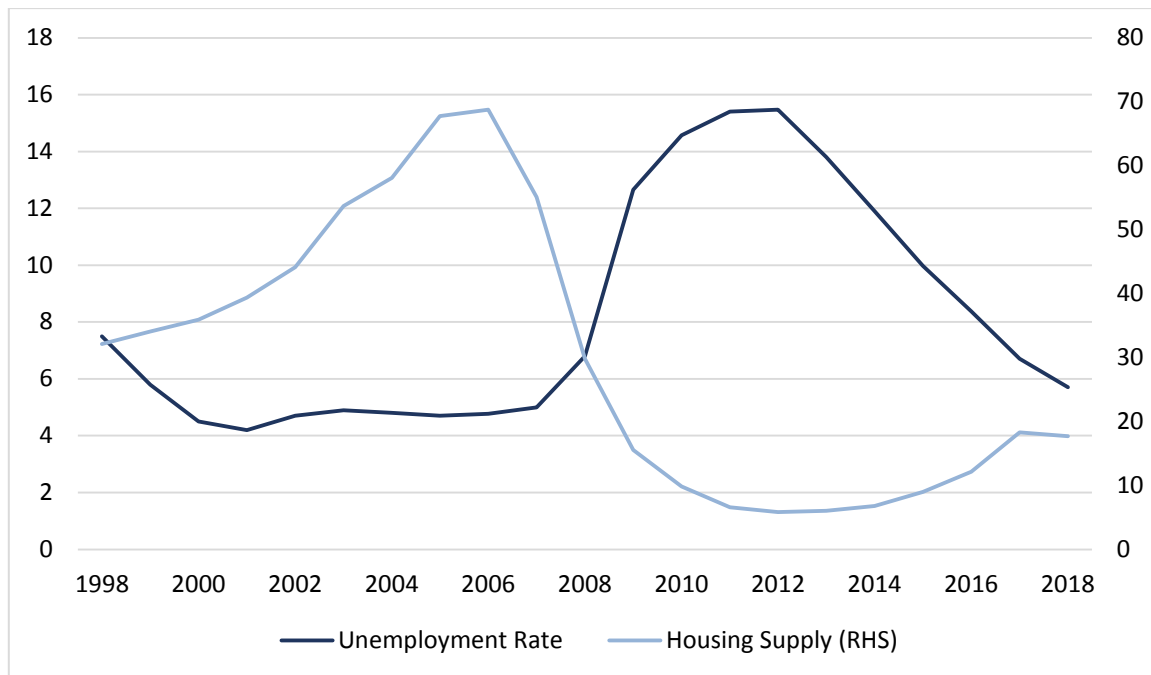
| Country        | %   |
|----------------|-----|
| European Union | 6.7 |
| Euro Area      | 6.4 |
| Germany        | 6.8 |
| Ireland        | 5.9 |
| France         | 6.5 |
| Spain          | 6.0 |
| Netherlands    | 4.8 |
| Austria        | 8.0 |
| Poland         | 7.5 |
| Portugal       | 6.5 |
| United Kingdom | 7.3 |

Sources: Newcronos and QEC calculations.

The cross-country data reveal that Ireland's share of construction employment is one of the lowest observed across European countries. However, as is evident from Figure 2, the numbers working in construction can increase quite significantly on a year-on-year basis with the share increasing accordingly.

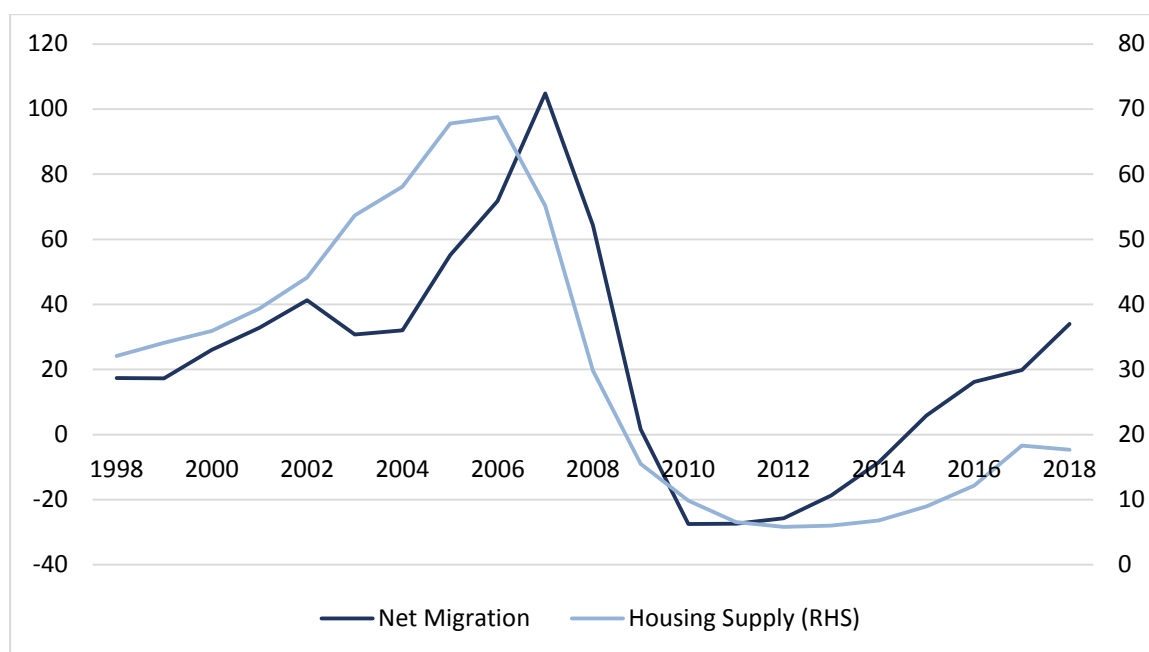
Given the highly open nature of the domestic economy, movements in the Irish labour market tend to be quite volatile with large fluctuations in migration trends frequently evident. Inward migration is a potentially important source of labour in an Irish context and can help to reduce upward wage inflation in key sectors of the domestic labour market. We examine labour market developments again in the context of activity in the housing market. In Figure 3, the level of housing supply and the unemployment rate are plotted over the period 1998-2018.

**FIGURE 3 HOUSING SUPPLY ('000) AND THE IRISH UNEMPLOYMENT RATE (%)**



Sources: Central Statistics Office and QEC calculations.

The graph illustrates the inverse relationship between unemployment and housing construction in the Irish market. Overall, high levels of housing supply are synonymous with low rates of unemployment and vice versa. However, at present, housing supply levels are quite low, relative to historical levels, while the unemployment rate is also quite low at 5.3 per cent. This does suggest that if housing construction rates are set to increase, net inward migration will be an important source of labour. In Figure 4, housing supply and net inward migration levels are plotted.

**FIGURE 4 HOUSING SUPPLY AND NET INWARD MIGRATION ('000)**

Sources: Central Statistics Office and QEC calculations.

Again, as with the total employment in construction series, there is a close relationship between net migration into the Irish State and housing supply levels. However, like the employment series in Figure 1, it is evident that net migration has already picked up in the absence of a significant increase in housing supply. This suggests that if a sustained increase in housing supply levels is to be achieved, then net migration will have to increase quite significantly in the future. In terms of the recent increase in inward migration, Table 2 outlines the country of origin of people coming into Ireland.

**TABLE 2 ESTIMATED MIGRATION ('000) INTO IRELAND BY COUNTRY OF ORIGIN**

| Year | EU28 (excluding UK) | United States | Australia | Canada | Other Countries |
|------|---------------------|---------------|-----------|--------|-----------------|
| 2013 | -1.2                | -8.1          | -1.7      | -3.0   | 3.5             |
| 2014 | -0.4                | -3.8          | -1.9      | -2.1   | 2.6             |
| 2015 | 4.6                 | -0.7          | -0.7      | -3.9   | 6.9             |
| 2016 | 3.6                 | 1.6           | -0.4      | -0.3   | 8.0             |
| 2017 | 4.7                 | 1.8           | -1.1      | -0.5   | 8.2             |
| 2018 | 7.1                 | 2.7           | 1.5       | -1.4   | 15.5            |

Source: Central Statistics Office.

Therefore, most of the recent increase in inward migration has come from Europe and 'Other Countries'. Recent data from the Census indicate that the largest increase in foreign nationals between 2011 and 2016 living in Ireland was for the Italian, Romanian, Spanish, African and Brazilian nationalities.

Two issues which may arise with future inward migration are existing pressures in the rental market and Brexit. Ironically, the significant increases in rental levels observed of late in the Irish residential market, particularly in Dublin, may act as a disincentive to future inward migration flows. Therefore, the existing high cost of accommodation may prevent the workers we require to address the housing supply shortage from actually coming to live and work here. The effects of Brexit are more ambiguous; greater frictions between the Irish and UK labour markets may prevent the relatively free movement of labour between both jurisdictions, however the prospect and the eventual outcome of Brexit may make the UK a less desirable destination for inward migration from the rest of Europe. This may increase the relative attractiveness of Ireland, *ceterus paribus*, as a potential destination.

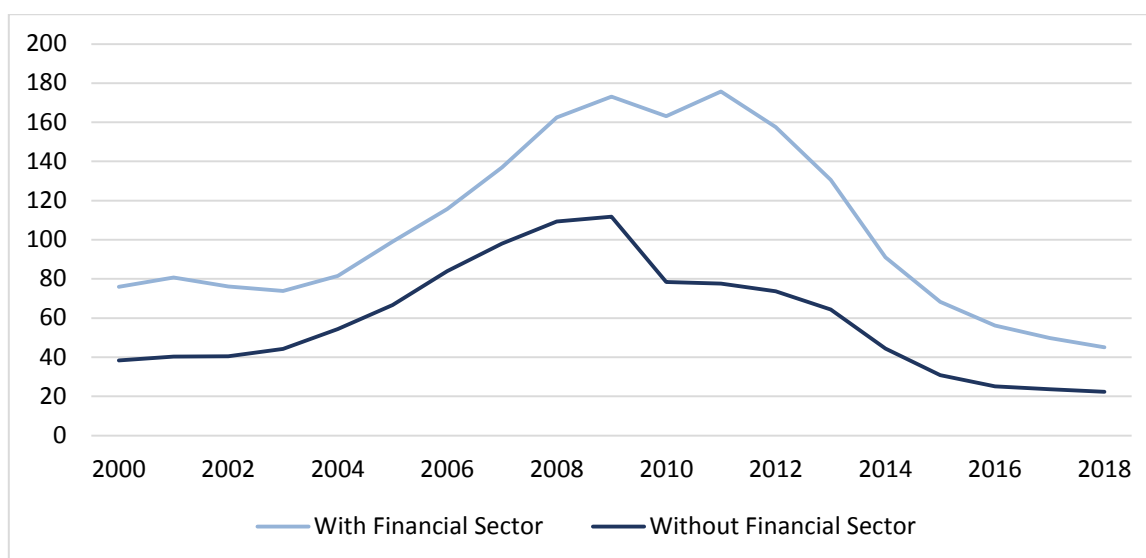
### **3. CREDIT AND FINANCIAL MARKETS**

Having examined the labour market implications of future housing related construction activity in this section we focus on financial sector issues and the allocation of credit. The linkages between the housing market, the financial sector and fiscal policy were at the core of Ireland's difficulties in the run-up to the financial crisis of 2007/2008 and were, in the main, the reason for the country seeking a programme of support with the European Commission (EC), the European Central Bank (ECB) and the International Monetary Fund (IMF), (commonly referred to as the 'Troika'), in November 2010.

In Figure 5 the ratio of total credit issued to Irish resident private sector enterprises as a percentage of adjusted Gross National Income (commonly known as GNI\*) is plotted. Expressing the total amount of credit issued as a percentage of output is a commonly used measure of financial deepening in an economy (see O'Brien et al., 2018, for details). Similar to the Central Bank of Ireland, we use GNI\* as the relevant output denominator given the well cited difficulties with GDP in an Irish context. We use two different measures of credit; one that includes credit issued to the financial sector and one that does not. This distinction in the Irish credit statistics is frequently made – see Lydon et al. (2011) for example.



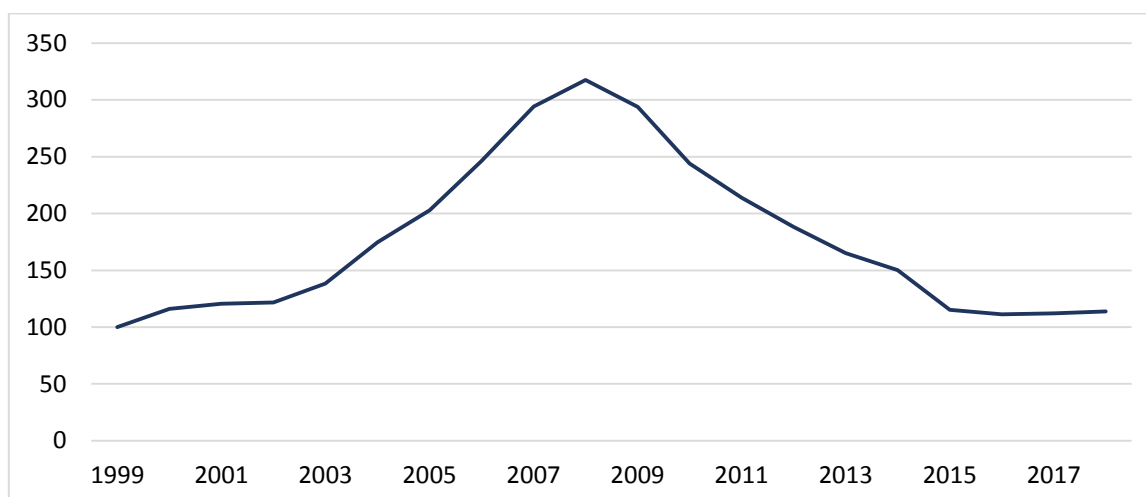
**FIGURE 5 RATIO OF CREDIT ISSUED TO THE PRIVATE SECTOR TO GNI\* (%)**



Sources: Central Bank of Ireland and QEC calculations.

The clear increase in the level of credit extended vis-à-vis the overall size of the economy prior to 2008 is evident. Since 2010, as both the financial and household sector engaged in a significant degree of deleveraging, the ratio of credit has fallen substantially; credit levels are back to the rates seen in the mid-1990s. In the most recent *Commentary* (QEC 2018, Autumn), a new financial stability indicator was presented. Following Avdjiiiev et al. (2018) the ratio of total cross-border claims to GNI\* is calculated. Much of this lending by foreign institutions would be to the domestic financial sector; therefore, significant movements in cross-border flows could indicate the build-up of imbalances in both the domestic economy and domestic credit institutions. In Figure 6 the total of all foreign country exposures as a ratio of Irish GNI\* is presented.

**FIGURE 6 RATIO OF TOTAL CROSS-BORDER FLOWS TO THE IRISH ECONOMY (INDEX: 1999 = 100)**

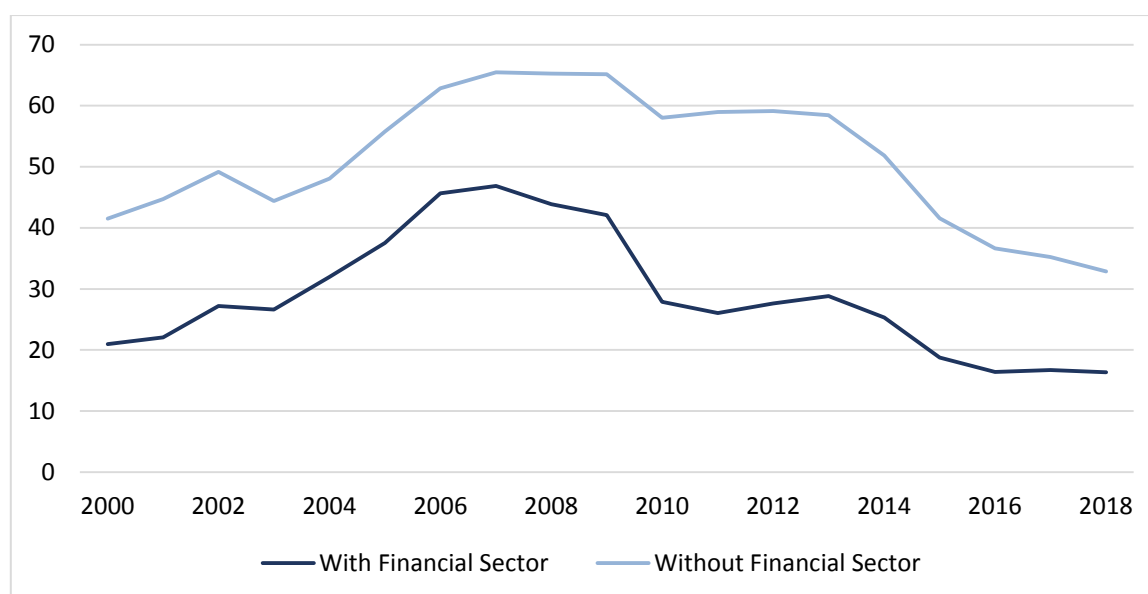


Sources: Central Bank of Ireland and QEC calculations.

The ratio illustrates the profound increase in cross-border lending into the Irish economy in the period prior to 2008. However, as the impact of the financial crisis impacted, the ratio fell significantly before stabilising around 2014. At present, the ratio is back to its pre-2002 level. This indicator provides an insight into where the vulnerabilities in the Irish banking sector originated. The improvements in this ratio suggest the financial stability threat from foreign lending into the Irish economy has substantially reduced.

The sectoral allocation of credit is also an important policy issue. Figure 7 highlights the decline in the ratio of credit extended to the construction and real estate sectors – again figures are presented including and excluding credit levels issued to the financial sector.

**FIGURE 7 RATIO OF CREDIT ISSUED TO THE CONSTRUCTION AND REAL ESTATE SECTORS (%)**

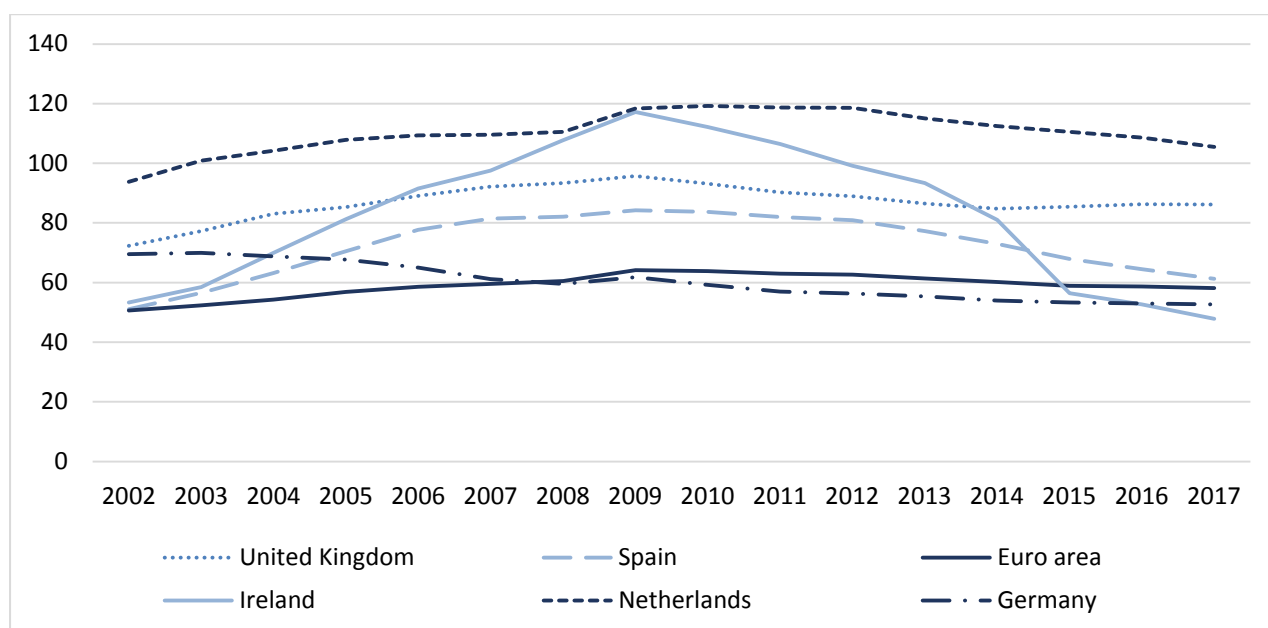


Sources: Central Bank of Ireland and QEC calculations.

In both cases, the ratios are at their lowest rates in 20 years. In Figure 8, we compare the rate of credit to the household sector in Ireland with other select European economies. In particular total credit to the household sector as a percentage of GDP is plotted.

In a similar pattern to Figures 5, 6 and 7, the large increase in Irish household credit prior to 2008 is evident, however again post that period, the rate of credit has now fallen to below the Euro Area average.

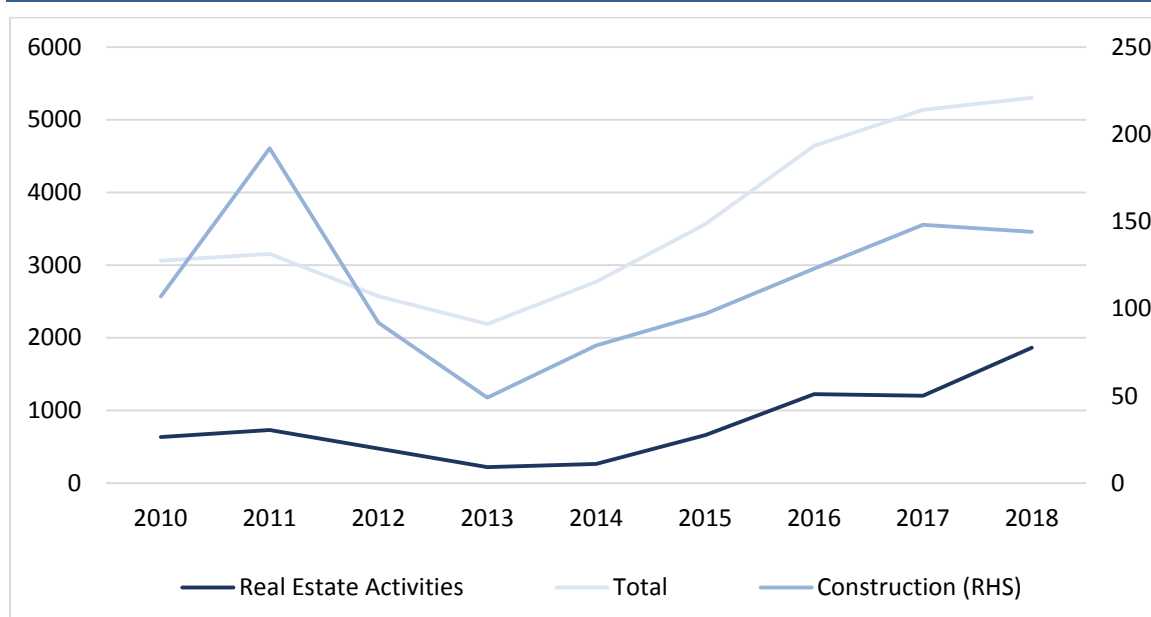
**FIGURE 8 HOUSEHOLD CREDIT-TO-GDP FOR SELECT EUROPEAN COUNTRIES (%)**



Source: Bank of International Settlements.

To a certain extent, the present low levels of Irish household credit are a function of the significant shock experienced by the domestic economy post-2008. They also represent the stock of credit at a point in time. In that sense, it is useful to examine gross new lending to small and medium sized enterprises in the Irish economy to assess which way the stock is likely to move over the short to medium term. Figure 9 presents the value of new lending for the construction, real estate, and total categories since 2010.

**FIGURE 9 GROSS NEW LENDING (€ MILLION) TO SMALL AND MEDIUM SIZED ENTERPRISES**



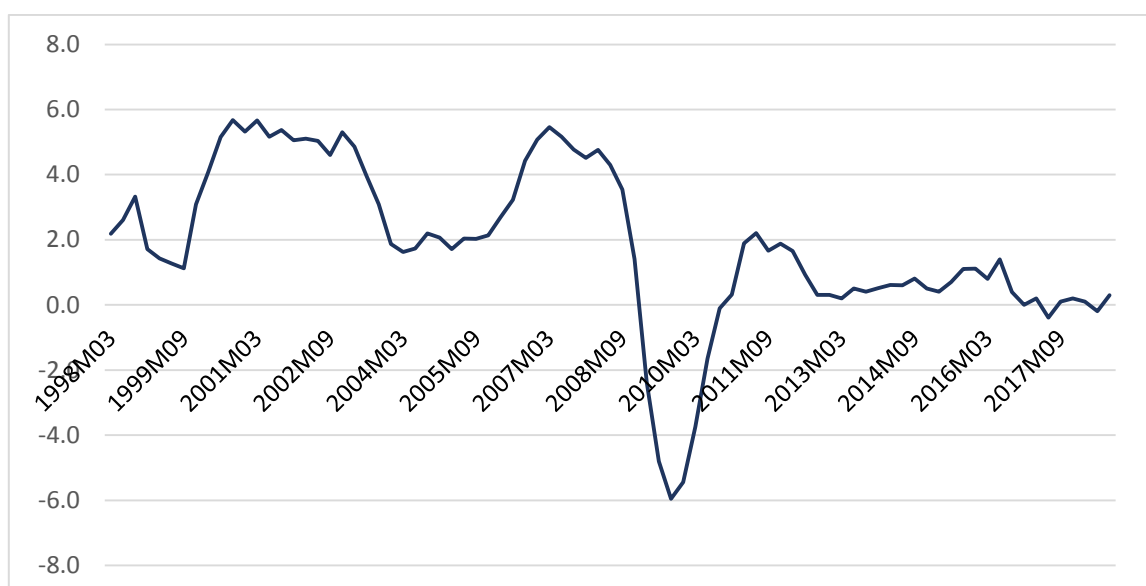
Source: Central Bank of Ireland and QEC calculations.

Since 2014, new lending across the three categories has begun to increase. In particular, the real estate activities category appears to be experiencing significant growth over the past year. This suggests that the stocks of credit in the construction and real estate categories are set to increase over the short to medium term.

#### 4. CORE INFLATION AND WAGES

More generally in the economy, the presence of capacity constraints may be reflected in movements in core inflation; if an economy is operating at or near its potential level and constraints are likely to be binding, then upward pressure may be observed in domestic price levels. In evaluating trends in inflationary pressures, the core CPI is frequently used as it excludes food and energy prices. Both of these components are subject to unpredictable supply shocks that are not easily controlled by monetary or fiscal policy. Consequently, from a policymakers' perspective, the core CPI is often argued to be a better measure of the underlying inflationary pressures. In Figure 10, the Irish core inflation rate is presented.

**FIGURE 10 ANNUAL IRISH CORE INFLATION RATE (%)**

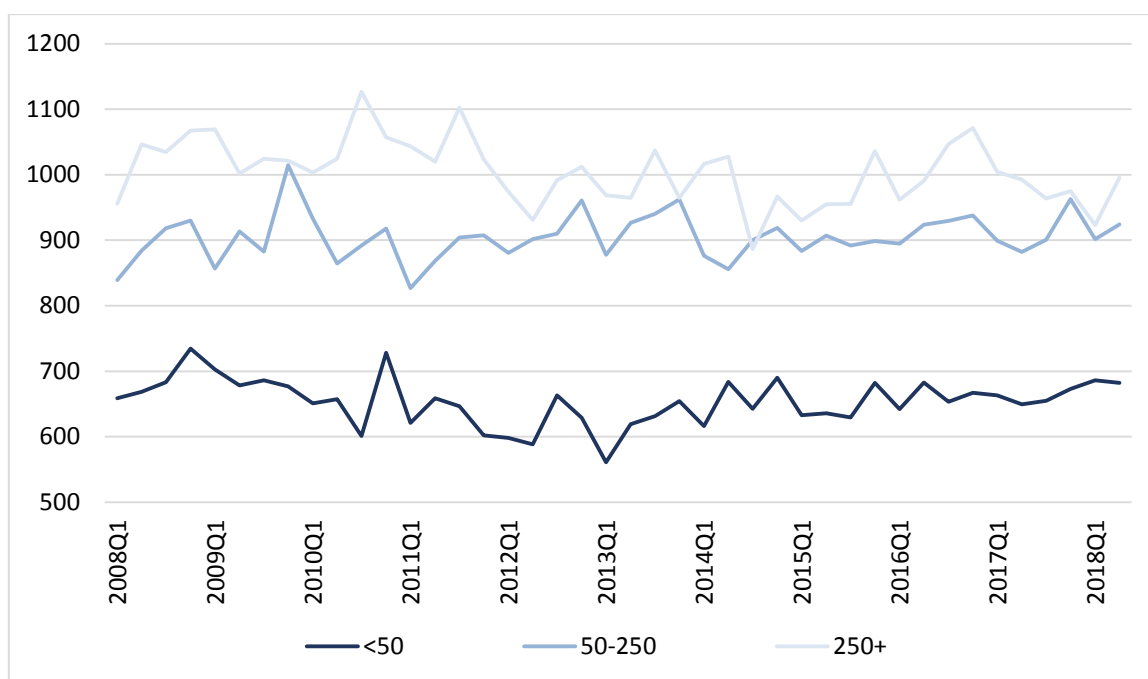


Source: Central Statistics Office.

The Irish economy, like a number of OECD countries, has been experiencing persistently low actual and core inflation over the past number of years. While there are a number of potential reasons for the low core rate (see Sanchez and Kim, 2018, for a recent discussion), it is hard to argue that capacity constraints in the domestic economy are binding when inflation rates are so low on such a persistent basis.

Finally, we examine average weekly earnings in the construction sector to assess if potential wage pressures are emerging. Wage levels are available from 2008 onwards and for three different size categories of firms; those with less than 50 employees, between 50 and 250 employees and for firms with more than 250 employees.

**FIGURE 11 AVERAGE WEEKLY EARNINGS IN THE IRISH CONSTRUCTION SECTOR (€)**



Source: Central Statistics Office.

Earnings appear to be relatively stable across the period for all size categories. While there appears to be a mild upward trend over the past year, there is little evidence of significant wage inflation across the sector.

## 5. CONCLUSION

In this note, the capacity of the Irish economy to meet future expected activity in the construction sector has been examined. Given the significant amount of policy attention currently focussing on housing supply, particular attention is paid to the implications for the supply-side of the economy of future housing activity levels. This is examined primarily from the perspective of the labour market and the financial sector.

In terms of an overall assessment, the analysis conducted leads to the following general conclusions:

1. Employment levels in construction compared to those over the past 20 years are still quite low as is the ratio of employment in construction.

2. However, given the present low level of housing supply, employment levels in relative terms are high, suggesting that, in the absence of significant efficiencies, employment levels in construction would have to increase to elevated levels in order for increased housing supply to be provided.
3. It now appears that much of the additional labour required for housing supply and other construction and infrastructural work would have to be secured through inward net migration; most of this additional labour supply would likely come from other European countries or countries which traditionally may not have witnessed much migration to the Irish economy.
4. However, the present high cost of accommodation may act as a disincentive for workers seeking to come and work, particularly in the greater Dublin area.
5. Credit levels in total are still quite low both by historical and international standards, while the amount of credit currently being employed in construction is also low on a relative basis. However, recent trends in the levels of new lending indicate that the stocks are set to increase.

In summary, the Irish economy would not appear, at present, to be unduly constrained in terms of labour market and financial sector developments. An examination of Irish core inflation rates indicates that, like many countries, there is an absence of significant underlying inflationary pressures in the domestic economy.

However, it is clear that a significant increase in housing output, as is official Government policy,<sup>3</sup> will result in employment levels in construction back to levels seen in the run-up to 2007/2008. Such an increase in activity levels will also result in a sizeable increase in the provision of credit by domestic financial institutions (see Duffy et al., 2016, for more on this). In that regard, as noted in previous Commentaries, the presence of macroprudential policy is imperative in preventing the build-up of another domestic credit bubble.

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<sup>3</sup> See <http://rebuildingireland.ie>.

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