

# Research Notes

*Trends in Consumption since the Crisis*

Brian O'Connell, Conor O'Toole and Nuša Žnuderl



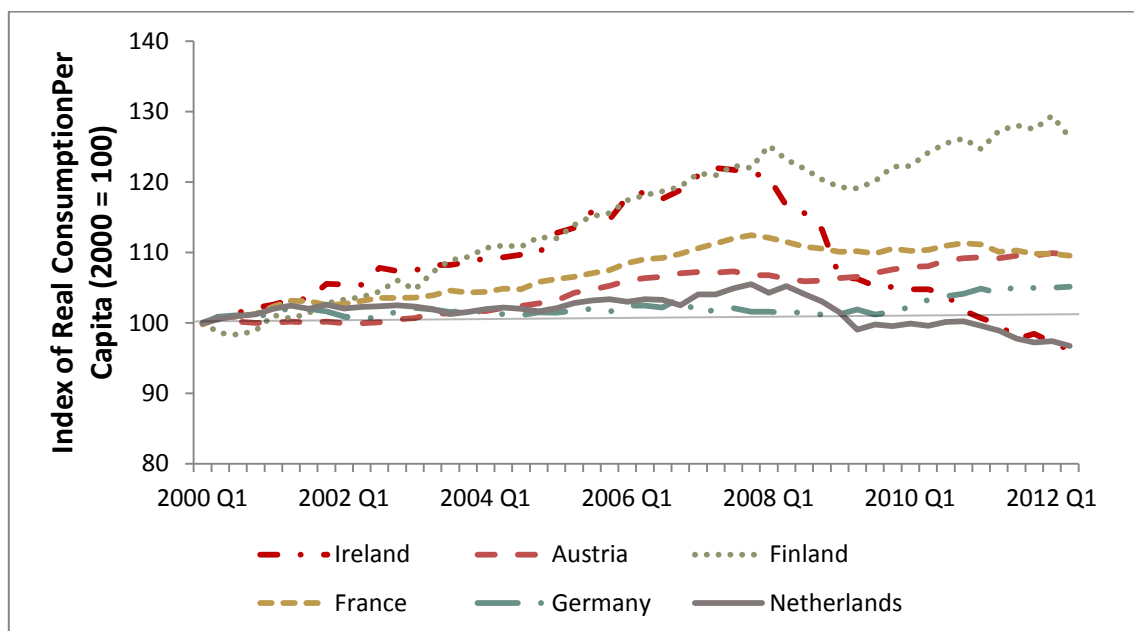
# Trends in Consumption since the Crisis: Ireland in Context

Brian O’Connell, Conor O’Toole and Nuša Žnuderl

## Introduction

Household consumption is the single largest component of GDP: it represented nearly 60 per cent of GDP in euro area economies on average over the period 2000 to 2012.<sup>1</sup> Therefore, in light of the contraction in GDP experienced during the crisis in many European countries, movements in consumption represent a key economic indicator and it is important to understand their determinants. This note examines these movements in both the non-crisis countries (Germany, France, Austria, Netherlands, Finland) and the crisis countries (Portugal, Italy, Ireland, Greece, Spain) of Europe during the ongoing financial upheaval. It then provides an analysis of the main drivers of these changes, before finally comparing the path of consumption in Ireland to some historical examples.

FIGURE 1 Real Per-Capita Consumption in the Non-crisis Countries and Ireland (Relative to 2000 Levels)



Source: Authors’ calculations using data from the OECD, Eurostat, National Accounts, the IMF and the United Nations.

Note: Data obtained from international sources may not be entirely consistent with data from national sources.

<sup>1</sup> Source: Eurostat.

### Trends in Consumption since the Crisis

As illustrated in Figures 1 and 2, the beginning of the last decade saw a positive trend in real private per capita consumption<sup>2</sup> across Europe. The almost universal growth in consumption in the early years of the decade was part of “the great moderation” period as articulated by Bernanke (2004) and the “NICE” (Non-Inflationary, Consistently Expansionary) period described by King (2003), which brought consistent growth across the developed world during the 1990s and early 2000s. However, the divergence in the path of consumption between the non-crisis and crisis nations after the onset of the financial crisis is stark. This analysis attempts to place Ireland’s per capita consumption in context with its peers in the non-crisis and crisis economies of Europe.

#### *Consumption in the Non-Crisis Economies*

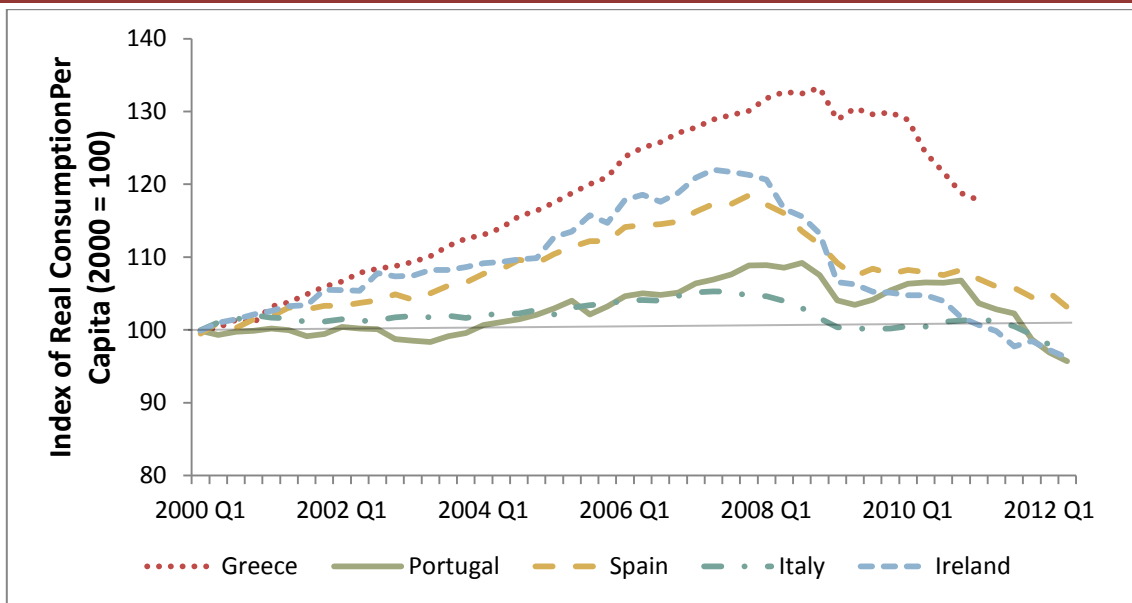
The non-crisis nations, while generally believed to have weathered the crisis well, nevertheless experienced declines in consumption of varying degrees during the period from late 2007-2008. Germany was first to record a small decline in consumption in 2007 Q1. The path of consumption amongst the non-crisis nations is illustrated in Figure 1, with Ireland’s consumption included for contrast. All the non-crisis nations suffered a dip of some sort in their levels of per capita consumption. However, for the most part, the core nations have seen consumption level out after their dips and have returned to growth, though at a lower trajectory than pre-crisis. The Netherlands is the only non-crisis nation with per-capita consumption at less than 2000 levels as of 2012 Q2.

#### *Consumption in the Crisis Countries*

As Figure 2 demonstrates, the crisis nations have experienced much larger falls than any of the non-crisis nations. Additionally, as of 2012 Q2, they have also failed to demonstrate the flattening out of consumption levels or the return to growth seen in the non-crisis nations. The onset of the decline in Ireland’s per-capita consumption coincides with the beginning of both Italy and Spain’s fall but comes slightly sooner than the slumps in Greece and Portugal. Ireland, Italy and Portugal have all seen falls in per capita consumption to levels below those experienced in 2000. Data for Greece is only available to 2011 Q1, but given developments since then and the previous trajectory of Greek consumption, it is reasonable to expect that Greece too is now close, if not already below, 2000 levels of personal consumption.

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<sup>2</sup> Defined as: total final consumption expenditure data from the OECD, put into real terms using inflation data from the IMF and given in per capita terms by dividing by population figures from the United Nations.

**FIGURE 2** Real Per-Capita Consumption in the Crisis Countries (Relative to 2000 levels)

*Source:* Authors' calculations using data from the OECD, Eurostat, National Accounts, the IMF and the United Nations.

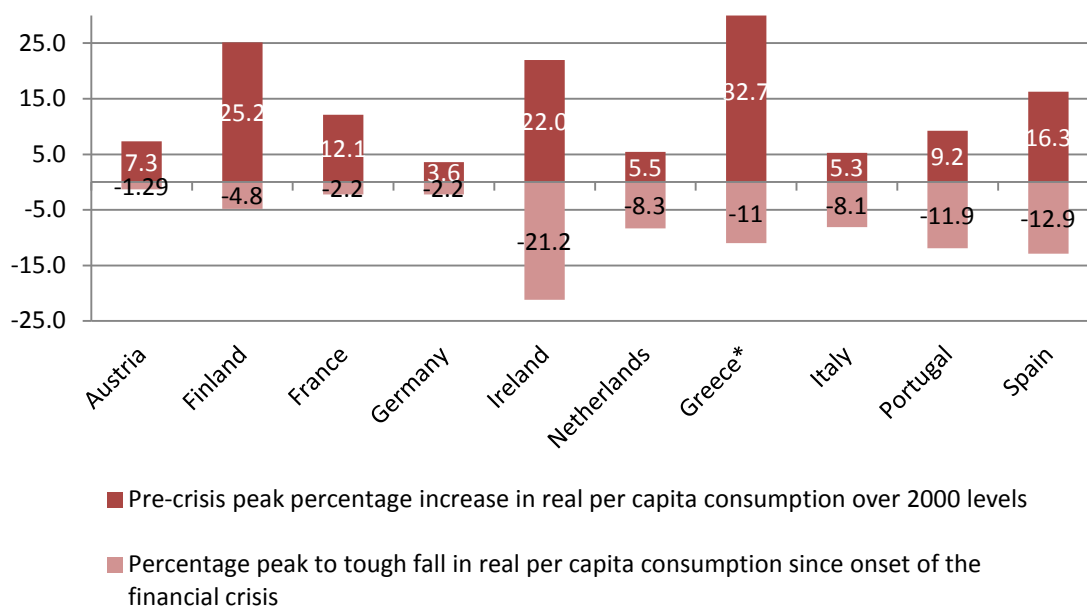
*Note:* Data obtained from international sources may not be entirely consistent with data from national sources.

While the non-crisis nations are generally seeing recovery in per-capita consumption in recent quarters, the position is much more strained in the crisis nations. In these economies, the general level of uncertainty and weakness in the household sector does not appear conducive to a sustained recovery in consumption.

#### *Consumption in Ireland in Context*

Ireland's private consumption began its slide in mid-2007, but dramatic declines began only in 2008 Q1. Ireland's decline in consumption was beyond anything experienced in the non-crisis nations and was also the most rapid of the crisis nations, with Ireland being the first country to fall below 2000 levels of personal consumption in mid-2011.

As well as this, Figure 3 shows that Ireland had the largest fall in personal consumption from peak to trough of 21.2 per cent. However, it is not inconceivable that Greece, having already experienced an 11 per cent fall by early 2011 and given its economic performance in the last year, may have overtaken Ireland's total decline in consumption. Additionally, Figure 3 shows a remarkable symmetry across the crisis nations between the pre-crisis gains and post-crisis losses in consumption that only Greece has yet to demonstrate.

**FIGURE 3** Pre-Crisis Gains in Per-Capita Consumption since 2000 and Post-Crisis Declines from Peak

Source: Authors' calculations using data from the OECD, Eurostat, National Accounts, the IMF and the United Nations.

In the context of the non-crisis nations, Finland is perhaps the starkest contrast to Ireland given their similar pre-crisis trajectory of per-capita consumption growth, as illustrated in Figure 1. Per-capita consumption in Finland fell from a pre-crisis peak of 125 per cent of 2000 levels to a trough of 119 per cent in mid-2009 but has since returned to around 128 per cent of 2000 consumption as of mid-2012. By contrast, per-capita consumption in Ireland has fallen to 96 per cent of 2000 levels as of 2012 Q2. These contrasting declines in consumption in the crisis are demonstrated in Figure 3.

The fall in personal per-capita consumption in Ireland during the crisis has thus far outstripped anything seen amongst the non-crisis nations of Europe and has, given available data, constituted the largest and fastest fall amongst the crisis nations. In fact, historically, the consumption collapse in Ireland is comparable to that experienced by the United States during the Great Depression, when personal consumption expenditure fell by 27.2 per cent<sup>3</sup> between 1929 and 1933.

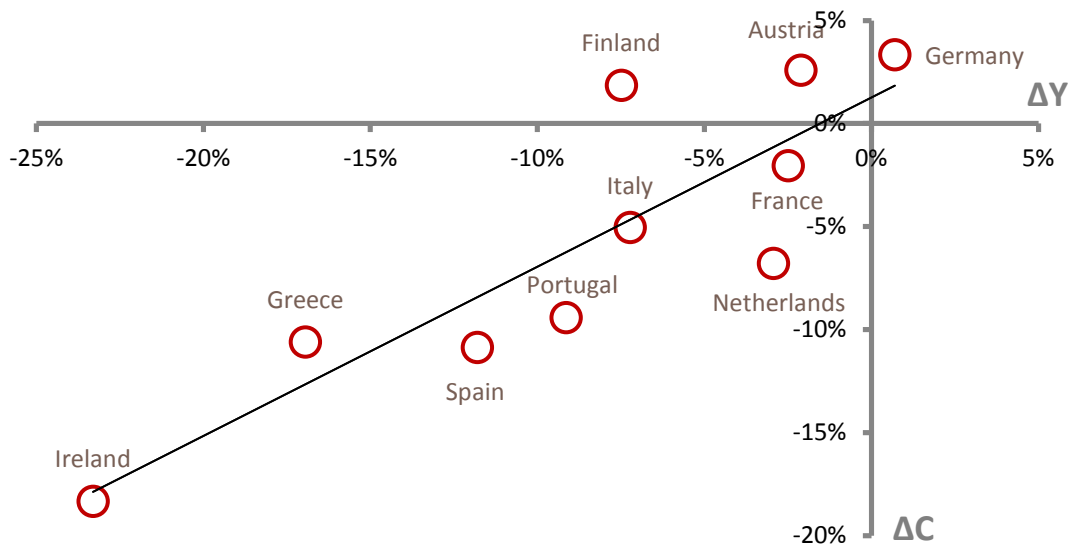
### Drivers of Consumption Changes since the Onset of the Financial Crisis

In this section we attempt to explain changes in aggregate household consumption since the onset of the financial crisis by considering trends in three

<sup>3</sup> Source: Authors' calculations using data from the US Bureau of Economic Analysis.

key variables: income, wealth and credit. In particular, for the set of non-crisis and crisis European economies used in the previous section, we relate the changes in real household consumption per-capita between 2008 Q1 and 2011 Q4<sup>4</sup> to changes over the same time period in real per-capita personal disposable income, changes in household wealth as measured by changes in real house prices and changes in credit availability.

**FIGURE 4** Change in Real Consumption Per-Capita and Real Personal Disposable Income Per-Capita between 2008 Q1 and 2011 Q4 in Non-Crisis and Crisis Economies



**NOTE:**

ΔC – Change in real household consumption per-capita over the period 2008 Q1 and 2011 Q4, except for Greece where the change in real household consumption per-capita is measured over the period 2008 Q1 to 2011 Q1 because of data availability issues.

ΔY – Change in real personal disposable income per-capita over the period 2008 Q1 and 2011 Q4, except for Greece where the change in real personal disposable income is measured over the period 2008 Q1 to 2011 Q1 because of data availability issues.

Source: Authors' calculations using data from the OECD, Eurostat, National Accounts, the IMF and the United Nations.

<sup>4</sup> The period 2008 Q1 to 2011 Q4, with respect to which changes in consumption, income and house prices were calculated for the purposes of this section, excludes observations for 2012. This is because data for 2012 was available only for a select number of countries, while for each country in the sample we want to analyse changes in these variables over the same time period. The exception is Greece, where due to data availability issues we examine the relationship between changes in consumption, income and housing wealth over the period 2008Q1 to 2011 Q1. A longer time period was considered when describing trends in consumption in the previous section, and therefore the quoted changes in variables in this section might not be identical to those quoted in the previous section.

### *The Relationship between Consumption and Income*

The relationship between changes in real personal disposable income per-capita and changes in real consumption per-capita for the set of non-crisis and crisis economies since the onset of the financial crisis in 2008 until 2011 Q4<sup>5</sup> is shown in Figure 4. Generally, this relationship is positive: declines in real personal disposable income per-capita are associated with declines in real consumption per-capita.

This positive relationship could have occurred because consumers revised income expectations downwards, faced credit constraints, which prevented them from offsetting the decline in income through borrowing, experienced an increase in personal taxes and/or engaged in increased precautionary savings in the face of an uncertain economic outlook and in anticipation of increased future tax bills. Moreover, consumption of those who rely on state transfers is also held back due to reductions in social spending. Such an increased tax burden and lower state transfers have been common features across both sets of countries examined in this note. However it is not surprising that declines in income and consumption per capita were larger in crisis economies, given the greater severity of the financial crisis.

Compared to other economies in the sample, data suggest that over the period 2008 Q1 to 2011 Q4 Ireland experienced the largest decline in both real personal disposable income (-23 per cent) and real consumption per capita (-18 per cent).

### *Consumption and Household Wealth*

Household wealth consists of financial assets and housing assets. Because real-estate prices played a major role in the domestic crises in several of the worst affected economies, in this section we omit financial wealth and analyse the relationship between changes in consumption and changes in housing wealth since the onset of the crisis.

We use changes in real house prices over the period 2008Q1 to 2011Q4 as an indicator of changes in housing wealth of households. We plot these changes in house prices against changes in household consumption per-capita in Figure 5. The relationship between changes in consumption and housing wealth is positive: declines in housing wealth since the recession were associated with declines in consumption. This positive relationship could be interpreted as consumers recognising the previous expansion in housing wealth as being the result of a bubble and thus unlikely to be regained in the near future. Consumers thus may

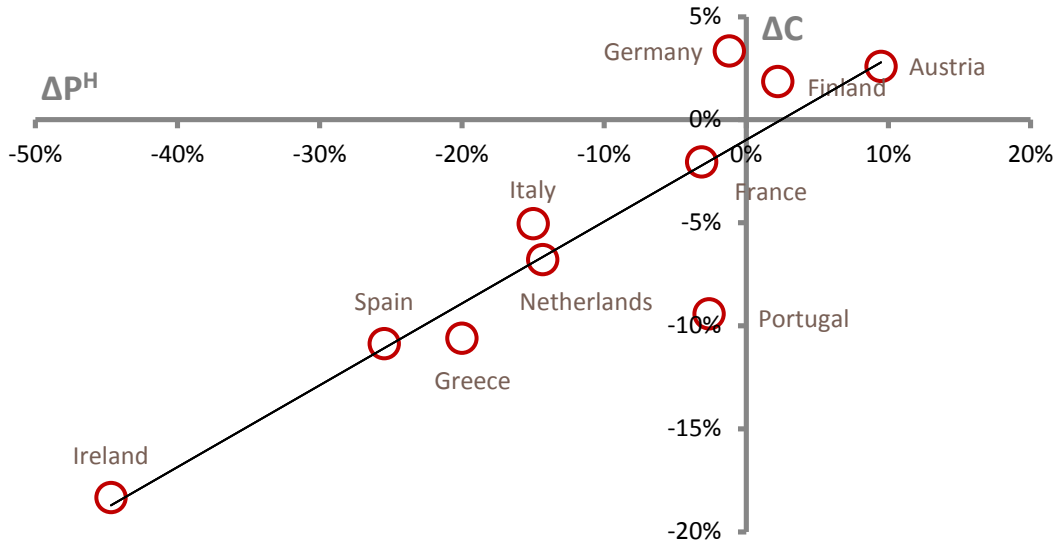
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<sup>5</sup> For Greece the data on consumption and income were only available until 2011 Q1. Consequently, for Greece the relationship between these variables is examined with respect to changes over the period 2008 Q1 to 2011 Q1.



be expecting the decline in housing wealth to be permanent and are adjusting their consumption accordingly.

**FIGURE 5** Changes in Real Consumption Per-Capita and Real House Prices between 2008 Q1 and 2011 Q4 in Non-crisis and Crisis Economies



**NOTE:**

$\Delta C$  – Change in real household consumption per-capita over the period 2008Q1 and 2011Q4, except for Greece where the change in real household consumption per-capita is measured over the period 2008Q1 to 2011Q1 because of data availability issues

$\Delta P^H$  – Change in real house prices over the period 2008Q1 and 2011Q4, except for Greece where the change in real house prices is measured over the period 2008Q1 to 2011Q1 because of data availability issues

Source: Authors’ calculations using data from the OECD, Eurostat, National Accounts, the IMF, the United Nation, BIS, and CSO.

Unsurprisingly, all crisis economies experienced declines in house prices and consumption over the period 2008 Q1 to 2011 Q4. Ireland experienced the largest decline in house prices (-45 per cent) and consumption (-18 per cent) during this period. The next largest declines in housing wealth occurred in Greece (-20 per cent), Italy (-15 per cent) and Spain (-25 per cent). These were associated with declines in consumption of 11 per cent in Greece and Spain, and a 5 per cent decline in consumption in Italy.

Germany is exceptional in that its consumption and wealth did not display a positive relationship: a modest decline in house prices (-1 per cent) was associated with an increase in consumption of 3 per cent. However, over the same period of time Germany experienced an increase in income of 1 per cent,

which could have potentially overpowered the negative impact of the decline in housing wealth, thereby resulting in an increase in consumption over the period.

### *The Role of Credit in Consumption*

In the previous sections we considered two major drivers of consumption: income and wealth. However, there certainly exist other factors which have affected consumption since the onset of the financial crisis, such as the supply of credit.

**FIGURE 6** Change in Real Consumption Per Capita and Credit Levels between 2008 Q1 and 2011 Q4 in Non-crisis and Crisis Economies



#### **NOTE:**

$\Delta C$  – Change in real household consumption per capita over the period 2008 Q1 and 2011 Q4, except for Greece where the change in real household consumption per capita is measured over the period 2008Q1 to 2011Q1 because of data availability issues.

$\Delta Cr$  – Change in the supply of private credit over the period 2008 Q1 and 2012 Q1, except for Greece where the change in the supply of private credit is measured over the period 2008 Q1 to 2011 Q1 because of data availability issues.

Source: Authors' calculations using data from the OECD, Eurostat, National Accounts, the IMF, the United Nation, BIS, and CSO.

Many household purchases are completed via credit as consumers use financial markets to draw on future earnings and smooth consumption over their lifecycles. There was considerable credit growth from 2004 onwards in many countries, with particularly large increases in both Ireland and Spain. Since 2009, there has been a downward trend in credit in three of the crisis countries (Ireland, Spain and Portugal), with either continued growth or stability in the other economies

considered.<sup>6</sup> While a full evaluation of the contribution of credit to the evolution of European economies is outside the scope of this note, these trends raise a number of concerns.

First, given the scale of the banking sector difficulties in Ireland, Spain and other crisis economies, households may find it increasingly difficult to access new credit to engage in consumption smoothing and continue to purchase goods and services in the face of temporary income reductions. If such credit constraints exist, this may act as a drag on consumption until such time as financial markets return to normality.

Figure 6 demonstrates a positive relationship between credit and consumption growth. This relationship suggests that the decreases in credit in Ireland, Spain and Portugal since 2009 could be restraining consumption expenditure.

The second concern relates to the stock of outstanding credit. The level of household indebtedness can influence consumption. More highly indebted households tend to restrict consumption more than less heavily indebted households (Dynan, 2012). Given the very considerable increase in household debt in the pre-crisis period in Ireland, the requirement for balance sheet repair will force households to continue to allocate significant resources to cover debt servicing costs and the repayment of principle. Reducing household debt balances may be necessary from a financial stability and long-term sustainability perspective but it may also dampen and slow any recovery in consumption.

### **Consumption Recoveries Following Financial Crises**

Having provided a comparative perspective of the trends in, and determinants of, consumption expenditure since the crisis, it is useful to benchmark Ireland's experience relative to other countries which have suffered financial crises. In this section, we compare Ireland to four specific crisis episodes: Finland (1993-1995), Norway (1986-1988), Korea (1997-1998), and Japan (1995-1997).<sup>7</sup> Our comparison focuses on three indicators: i) the peak to trough fall in consumption in crisis periods, ii) the number of quarters taken to reach the crisis trough and iii), the number of quarters taken to recover to the pre-crisis peak.

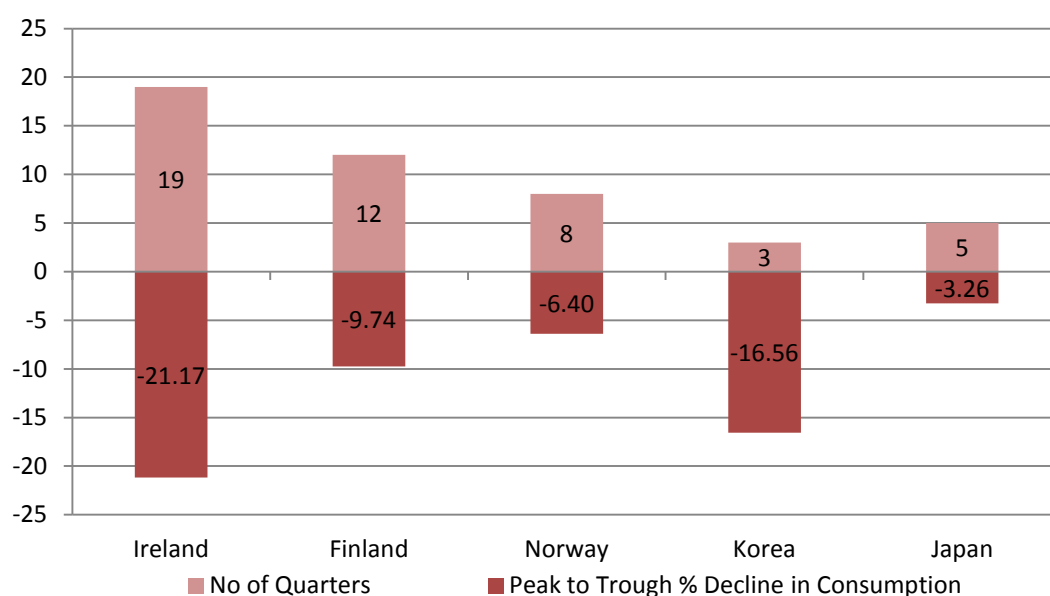
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<sup>6</sup> *Source:* Authors' calculations using data from BIS, the IMF, the United Nations, and CSO.

<sup>7</sup> Crisis episodes are taken as systemic banking crises with the timing and definition given by Laeven and Valencia (2012). These country-episodes were chosen because the crises suffered in these economies were precipitated by a domestic credit bubble and subsequent bank failures. While it would have been also interesting to evaluate the crisis in Sweden in the early 90s (as in Woods and O'Connell (2012)), our dataset uses quarterly data and no official Quarterly National Accounts are available for Sweden prior to 1993 Q1, which is the midpoint of their crisis. For this reason, we do not include Sweden.

Figure 7 outlines the first two indicators. To date, per-capita consumption in Ireland has fallen by approximately 20% from its peak. With the peak to trough fall amounting to 10% in Finland, 6% in Norway and 17% in Korea, the scale of the fall in consumption in Ireland is greater than any of the crisis episodes considered. In terms of the number of quarters taken to reach the trough, the decline in consumption to date in Ireland has lasted 18 quarters. The closest comparator considered is Finland, where it took 12 quarters to reach the trough, with all other crises being considerably shorter. This highlights the protracted and engrained nature of the fall in consumption in the Irish economy.

**FIGURE 7** Peak to Trough Declines in Consumption with Time Taken to Reach Trough



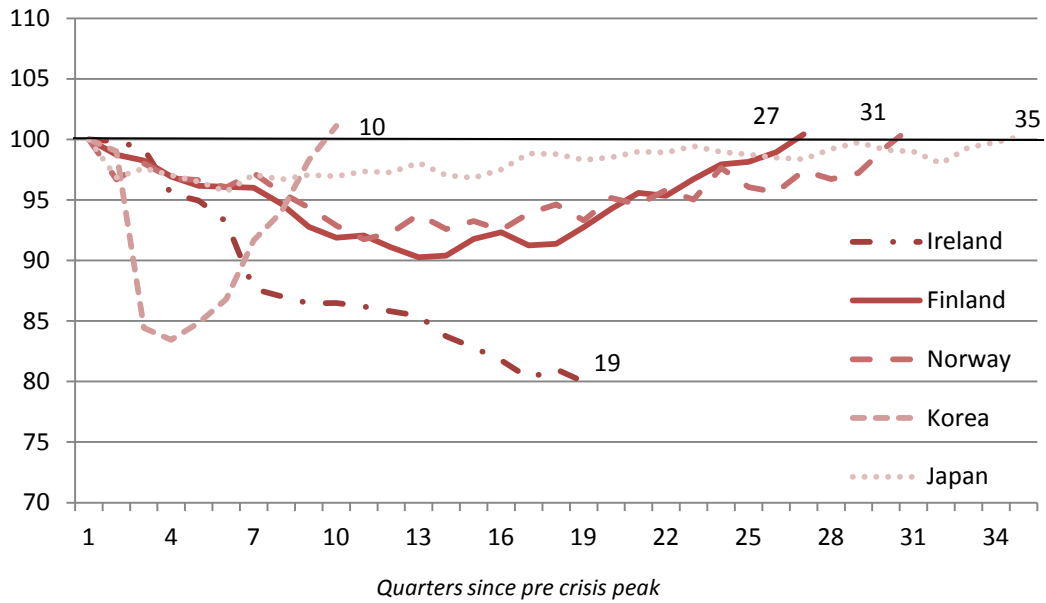
Source: Authors analysis of National Accounts, IMF and OECD data.

To inform the debate concerning potential recovery paths for consumption in Ireland, it is useful to review the time taken to recover to the pre-crisis peak in the selected comparison episodes. Figure 8 presents timelines for the recovery path of consumption to pre-crisis peak values. Korea experienced the quickest recovery with only 10 quarters passing before the pre-crisis peak was achieved. Finland and Norway shared similar recovery paths at 27 and 31 quarters respectively. With the expiry of 19 quarters since the peak in consumption in Ireland, and given the scale of the peak to trough decline, the time to recovery could be expected to exceed those experienced by other countries.

This brief comparison finds that the scale of the decline in consumption in Ireland since the onset of the financial crisis is much greater than that experienced in other crisis episodes. Many of the previous crises occurred against a backdrop of

continued buoyancy and growth in the international economy, as well as a more flexible monetary and exchange rate policy environment. The challenging external context faced by Ireland could go some way to explaining why the length and depth of the Irish crisis stands out from previous episodes.

**FIGURE 8** Timeline Indices of Recovery to Pre Crisis Peak



Source: Authors analysis of National Accounts, IMF and OECD data.

### Conclusion

This note has illustrated the diverging paths of real per capita consumption across the non-crisis and crisis nations of Europe in the wake of the financial crisis. The non-crisis nations saw relatively small falls in consumption at the outset of the crisis but have almost universally returned to growth. The crisis nations, however, have seen much more dramatic collapses in real per-capita consumption levels with no evidence of a return to growth. Ireland has experienced the largest and fastest decline in consumption to date.

This illustration of consumption trends was then followed by examination of the determinants of consumption: income and wealth, as well as a brief examination of credit. The crisis nations have all experienced larger falls in real per capita income than the non-crisis nations, with Ireland again experiencing the largest decline. As expected, during a financial crisis when credit constraints bind and income expectations get revised downward, the path of income changes matches quite closely the movements in consumption. Ireland also saw the greatest fall in

house prices, where the trend again is for crisis nations to have experienced larger declines than the non-crisis.

Finally, the note examined the performance of Ireland relative to historical examples of financial crises. Ireland's experience stands out as constituting a larger decline in consumption and a longer recovery period than is the historical norm.

The findings of this research serve to highlight the severity of the economic contraction experienced by Ireland in the context of other European economies. To date, we have observed that Ireland has experienced the largest and fastest falls in real per capita consumption, real per capita income and housing wealth.

Looking ahead, recent data suggest that house prices are ceasing to fall, the unemployment rate is stabilising and Ireland is projected to experience stronger growth than the other crisis nations by the European Commission (2012). However, given the continued difficulties in the domestic economy, the strained and uncertain European and global outlooks, and the requirement for household balance sheet repair in Ireland, growth in per capita consumption is likely to remain weak.

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