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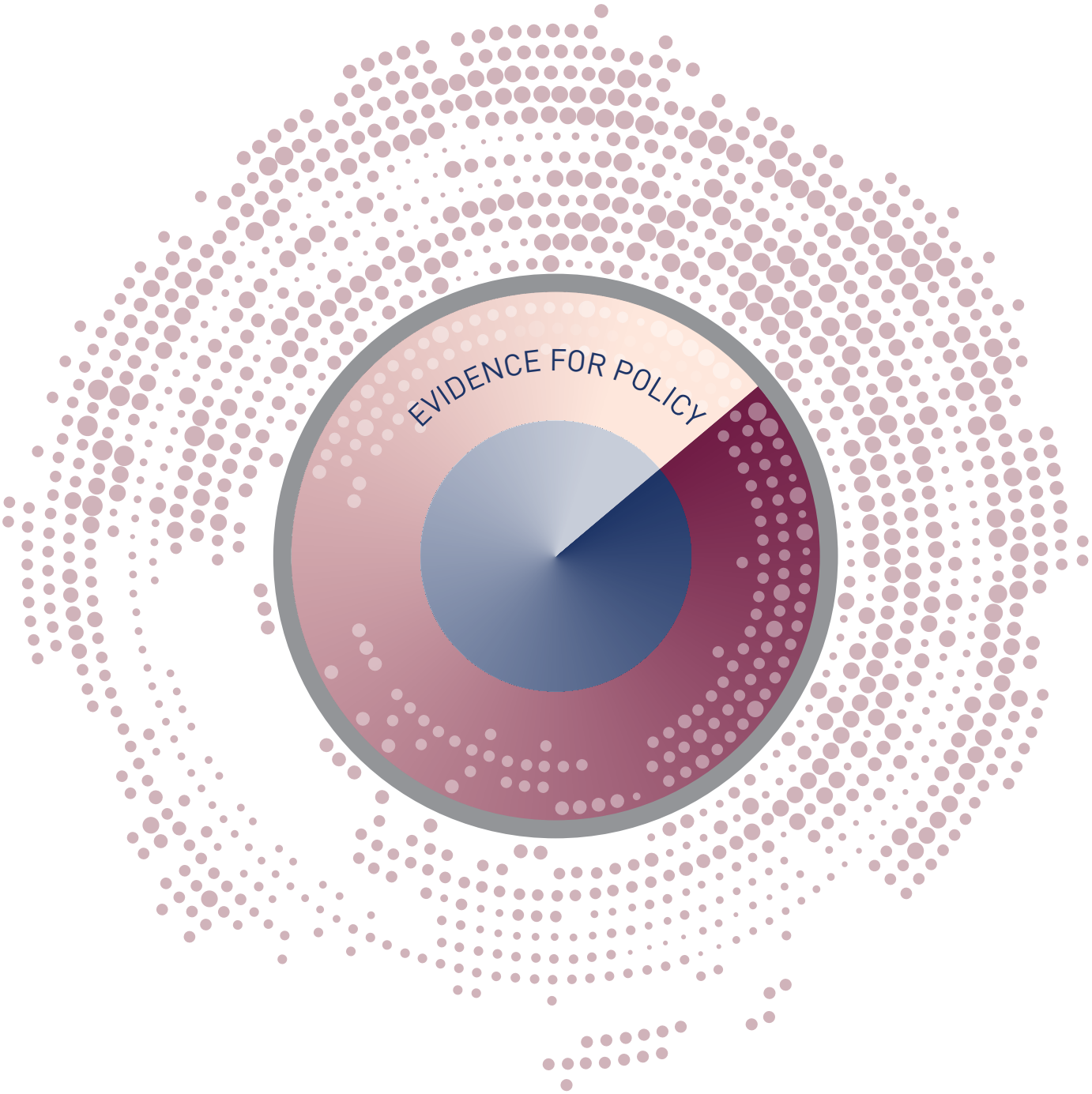
QUARTERLY ECONOMIC COMMENTARY

WINTER 2021

KIERAN MCQUINN, CONOR O'TOOLE, CATHAL COFFEY, WENDY DISCH, EVA SCHIEL AND EOIN KENNY



ESRI ECONOMIC & SOCIAL RESEARCH INSTITUTE

QUARTERLY ECONOMIC COMMENTARY

Kieran McQuinn

Conor O'Toole

Cathal Coffey

Wendy Disch

Eva Shiel

Eoin Kenny

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THE AUTHORS

The *Commentary* is edited by Kieran McQuinn and Conor O'Toole. Kieran McQuinn is a Research Professor and Conor O'Toole is an Associate Research Professor at the Economic and Social Research Institute (ESRI). Cathal Coffey, Wendy Disch, Eva Shiel and Eoin Kenny are Research Assistants at the ESRI.

Special Articles are published in the *QEC* in order to foster high-quality debate on various aspects of the Irish economy and Irish economic policy. They are subject to refereeing prior to publication.

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SUMMARY TABLE

	2020	2021	2022
Output (Real Annual Growth %)			
Private Consumer Expenditure	-10.4	7.5	7.8
Public Net Current Expenditure	10.9	4.1	3.0
Investment	-23.0	-50.0	8.4
Of which: Modified Investment	-3.6	4.2	8.4
Exports	9.5	16.0	9.0
Imports	-7.4	-7.9	10.0
Of which: Modified imports	3.2	14.3	10.0
Gross Domestic Product (GDP)	5.9	13.6	7.0
Gross National Product (GNP)	3.4	10.9	6.0
Domestic Demand	-15.3	-22.5	7.1
Of which: Modified Domestic Demand	-4.9	6.2	7.1
Labour Market			
Employment Levels ('000)	1,976	2,174	2,486
Unemployment Levels ('000)	455	400	152
Unemployment Rate (as % of Labour Force)	19.4	16.1	5.8
Public Finances			
General Government Balance (€bn)	-18.4	-9.7	-4.8
General Government Balance (% of GDP)	-4.9	-2.3	-1.0
Inflation (Annual Growth %)			
Inflation (CPI)	-0.3	2.4	4.0

Notes: The employment level for 2020 is based on the COVID-adjusted level of employment at the end of each quarter published by the CSO along with the quarterly LFS. As a result it represents a lower bound estimate for employment in 2020. The unemployment rate and level are based on the monthly unemployment and the COVID-Adjusted monthly unemployment series published by the CSO.

Modified Domestic Demand refers to Modified Final Domestic Demand, which excludes large transactions of foreign corporations that do not have a large impact on the domestic economy. Definition available here: https://www.cso.ie/en/interactivezone/statisticsexplained/nationalaccountsexplained/totaldomesticdemandandmodifiedtotaldomesticdemand/#:~:text=Modified%20Total%20Domestic%20Demand%20goes%20further%20in%20trying,to%20exclude%20certain%20items%20that%20are%20in%20TDD. Modified investment and modified imports exclude investment in aircraft for leasing and investment in R&D from abroad.

Inflation is measured by the annual percentage change in CPI.

The Irish Economy – Overview

- The Irish economy is set to experience robust growth in 2021. This growth represents significant contributions from both domestic and external sources. Modified Domestic Demand (MDD), which is arguably the most accurate indicator of domestic economic activity, is likely to increase by 6.2 per cent in 2021.

- Our forecast of MDD is now accompanied by a nowcast estimate, which is detailed in a Box to the *Commentary*. We also produce a risk assessment as part of the *Commentary*. This enables us to assess the potential downside and upside risks to our baseline forecast.

- The strong growth performance has resulted in a better-than-expected improvement in the domestic labour market. Unemployment, which had averaged over 26 per cent in the first quarter of this year is now set to finish the year at 7 per cent in the final quarter. The fall in unemployment will continue into 2022 and is expected to be at a pre-pandemic low of 5 per cent by Q4 2022.

- The combination of robust economic activity allied to the sharp decline in the unemployment rate means that the COVID-19 related pressures on the public finances have eased considerably. The General Government Balance (GGB) is now set to be 2.3 per cent in 2021, which is significantly less than what had been expected earlier in the year.

- Notwithstanding the strong domestic economic performance there are a number of significant risks emerging facing the economy over the next 12 months. The increase in COVID-19 infections during Q4 2021 along with the emergence of the Omicron strain does give rise to the possibility of additional public health restrictions in early 2022. At the very least this creates considerable uncertainty for those operating in the sectors of the economy most affected.

- The ongoing negotiations between the British Government and the European Union concerning the Withdrawal Agreement and the implementation of the Northern Ireland Protocol has led to more uncertainty in terms of the nature of the trade relationship between the EU and the UK and the UK and Ireland. The possibility of significant disruption in EU-UK trade would have particularly adverse implications for the Irish economy given its small open nature.

- While the present increase in inflation is most likely attributable to temporary or transitory factors mainly due to the pandemic, price increases over the next year may be greater than previously expected. These risks increase if there is a more rapid domestic recovery. The Special Article in the *Commentary* by

Roantree, Doorley, Kakoulidou and O'Malley (2021) has a detailed assessment of the distributional impact of Budget 2022. This reveals that the Budget is likely to insulate most households from rising prices. However, if actual inflation rates next year exceed forecast, the increases in some targeted welfare measures may not be enough to insulate low-income households from rising prices.

- In this *Commentary* we also present a number of analytical Boxes on the likely size of the State in the coming years and on the reasons behind the surge in international energy prices. From an environmental perspective, another Box in the *Commentary* discusses the Government's Climate Action Plan which was published recently. The main features of the plan are discussed and the economic costs of some of the measures are also quantified.

Risk Analysis

Despite a robust recovery from the most severe economic impacts of COVID-19 this year and an optimistic outlook for growth in 2022, there are still a number of issues that threaten the return to a complete recovery across all sectors. This risk analysis section discusses four main sources of uncertainty regarding the continued economic growth expected in 2022: 1) further health restrictions resulting from COVID-19 variants; 2) persistence in high inflation rates; 3) further complications related to the trade agreement between the EU and UK; and 4) a potential trade war fuelled by a full withdrawal of the UK from Brexit negotiations.

The current and perhaps most concerning issue is the risk that new variants of COVID-19 will prove to be highly contagious and severe, perhaps including the existing Omicron variant, and the potential need for increased restrictions to curb their spread (Table 1, Column A). In the case of tighter public health measures, forecast MDD and GDP would be revised downwards. In particular, if restrictions in Q1 2021 include limitations on travel or partial closures of the hospitality sector, employment would fail to recover as quickly as expected. As a result, pressure on the public finances would increase if an extension for supports such as the Pandemic Unemployment Payment (PUP) were required. Further restrictions would likely negatively impact consumer and business sentiment and increase uncertainty regarding future growth, resulting in declining consumption and potentially weaker investment activity. The sector-specific nature of public health measures will likely have limited effects on trade; as was evident throughout the pandemic, strong activity in the export sector has been driven in large part by multinationals operating in relatively unaffected sectors. Imports would also likely decline slightly alongside reduced consumption.

Another issue which may be subject to uncertainty is the outlook for inflation. Were the CPI to exceed its forecast rate in 2022 by a substantial margin, estimates of economic activity would also be revised downward (see Table 1, Column B). Significant rates of inflation will likely dampen consumption as households are met with higher costs associated with goods and services. Subsequently, imports would likely fall. If inflation continues to increase, public expenditure may be under pressure to increase social payments to assist lower-income households. While an increase in supports would increase Government expenditure, additional inflation may yield some overall benefit for the public finances. As the debt burden is recorded in nominal terms, a rise in inflation would result in a decline in the debt-to-GDP ratio. However, investment would likely fall in this scenario, as suppliers would find themselves with higher input costs. In the short term, higher inflation will likely have little to no effect on employment. Given longer-term persistence, inflation may feed into wage setting, with workers demanding compensation for

past and future expected inflation. There is some evidence that wage pressures have already materialised where the gap between supply and demand is most acute.[1] These wage increases may further slow recovery within sectors that have been most vulnerable to the effects of the pandemic already. From a policy perspective, while tightening monetary policy too soon could negatively impact borrowers if risk re-pricing (changes in interest rates charged) transpires,[2] an increase in policy rates could be needed at some stage if the Euro Area inflation rate were to continuously diverge from the expectations of the European Central Bank (ECB). If policy rates were to change, this would raise the cost of borrowing for the government as well as for households and firms.

Finally, we consider the possibility of further trade complications between the UK and the EU. In December 2020, the signing of the Trade and Cooperation Agreement allowed trade to remain tariff and quota free between the UK and the EU. Two possible scenarios may emerge in which 1) the UK attempts to renegotiate the trade agreement and/or fails to comply with non-tariff barriers (Table 1, Column C) or 2) the triggering of Article 16 by the UK is met with retaliatory tariffs, resulting in a wider trade war (Table 1, Column D). In the former scenario, a heightened sense of uncertainty regarding the future of trade and checks between goods leaving and entering the EU from Great Britain (GB) would likely have a negative impact on domestic investment. Businesses may prefer to hold off on investment activity until negotiations return to a stable path. Another concern is the potential for a rise in trade costs to feed into consumer prices, particularly regarding food products. However, we do not expect this to have a strong impact on consumption, given that supply chain adjustments by firms managed to mitigate impacts on consumer prices after the initial implementation of Brexit-related trade barriers.[3] The latter scenario, which this *Commentary* finds to be unlikely, would have a significant negative impact on overall economic activity. Large increases in trade costs due to tariffs and checks on goods entering GB as well as increases in transport times would disrupt supply chains, leading to declines in both imports to and exports from Ireland. Investment would likely fall significantly as a result and consumption would likely decrease if trade costs feed into higher consumer prices.

1 Byrne, D. and Z. Zekaite (2021). 'An overview of inflation developments', *Economic Letter* Vol. 2021, No.7, Central Bank of Ireland.

2 Makhlouf, G. (2021). 'Remarks by Governor Gabriel Makhlouf on the publication of the Financial Stability Review 2021:2', 25 November.

3 Barrett, A. and M. Lawless (2021). 'Opening statement by Alan Barrett and Martina Lawless (ESRI) to the Seanad Special Select Committee on the withdrawal of the United Kingdom from the European Union', 2 November.

TABLE 1 RISK ANALYSIS: POTENTIAL DISRUPTIONS TO OUTPUT IN 2022

	(a) Further COVID-related restrictions	(b) Persistently high inflation	(c) Brexit: disruptions in trade deal	(d) Brexit: Article 16 and a potential trade war
Consumption	Restricted economic activity will reduce household spending.	Higher prices will lead to declines in household spending.	Limited effects on prices of goods; little to no effect on consumption.	Higher costs of trade feeding through to consumer prices will lead to a decline in consumption.
Public Finances	Further need for supports, such as PUP, will increase public expenditure.	Mixed effects: potential increased spending on supports; inflation in GDP may reduce debt burden; higher rates may raise borrowing cost.	No significant changes expected.	Reduced trade and overall activity will result in a reduction in revenue.
Employment	Reduced economic activity will prevent re-employment in sectors most vulnerable to restrictions.	Select industries may see negative impacts to employment where wage demands are heightened significantly.	No significant changes expected.	Declines in trade may impact productivity and reduce labour force.
Investment	Increased uncertainty regarding recovery will likely slow down investment in affected sectors.	Higher costs on supply side will slow down investment activity and dampen business sentiment. A rise in rates will decrease borrowing.	Further uncertainty in trade agreements will hinder broad investment activity.	Large disruption to investment given extreme uncertainty and increased costs.
Imports	Declines related to consumption will likely lead to modest declines in imports.	Decline in imports due to significant reduction in consumption.	Greater uncertainty and increased costs likely to reduce trade activity.	Decline in imports due to significant trading costs and uncertainty, alongside reduced demand.
Exports	Sector-specific effects possible but strong multinational activity will see little to no overall effect on exports.	Some effect to exports given a decline in global demand; multinational activity may remain strong.	Greater uncertainty and increased costs likely to reduce trade activity.	Significant trading costs and uncertainty will affect cost of exporting across sectors.

Little to no effect	Small, noticeable effect	Moderate effect	Considerable effect	Major effect

The Domestic Economy

OUTPUT

Key Points

- *Modified total domestic demand in 2021 is forecast to increase by 6.2 per cent.*
- *Forecasting now supported by a 'nowcasting' model.*
- *Both domestic and foreign sources contributing positively to growth.*
- *The economy is set to continue to grow strongly into 2022.*

Notwithstanding the recent increase in COVID-19 infections, in this *Commentary* we assume that there will be no significant public health restrictions imposed in 2022. This means that normal economic activity is set to resume next year. However, it is clear that certain sectors of the economy may still face some degree of restrictions if infections start to rise again. The ongoing uncertainty concerning the possibility of such restrictions will impact both consumption and investment in these sectors.

In terms of headline GDP, it is clear that both domestic and external sources of growth continue to underpin the robust performance. Net trade is contributing significantly to the growth performance although the decline in imports is related to certain multinational related activities. This is also the case with the decline in headline investment; underlying investment is registering growth for the current year. Private consumption is also one of the main determinants for overall growth in 2021. In 2022 it is expected that consumption, net trade and underlying investment will again contribute positively to the growth performance of the economy.

In 2021 it is clear that the strong performance of the Irish economy reflected both a significant recovery following the easing of public health restrictions, as well as illustrating the strong pace of underlying growth in the domestic economy. This issue is discussed in the public finances section where the increase in taxation receipts witnessed in 2021 is broken down between that amount that is due to the bounce-back in the economy and that amount which is attributable to underlying economic activity.

The forecasting conducted in the *Commentary* is now supported by a nowcasting model (Egan, 2021). Previously a nowcasting approach was adopted, however this

was used to forecast GDP (Byrne et al., 2014).[4] The present approach, which is detailed in the following Box by Egan, now focusses on forecasting Modified Domestic Demand.

BOX A USING A MONTHLY INDICATOR TO NOWCAST MODIFIED DOMESTIC DEMAND

This Box presents both a monthly indicator of economic activity and a nowcast of Modified Domestic Demand (MDD) based on an approach outlined in Egan (2021).

The COVID-19 pandemic has highlighted the need for timely information on the evolving economic impacts of such a crisis. During these periods, there is an increased need to understand the current state of the economy in order to guide the effective implementation of policy. This is made difficult by the fact that official estimates of economic indicators, such as those published in the CSO's Quarterly National Accounts (QNA), are released with a substantial lag. According to Banbura and Runstler (2011), the usual lag between the end of the reference quarter and the first estimates of GDP across Eurozone economies is six weeks. The gap between the end of a reference quarter and the release of provisional National Accounts data means that key policy decisions are made in real time with a degree of uncertainty, given a lack of full information on the current state of the macroeconomy. Therefore, many central banks and other institutions have added nowcasting to their policy and decision-making toolkit in recent years (see for example Bok et al., 2018, which presents the details of the New York Fed Staff Nowcast). Nowcasting basically entails linking high frequency economic variables to lower frequency ones thereby enabling a forecast of the present level of the variable in question.

Most of the focus on nowcasting in the international literature has involved GDP. However, as well documented, the Irish economy has experienced issues in interpreting its GDP data due to the many facets of the globalisation process (see FitzGerald, 2018, for details). Accordingly, the Central Bank of Ireland (Conefrey and Walsh, 2018) and the Department of Finance (Daly and Rehill, 2020) have both produced monthly measures of economic activity which are used to nowcast alternative macroeconomic indicators such as MDD and Underlying Domestic Demand (UDD). This Box draws on the work of Egan (2021) who follows a similar approach of relating the information contained in a large number of monthly Irish economic indicators to MDD using a dynamic factor model.

Monthly Indicator of Economic Activity

Using the dynamic factor model, a single indicator of Irish economic activity can be extracted from a panel of monthly economic indicators. This panel is comprised of 52 variables in total across eight different components or blocks including Financial, Labour, Prices, Housing, Fiscal, Consumer, Output and Soft or Survey indicators. One of the key benefits of the technique is that the model can update incrementally in real-time in

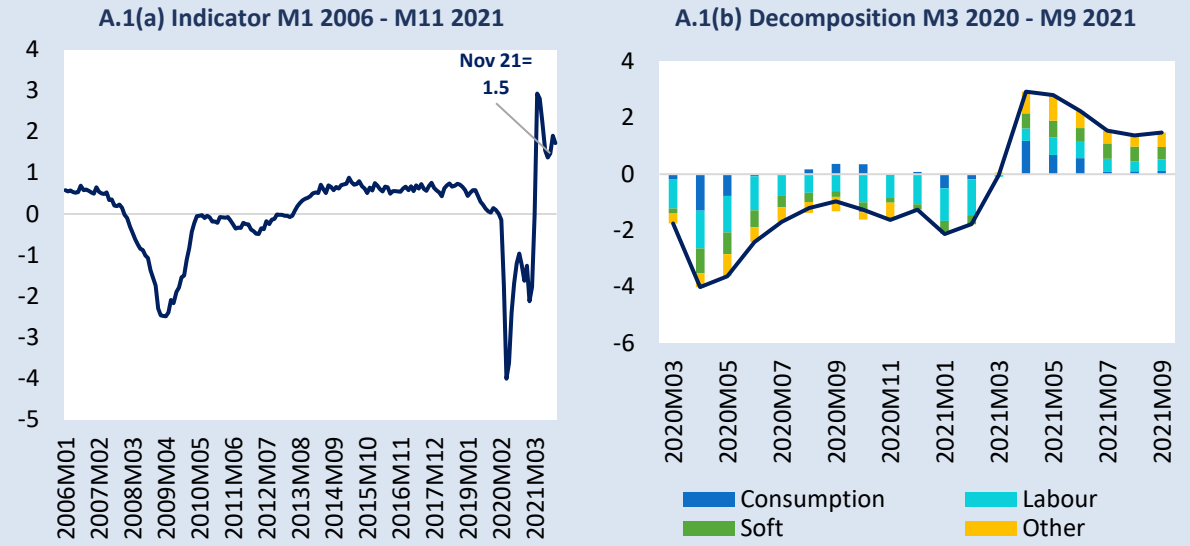
[4] Byrne, D., K. McQuinn and C. Morley (2014). 'Nowcasting and the Need for Timely Estimates of Movements in Irish Output', *Quarterly Economic Commentary*: Research Note, Economic and Social Research Institute (ESRI).

response to new incoming data. This is particularly useful during times of crisis or economic distress, such as the COVID-19 pandemic, when access to timely information is crucial to facilitate an appropriate data-driven policy response.

Figure A.1(a) plots the movement in the indicator from M1 2006 to M11 2021 with a value above and below 0 representing above and below average trend growth respectively. The figure clearly shows the extent to which the COVID-19 crisis has affected the domestic economy, falling well below the trough of the financial crisis in 2008. It also highlights the rapid jump in economic activity that came with the easing of public health restrictions. The current reading for November 2021, based on the limited set of available data at the time of publication, is 1.5 which is down from 1.7 in October.

Figure A.1(b) focuses on the indicator and its decomposition over the COVID-19 period specifically and allows for the contribution of the various blocks to be examined. The decomposition indicates that the large falls in economic activity in 2020 following the COVID-19 pandemic were driven mainly by the negative impacts on both consumption and the labour market.

FIGURE A.1 MONTHLY INDICATOR OF ECONOMIC ACTIVITY AND ITS DECOMPOSITION



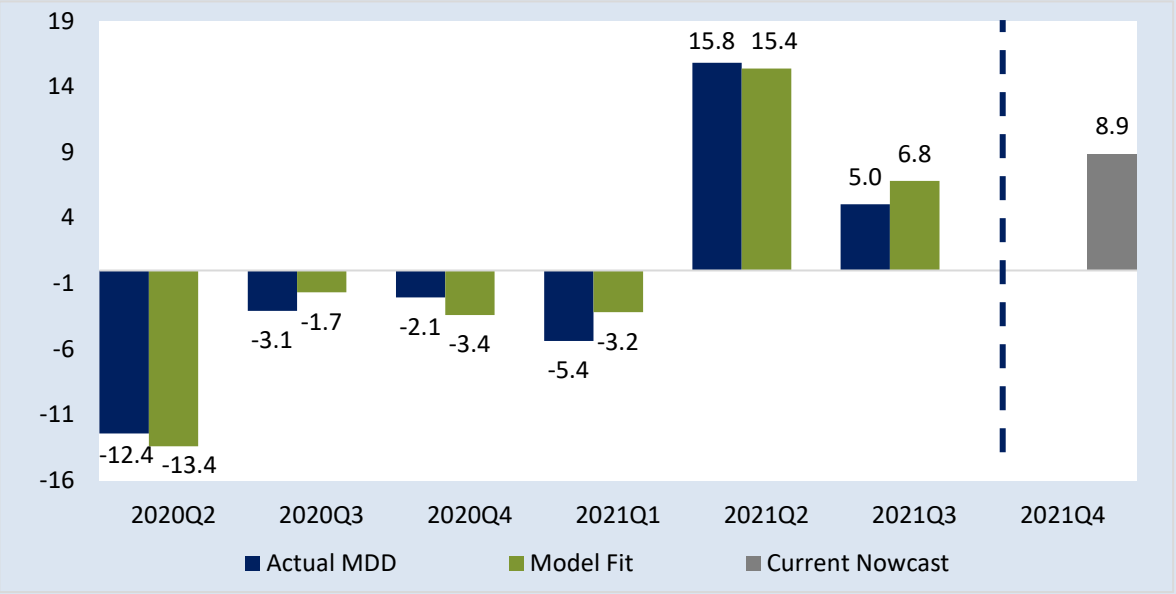
Source: Author's calculations.

Nowcasting of Modified Domestic Demand (MDD)

Using a bridge equation – a regression that links high frequency variables to lower frequency variables – a link can be made between the monthly economic indicator as shown in Figure 1 and the year-on-year growth rate of quarterly MDD in the form of a nowcast. The nowcast takes advantage of the fact that the indicator is composed of monthly data which are published earlier than the quarterly MDD. While nowcast estimates can be made as soon as new monthly data become available throughout the quarter, the final nowcast with all three months' worth of data can be made 3-4 weeks before the release of the National Accounts data. Figure A.2 shows that the monthly economic indicator has performed relatively well in nowcasting MDD over the period corresponding to the COVID-19 pandemic.

The current nowcast for Q4 2021 is currently 8.9 per cent.[5] Given the actual growth rates for Q1 2021 (-5.4 per cent), Q2 2021 (15.8 per cent) and Q3 2021 (5.0 per cent), this would imply an overall annual growth rate of around 6 per cent for MDD in 2021.

FIGURE A.2 NOWCAST OF MODIFIED DOMESTIC DEMAND FROM Q2 2020 TO Q4 2021



Source: Central Statistics Office and author's calculations.

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This Box was prepared by Paul Egan

[5] The nowcast for Q4 2021 is based on October data and a small sample of November's data only.

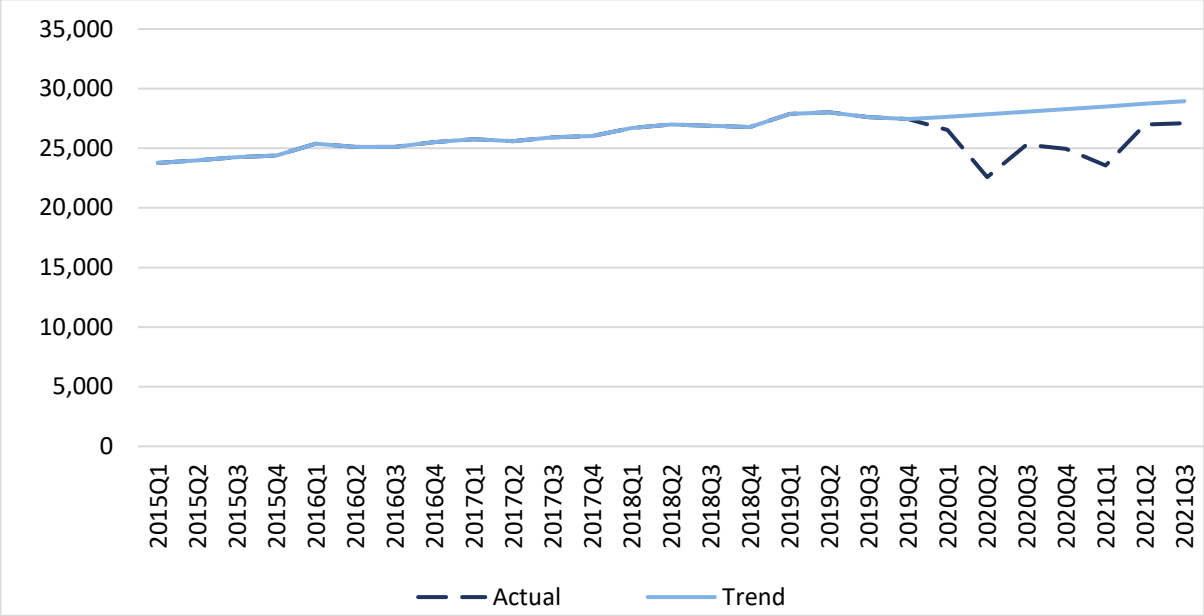
DEMAND

Key Points

- *Consumption increased significantly in 2021 relative to 2020.*
- *However, consumption remains below pre-pandemic levels.*
- *Q3 2021 saw a slight increase in consumption relative to Q2 2021.*
- *The share of expenditure continues to return to pre-pandemic norms.*
- *The savings ratio fell in Q2 2021 relative to the previous quarter.*

Figure 1 presents the quarterly level of consumption expenditure (in constant price euro millions) for the period 2015-2021. The impact of the pandemic is clear; drops in consumption associated with periods of increased disease incidence and tighter public health restrictions are particularly pronounced in Q2 2020 and Q1 2021. To provide a high-level insight into the impact of the pandemic on the overall level of household spending, included in Figure 1 is a linear trend which extrapolates the Q4 2019 level of consumption using the average quarter-on-quarter growth rate over the period 2015-2019 (approximately 0.8 per cent).

FIGURE 1 QUARTERLY PERSONAL CONSUMPTION ON GOODS AND SERVICES – CONSTANT MARKET PRICES AND SEASONALLY ADJUSTED – LEVELS (€)

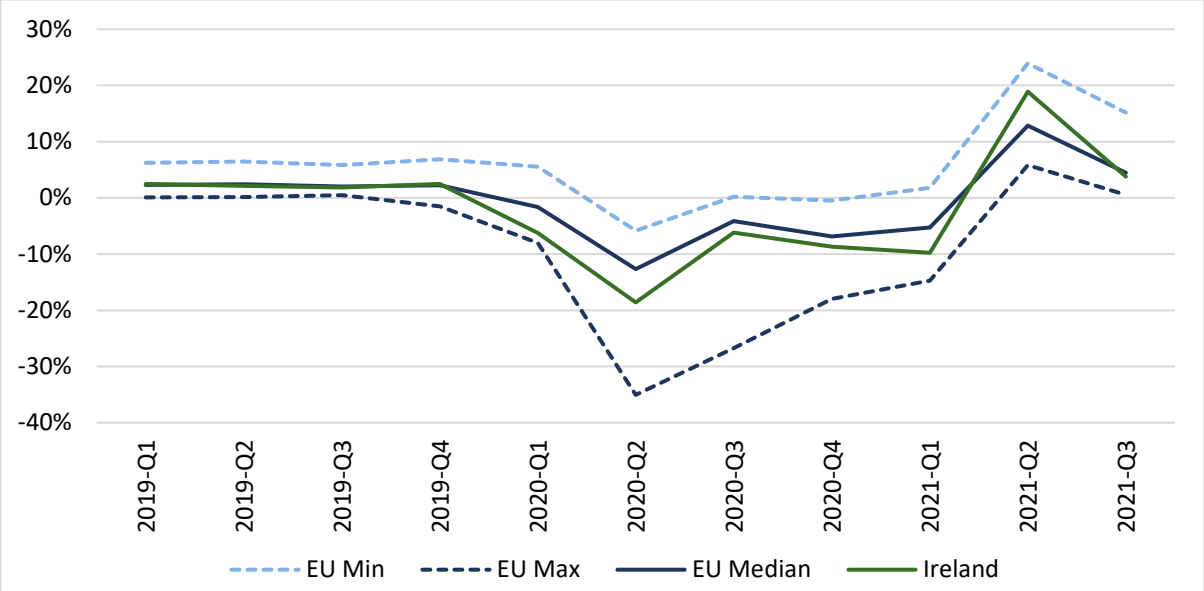


Source: Central Statistics Office and authors' calculations.

Despite the robust recovery up until Q3 2021, the level of household expenditure remains below what may have been expected had the economy continued to grow in line with pre-pandemic trends.

The annual change in consumption in Ireland is presented in Figure 2 in a comparative European context. In general, through 2020, the drop in consumption was larger in Ireland than the median of other European countries, which likely reflects the variation in the stringency of public measures required to manage the pandemic. Our recovery came from a lower base as the decline in consumption during the first phase of public health restrictions in Q2 2020 was comparatively larger than the typical decline in other countries. The recovery in Q3 2021, which equated to a 4 per cent year-on-year expansion in consumption, was the same as the median of other European countries.

FIGURE 2 QUARTERLY PERSONAL CONSUMPTION ON GOODS AND SERVICES – GROWTH RATES – YEAR-ON-YEAR EUROPEAN COMPARISON (SEASONALLY AND CALENDAR ADJUSTED)

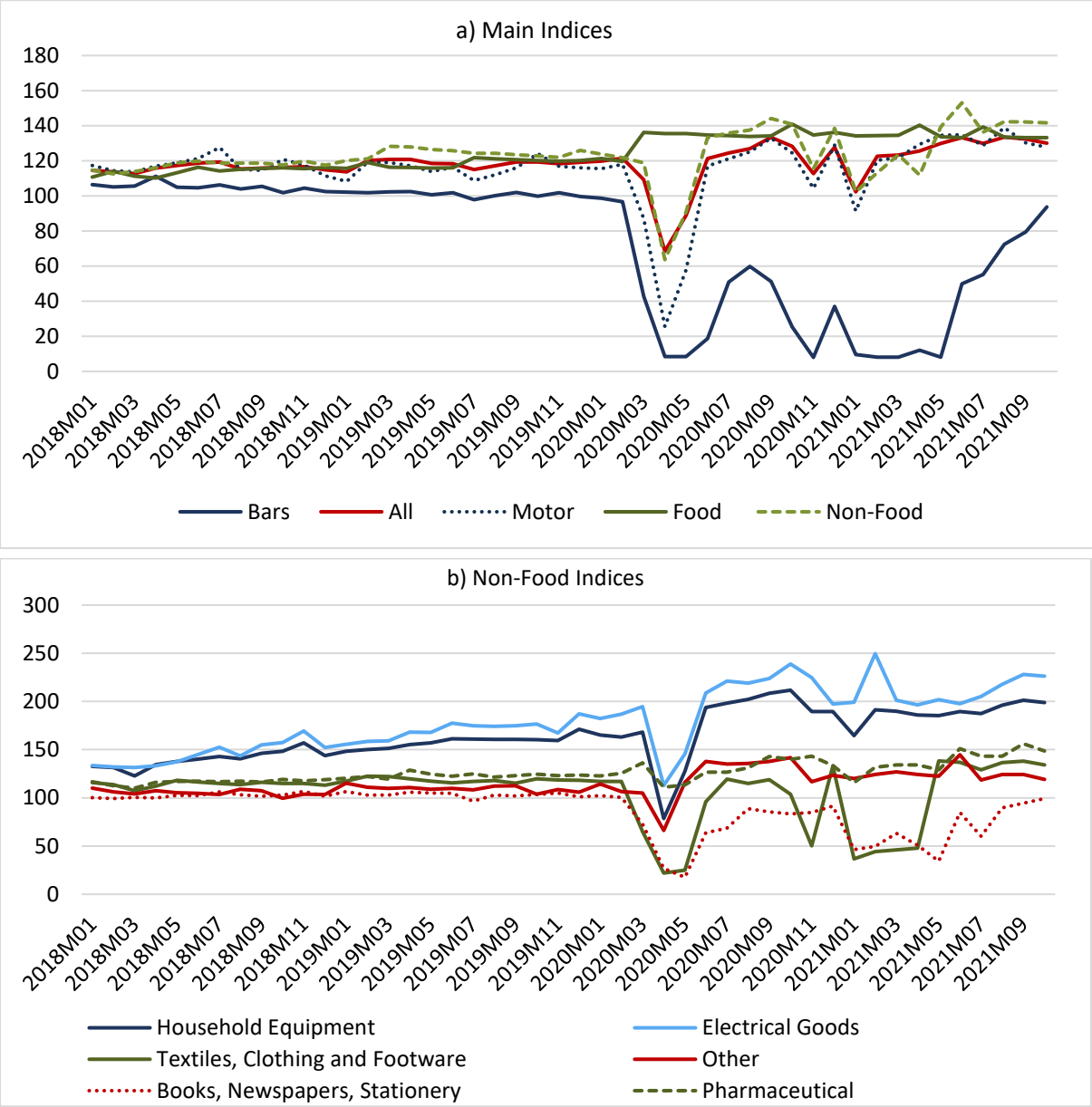


Source: Authors' calculations using Eurostat data.
Note: Due to missing data for Ireland Q3 2021, we estimated Q3 2021's value by growing forward Q2 2021's value using the quarter-on-quarter growth rate calculated with CSO seasonally-adjusted data.

The recovery in the third quarter of 2021 can be identified in the monthly retail sales data (Panel A, Figure 3), with a strong increase in expenditure in bars throughout May and October, as the sustained easing of restrictions on hospitality and accommodation services occurred. It is not yet certain if this expenditure increase will continue at the current rate due to the rising COVID-19 infection level and, consequently, the potential re-implementation of tighter public health restrictions which may arise. A drop or plateau in expenditure (month-on-month) can be seen between June and October in such indices like the non-food index and the motor index. This reflects a slowdown in spending after the increases seen between April and June, in which many households significantly increased consumption as retail outlets reopened.

Focusing on the sub-indices in panel B of Figure 3, the increase in expenditure on items like clothing, textiles and footwear in the first three months of 2021 stabilised in May and has fallen slightly since September.

FIGURE 3 RETAIL SALES INDEX – MAIN ITEMS

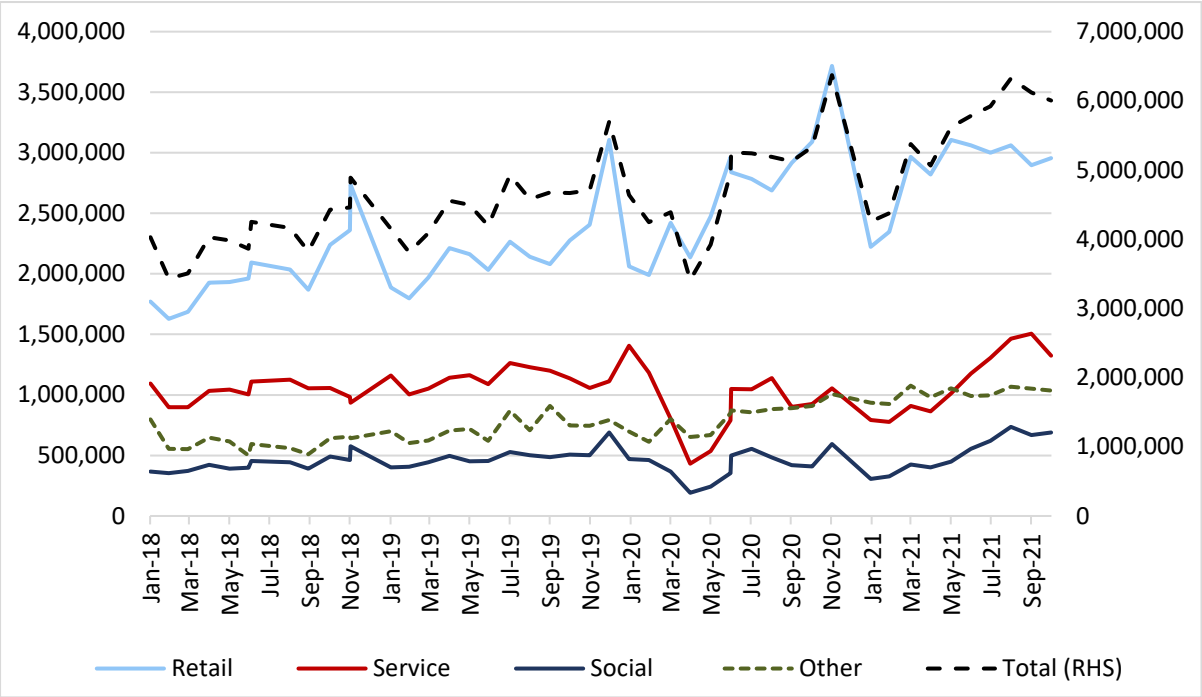


Source: Central Statistics Office.
Note: Retail Sales Index Volume Adjusted data (based 2015=100).

A decrease in expenditure between August to October can be seen in the Central Bank of Ireland credit and debit card statistics, as shown in Figure 4. This indicates that while Ireland has experienced significantly strong growth in 2021, this growth may be fading as we enter 2022. Since its dip in September, retail expenditure has

improved, while service expenditure, which includes transport and accommodation, has declined.

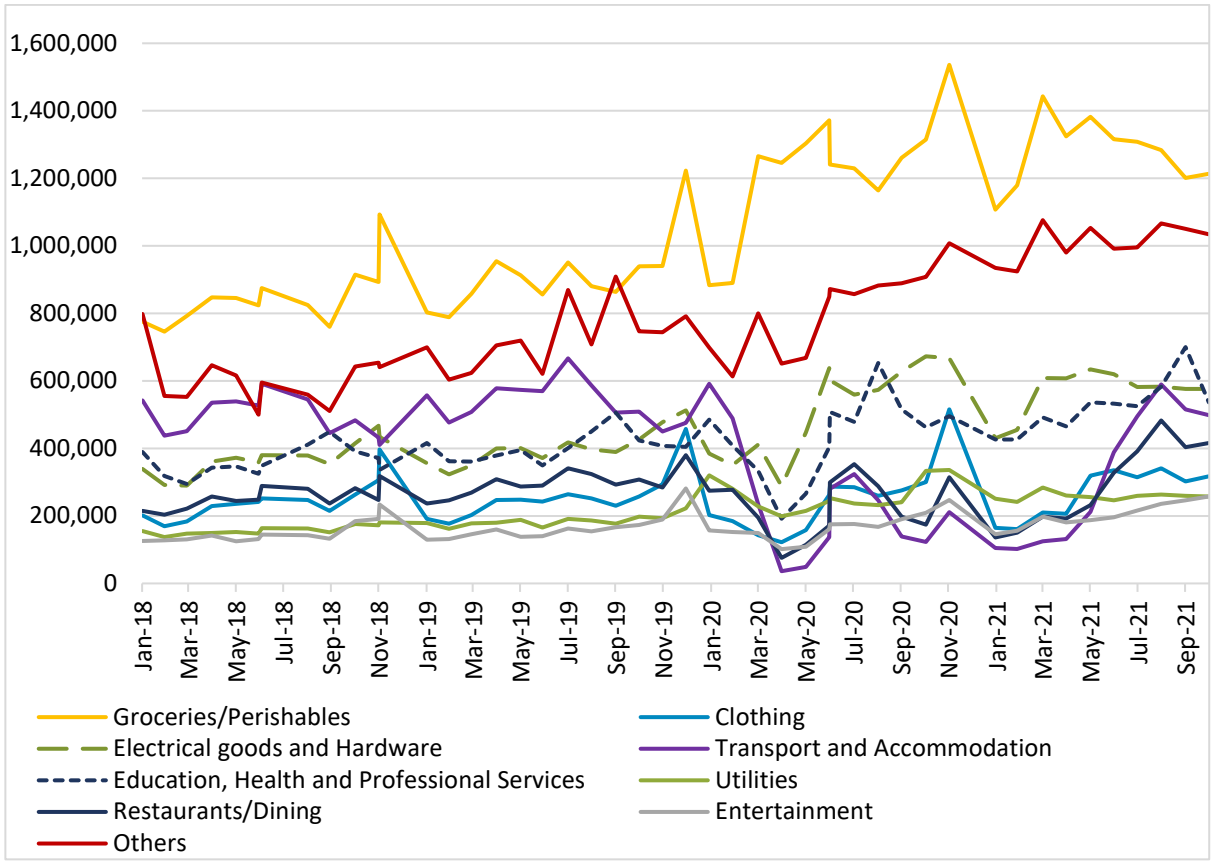
FIGURE 4 TOTAL EXPENDITURE FROM PERSONAL CREDIT CARD + DEBIT CARD DATA (NOMINAL €, NON-SEASONALLY ADJUSTED)



Source: Central Bank of Ireland.

Total expenditure on credit and debit cards has continued to grow throughout 2021 from the January low point (from January to October 2021, it is up 41 per cent), with the year-on-year growth rate from October 2020 to October 2021 reaching 17 per cent. Given that credit and debit card data are nominal and non-seasonally adjusted, some expenditure patterns may be attributed to changing price levels and seasonality. However, examining a broader group of expenditure categories may provide additional insight, as shown in Figure 5.

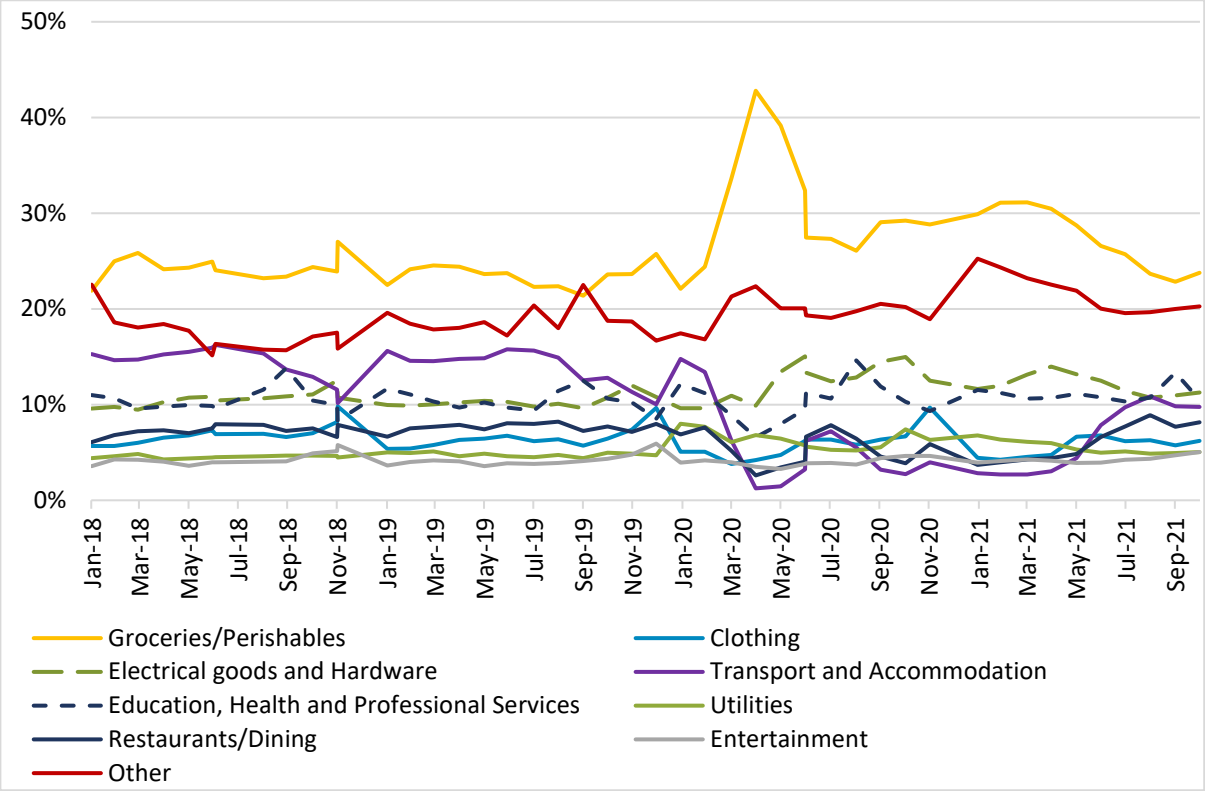
FIGURE 5 EXPENDITURE FROM PERSONAL CREDIT CARD + DEBIT CARD DATA – SUB-SECTIONS (NOMINAL, NON-SEASONALLY ADJUSTED)



Source: Central Bank of Ireland.

It is likely that households increased their expenditure on items that were previously unavailable due to the public health regulations. However the rising uncertainty related to the current epidemiological situation may have a negative impact on expenditure. For instance, expenditure on restaurants and dining in Q3 2021 decreased. However, on an annual basis, there is still significant growth in this sector; spending in this sector increased 110 per cent in October 2021 compared to its level in October 2020. The expenditure on education, health and professional services has decreased significantly since September, while expenditure on clothing and entertainment appear to be gradually increasing.

FIGURE 6 EXPENDITURE SHARES – CREDIT CARD (PERSONAL) + DEBIT CARD DATA



Source: Central Bank of Ireland.

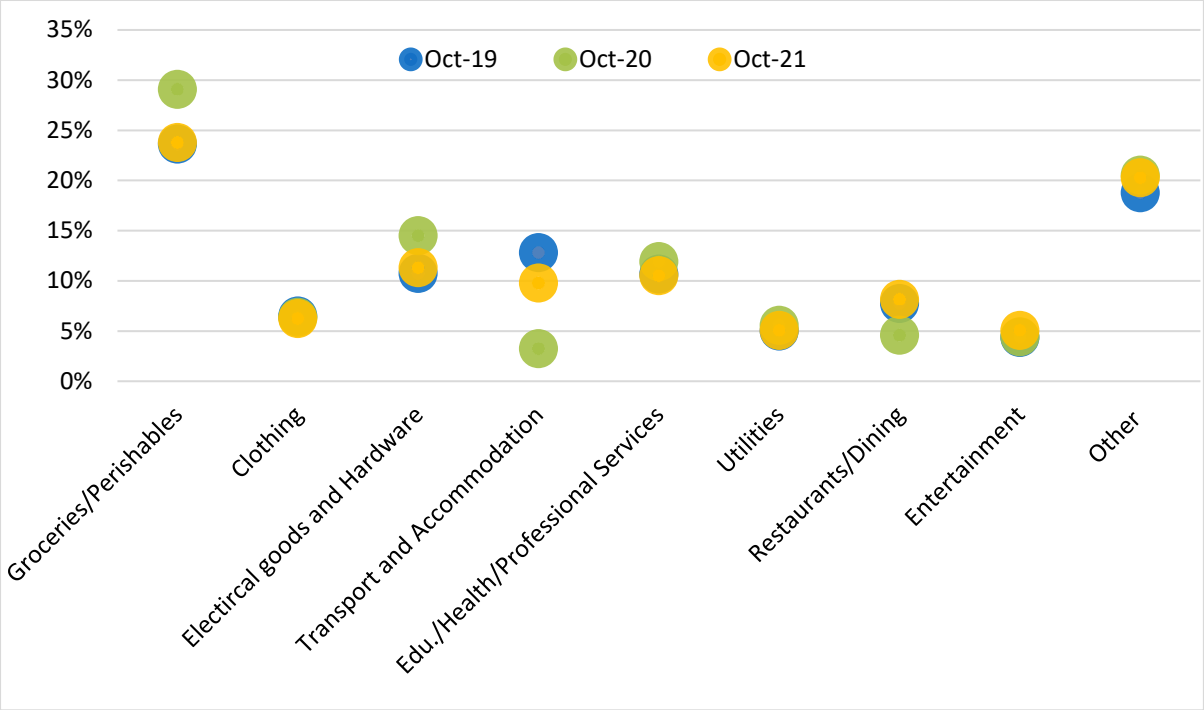
One important aspect of the recovery in household expenditure is the degree to which spending patterns have changed through the pandemic. The recovery in overall expenditure will be impacted by the degree to which the basket of goods and services has shifted over time due to public health restrictions and other pandemic related effects.

Figure 6 presents data from the Central Bank of Ireland credit and debit card series. The data are the share of total expenditure by type of expenditure. The impact of the pandemic is very clear with a marked increase in the share of groceries/ perishables during the first lockdown period as other types of goods and services were foregone. Transport and accommodation expenditure fell dramatically from approximately 15 per cent before the pandemic to 1 per cent. Now, expenditure on these items has recovered to 10 per cent but it remains below the pre-pandemic levels by approximately one-third. The declining share of groceries and utilities highlights the continued normalisation of expenditure.

To gain a more granular insight into the recovery trends, Figure 7 presents the share of expenditure in October 2019, 2020 and 2021. Expenditure remains well below pre-pandemic levels for transport and accommodation, while many of the other items have recovered. Expenditure shares in groceries/perishables, education,

health and professional services, and electrical goods and hardware were larger in October 2020 than October 2021, likely reflecting the public health regulations in place in 2020.

FIGURE 7 SHARE OF EXPENDITURE FROM CREDIT CARD (PERSONAL) + DEBIT CARD DATA IN 2019, 2020, 2021 (NOMINAL, NON-SEASONALLY ADJUSTED)



Source: Central Bank of Ireland.

Using both the daily and monthly credit card and debit card statistics, one can look at the year-on-year growth rate of consumption. Comparing October and the first three weeks of November in 2021 to the same time frame in 2020, one can see that total card spending has increased by 21 per cent since this time last year (Table 2). Naturally, card spending alone does not capture the full picture of household expenditure as households also use cash payments.

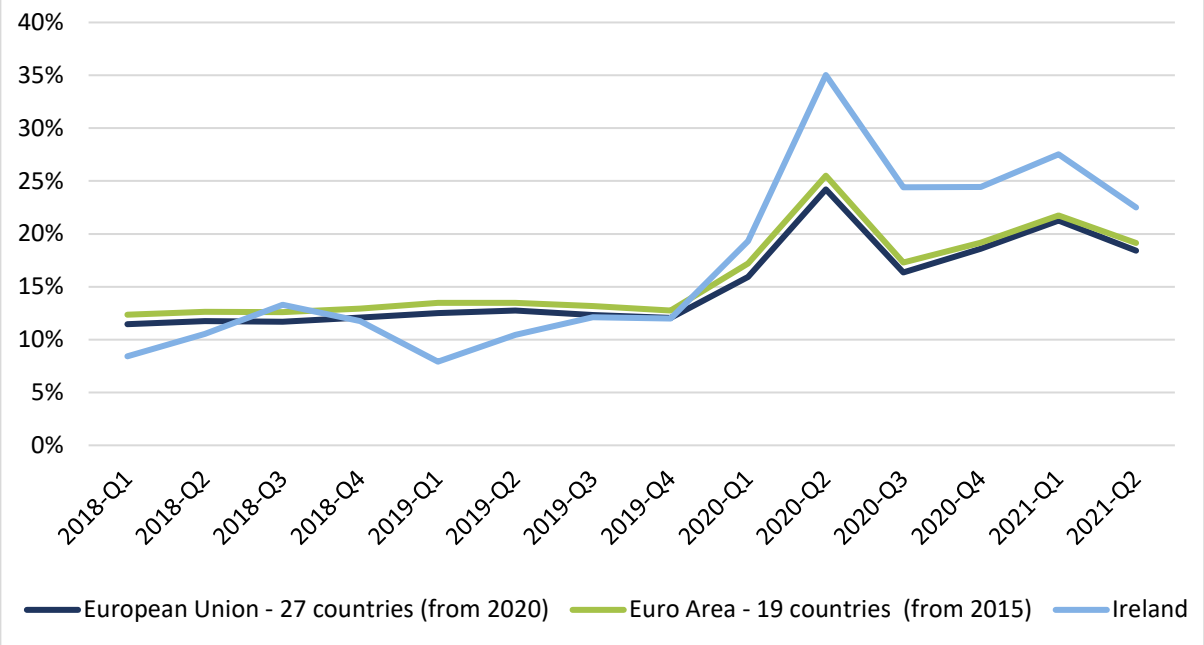
TABLE 2 TOTAL DEBIT AND CREDIT CARD SPENDING (NOMINAL, NSA) AND YEAR-ON-YEAR GROWTH RATE (%)

Date	2021 Card spending	2020 Card Spending
October	6,004,125	5,126,860
November (until 21)	5,213,861	4,164,305
Total	11,217,986	9,291,165
Y-on-Y Growth Rate	21%	

Source: Central Bank of Ireland.

A notable feature of the pandemic has been a marked increase in the savings ratio (the share of disposable income diverted into savings). Figure 8 presents the savings ratio for Ireland, the Euro Area, and the European Union as a whole. It is clear the savings ratio in Ireland increased dramatically over the pandemic. As the economy reopened, there was naturally a reduction in the savings ratio. However, Ireland's savings ratio is still elevated compared to both the current EU level, and its pre-pandemic level.

FIGURE 8 SAVINGS RATIO – IRELAND AND EUROPEAN ECONOMIES – GROWTH RATES (%, SEASONALLY AND CALENDAR ADJUSTED)

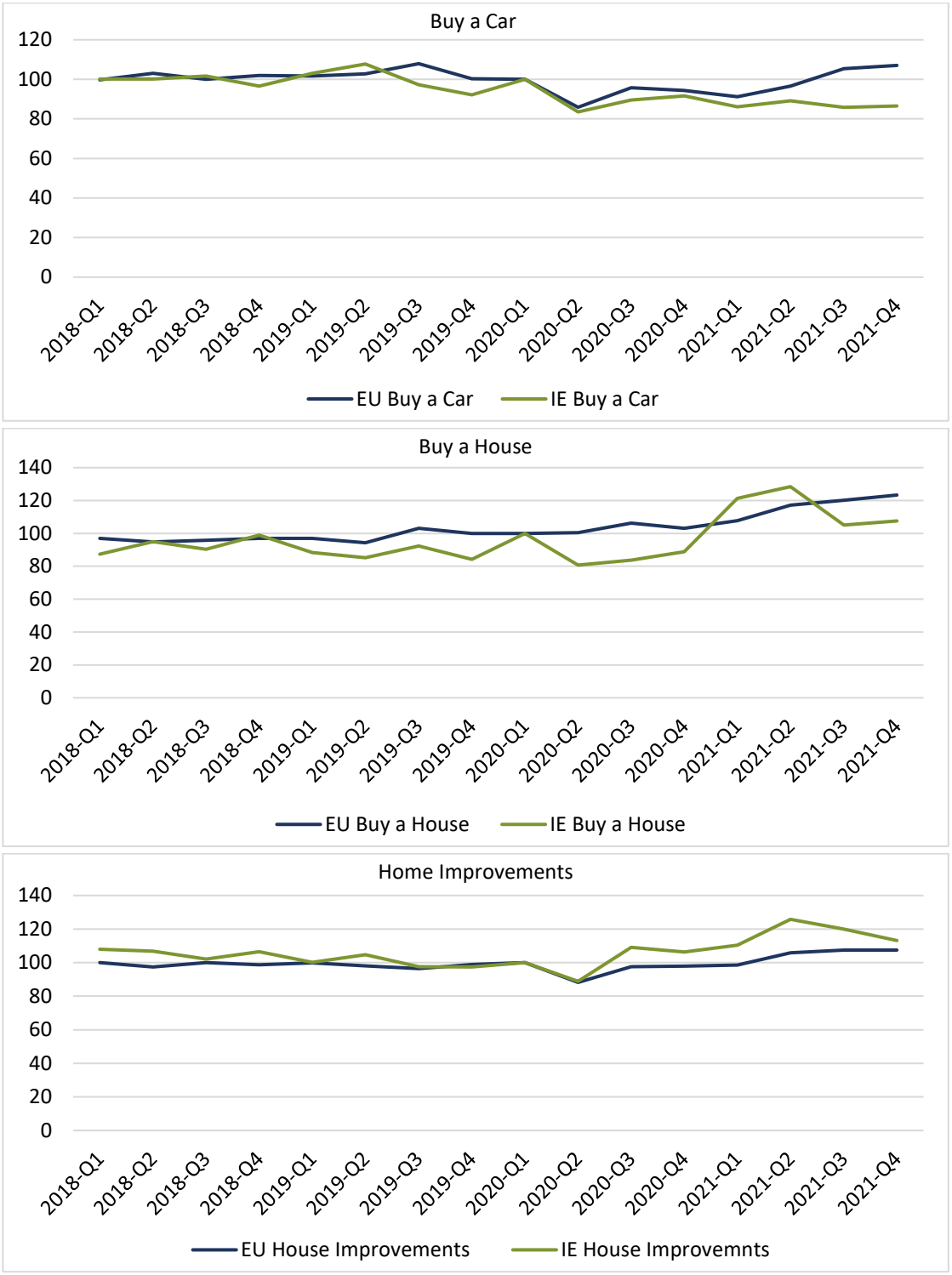


Source: Central Statistics Office.

How households use these savings is going to define the nature and composition of the economic rebound. For households who are saving, the following choices are available: a) continue saving; b) increase expenditure on non-durable goods and services (such as holidays and recreation); c) purchase durables (such as cars) or d) invest these funds for example into financial assets or housing (either through improvements or new purchases) or clearing debt.

To gain some insight to the preferences of Irish households in this regard, we can draw on the European Commission consumer sentiment survey which provides information on expectations of the propensity to make large purchases on a) cars and other motor vehicles; b) house purchase; and c) home improvements. The figures in index form (Q1 2020 = 100) are presented for Ireland and the EU for each item in Figure 9. It appears that Irish households are more likely to channel funds into house purchase and home improvements relative to car purchases since the onset of the pandemic.

FIGURE 9 EXPENDITURE EXPECTATIONS



Source: European Commission.

Consumption forecasts

As the economy continues to remain open, the two most important considerations as far as the consumption outlook in 2022 is concerned are the continued reduction in unemployment and the expected gradual decline in savings ratio. Therefore we expect consumption to increase in Q4 2021 and throughout 2022. Specifically, we expect consumption to grow by 7.5 per cent in 2021 compared to 2020, and 7.8 per cent in 2022, relative to 2021. This baseline forecast is based on the absence of strict COVID-19 public health restrictions operating for a protracted period in 2022. If a significant set of restrictions is imposed in the new year for a prolonged period, this will have a negative impact on the consumption outlook.

TRADED SECTOR

Key Points

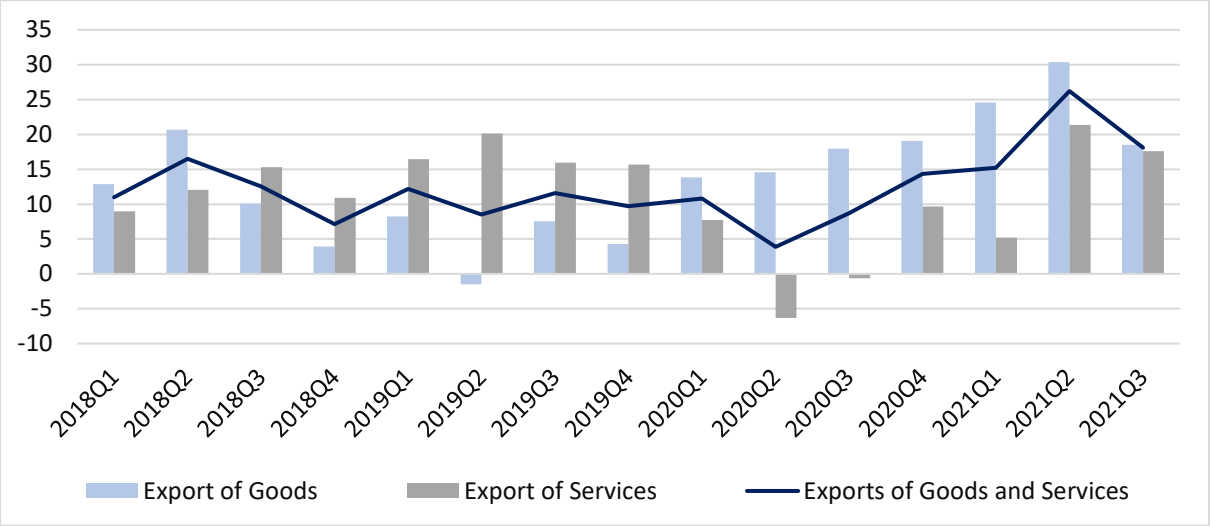
- *Exports grew by 1.3 per cent in Q3 2021 compared to Q2 2021 on a seasonally-adjusted basis.*
- *Irish net exports were €51.8 billion in Q3 2021.*
- *Seasonally-adjusted imports grew by 4.5 per cent, largely due to an increased demand for services.*
- *Both financial-related and traditional activities are contributing to the strong performance in the export sector.*

Import and Export Activity

Growth in the export sector slowed slightly in Q3 2021 after experiencing robust activity in the previous quarter. Seasonally-adjusted exports grew 1.3 per cent from Q2 to Q3 2021. In the same period, seasonally-adjusted imports grew 4.5 per cent, resulting in total net exports of €51.8 billion. On an annual basis, exports and imports increased 18.1 per cent and 20.9 per cent in Q3 2021, respectively. Total net exports have grown 13.1 per cent in the same period.

Figure 10 shows the annual growth rate in Irish Exports by quarter. In Q3 2021, goods and services exports increased 18.5 and 17.6 per cent per annum, respectively.

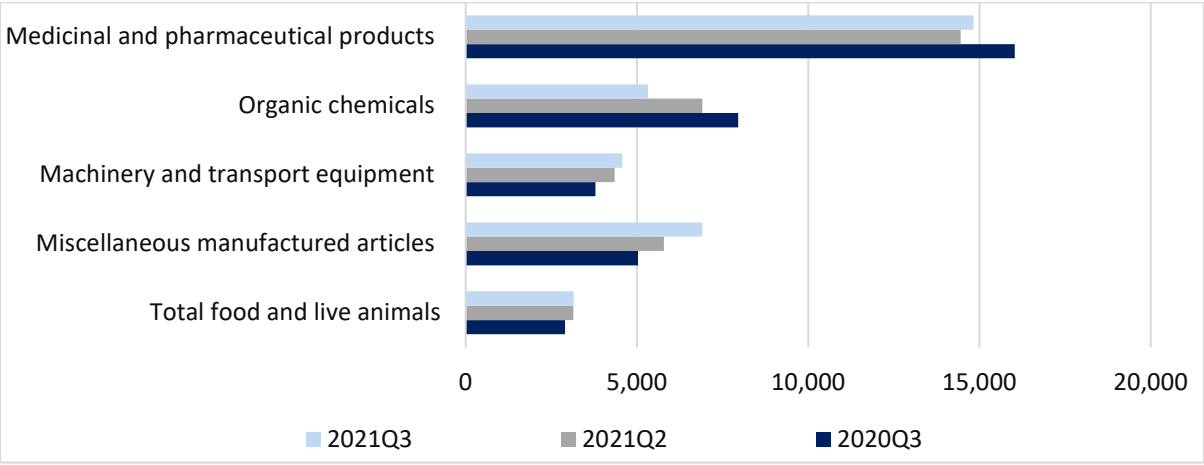
FIGURE 10 SEASONALLY-ADJUSTED EXPORTS (VOLUME, Y-O-Y %)



Source: Central Statistics Office, Quarterly National Accounts.

Of the commodities included in Irish goods exports, Medicinal and pharmaceutical products account for the largest share (36.6 per cent in Q3 2021). Compared to Q2 2021, exports of this commodity group have increased by 2.6 per cent, yet they remain 7.5 per cent lower than in Q3 2020. Apart from exports in Organic chemicals, which remain one-third lower than Q3 2020, exports across most major commodity groups have increased significantly. Exports of Machinery and transport equipment increased 37.3 per cent per annum and 19.3 per cent per quarter. Exports of Miscellaneous manufactured articles and Total food and live animals have also increased on both a quarterly and annual basis. Growth across a variety of export groups is encouraging as it signals that the recovery is not isolated to a small number of multinational corporations in one or two sectors, but rather is being experienced by enterprises across the economy.

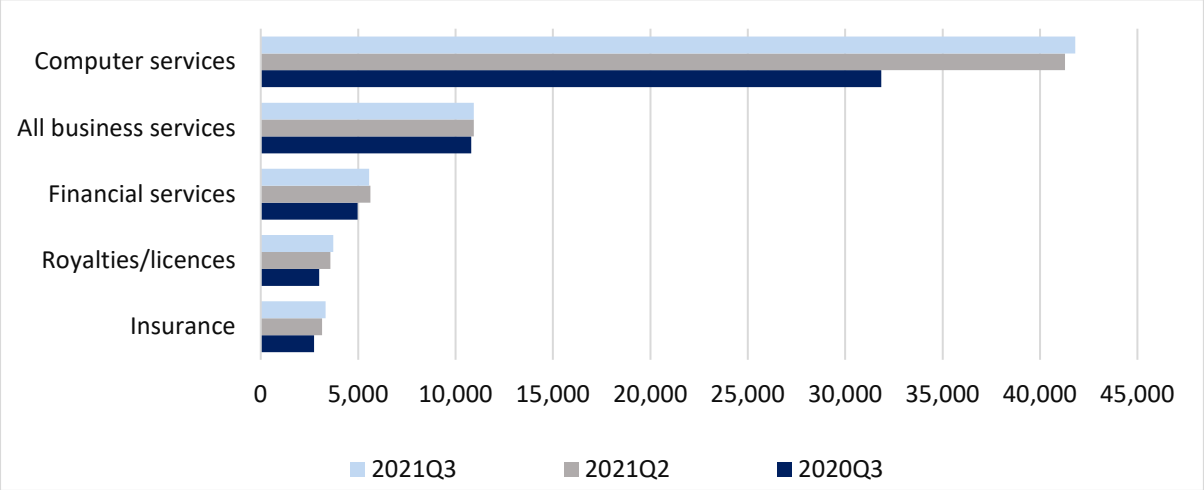
FIGURE 11 GOODS EXPORTS BY COMMODITY GROUP (VALUE, € MILLION)



Source: Central Statistics Office.

Service exports continued to increase modestly in the third quarter of 2021. Computer services, which account for the largest share of service exports, grew 1.3 per cent from Q2 2021 and 31.2 per cent from Q3 2020. Across the major components of service exports, little change occurred between Q2 and Q3 2021, however all components increased since Q3 2020 (Figure 12).

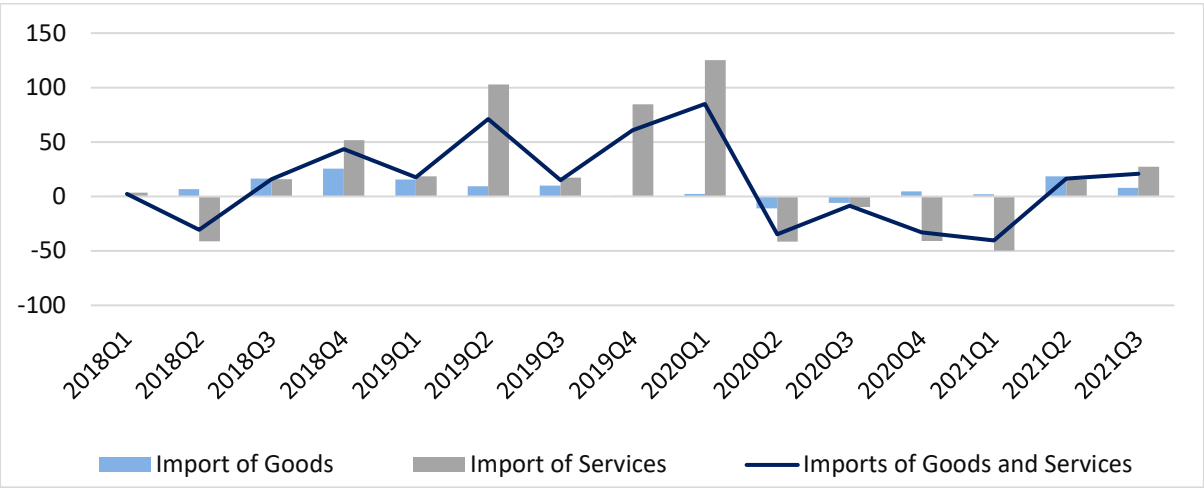
FIGURE 12 SERVICE EXPORTS BY COMPONENT (VALUE, € MILLION)



Source: Central Statistics Office, Current Account: Merchandise and Services.

Figure 13 shows that import growth remained relatively unchanged since its surge in Q2 2021 after the easing of restrictions. Imports of goods and services increased 4.5 per cent per quarter and 20.9 per cent per annum, due largely to increased demand for services. Service imports rose 27.3 per cent from Q3 2020 and 6.4 per cent from Q2 2021.

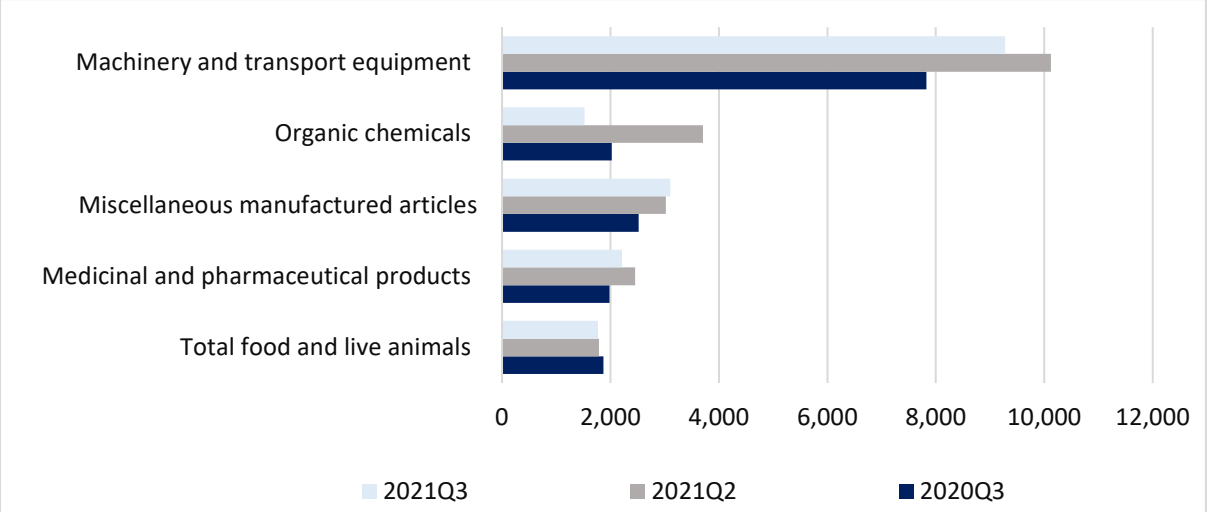
FIGURE 13 SEASONALLY-ADJUSTED IMPORTS (VOLUME, Y-O-Y %)



Source: Central Statistics Office.

The total value of goods imports remained largely unchanged from Q2 2021 (increasing 0.2 per cent), but a clear change in imports by commodity group can be seen in Figure 14. Imports of machinery and transport, which accounts for 39 per cent of imports, declined 8.3 per cent per quarter but increased 18.5 per cent per annum. Quarterly declines also occurred in imports of Organic chemicals (-58.9 per cent), Medicinal and pharmaceutical products (-10.0 per cent), and Total food and live animals (-1.1 per cent). Meanwhile, imports of Manufactured articles, beverages and tobacco, and Mineral fuels increased in the same period.

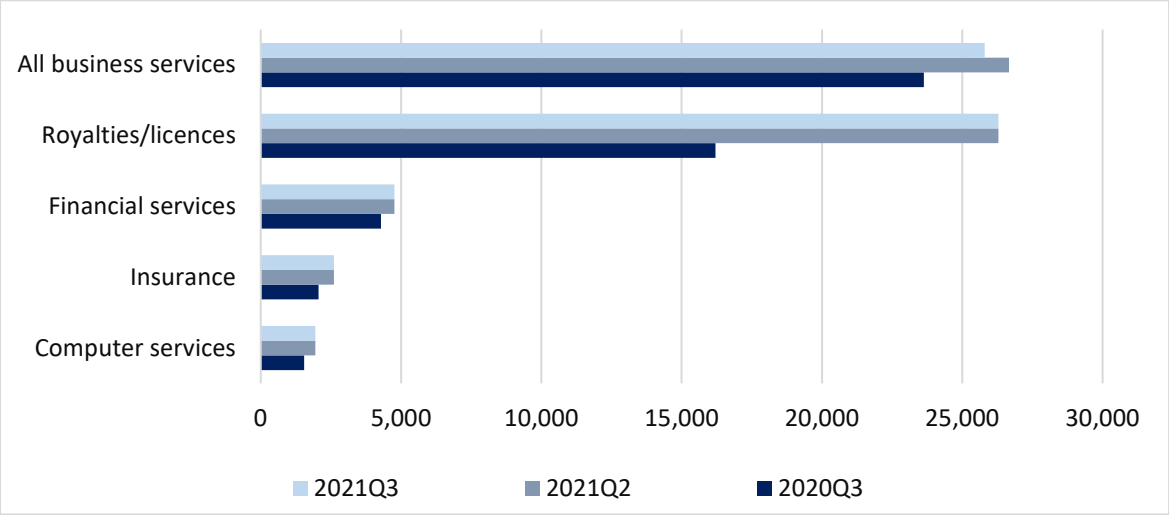
FIGURE 14 GOODS IMPORTS BY COMMODITY GROUP (VALUE, € MILLION)



Source: Central Statistics Office.

Besides imports of business services, which includes services such as Research and development and Operational leasing, most service imports remain largely unchanged since Q2 2021 and notably larger than in Q3 2020 (Figure 15). Imports of royalties and licenses registered the largest increase (42.3 per cent), while imports of computer services, financial services, and insurance also rose considerably in the same period (18.6, 18.8 and 13.4 per cent, respectively).

FIGURE 15 SERVICE IMPORTS BY COMMODITY GROUP (VALUE, € MILLION)



Source: Central Statistics Office.

Components of Export Growth

In order to quantify 'traditional' export activity, in which the supplier of a good or service is located within Ireland and the recipient is located abroad, a number of financial activities must be removed. Activities such as Merchanting, contract manufacturing, and other adjustments involve a change of ownership or purchases abroad.[6] These activities, along with research and development (R&D), leasing, and royalties and licensing are strongly tied to financial activities of multinational firms and therefore should be assessed separately from other trade activities. Other multinational activities related to traditional export activity are not removed and therefore are included in the remaining accounts, International trade and Services trade, which are used as our measure of traditional export activity.

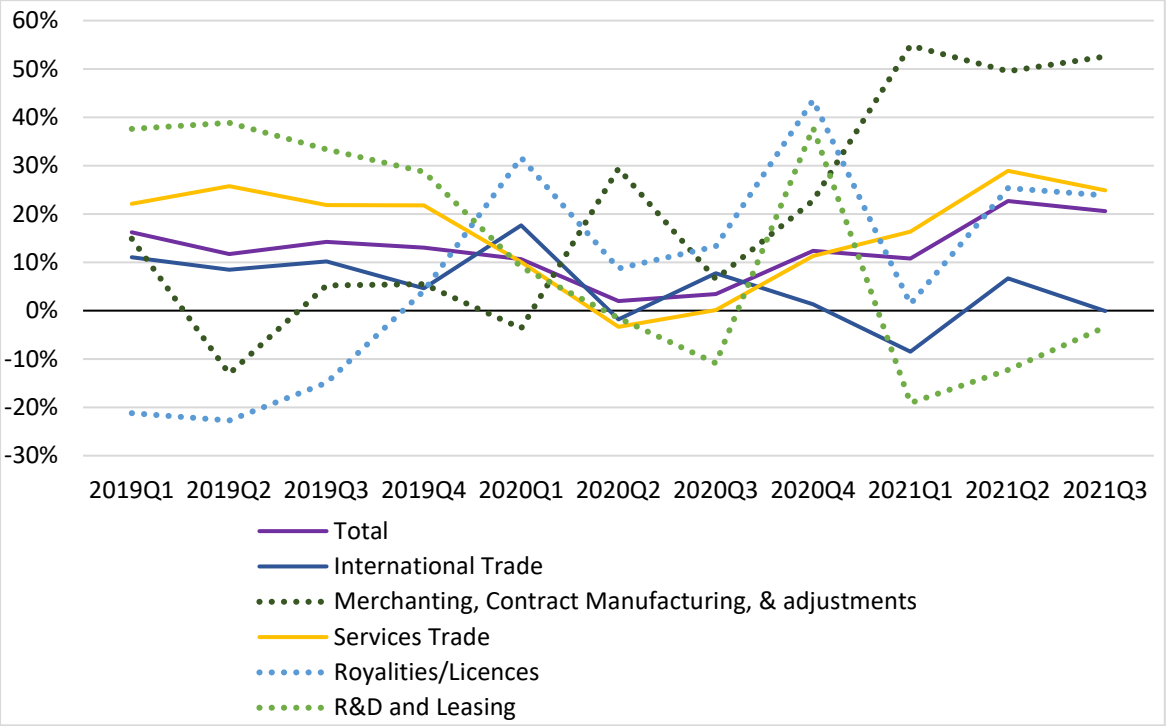
Figure 16 provides a breakdown of exports by traditional export activities, such as International trade and Services trade, as well as the main components of exports related to financial activities. Traditional export activity has been performing strongly as the economy recovers from the COVID-19 pandemic. Services trade exports have been increasing since Q2 2020, experiencing growth of 24.9 per cent per annum in Q3 2021. International trade exports slightly declined by 0.1 per cent per annum over the same period.

Throughout the pandemic, financial activities related to multinational operations have been performing strongly and contributing to Ireland's impressive export growth. In Q3 2021, Merchanting, contract manufacturing, and adjustments grew

For further definitions, see:
https://www.cso.ie/en/releasesandpublications/in/geid/explaininggoodsexportsandimports2012-2016/.

52.6 per cent per annum, while growth in Royalties and licensing exports also contributed significantly to overall growth (increasing 23.8 per cent per annum). R&D and leasing was the only component of multinational activity to experience a decline, contracting 3.4 per cent in the same period.

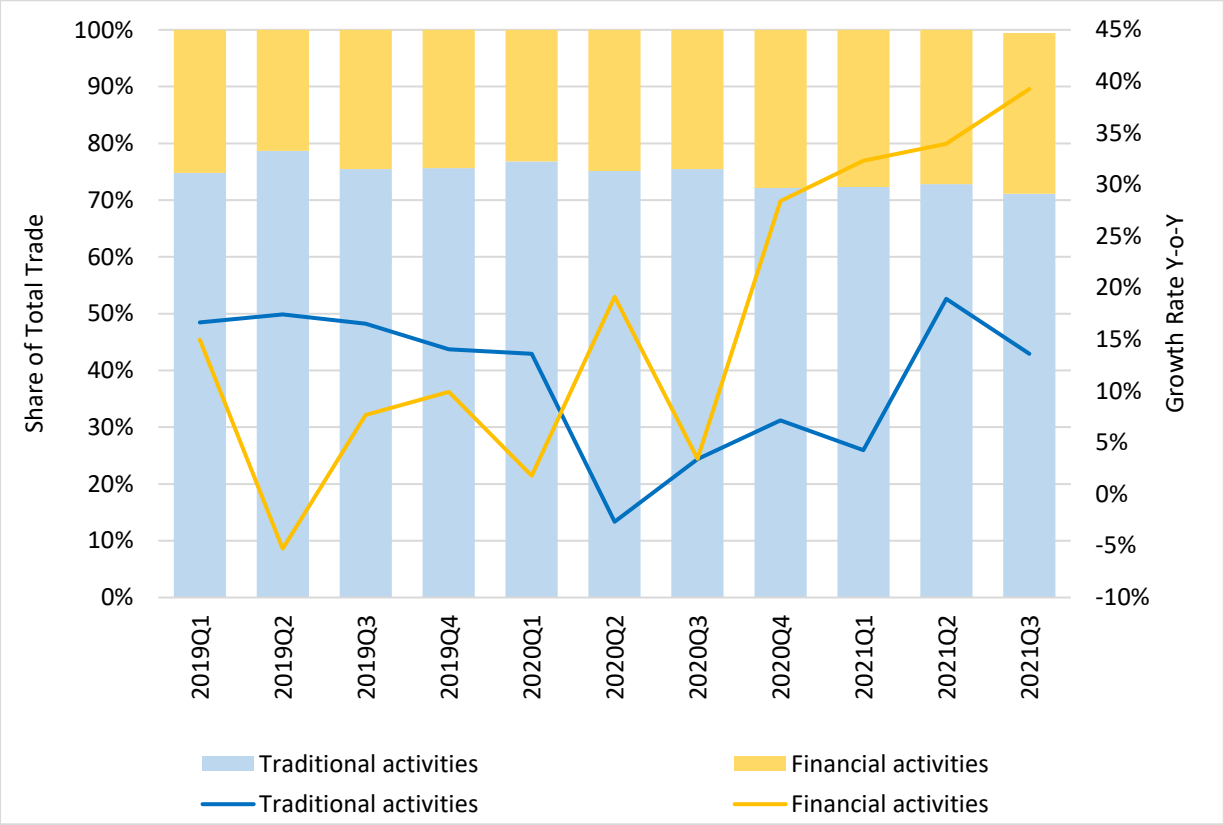
FIGURE 16 EXPORT GROWTH BY COMPONENT (Y-O-Y %)



Source: *QEC* calculations using data from the Central Statistics Office.
Note: Merchanting, contract manufacturing, and adjustments refers to Merchanting; Goods for processing; and Other conceptual adjustments. R&D and leasing refers to the following CSO accounts: Business services: research and development (inclusive of IP related R&D) and Business services: operational leasing. Business services other than research and development are included in the Services Trade.

Despite the boost stemming from financial activities, International and Services trade are still the primary components of Ireland's trade exports. In Q3 2021, these exports contributed to 71.1 per cent of total exports. Figure 17 shows the share of International and Services trade (traditional activity) exports compared with that of Finance-related exports (such as Merchanting, contract manufacturing, and adjustments; R&D and leasing; and Royalties and licensing). In recent years, Financial activities have accounted for roughly one-quarter of total exports. The corresponding annual growth rates in Figure 17 highlight the volatility of finance-related exports as opposed to the relatively more predictable performance of International trade and services exports. While the latter declined steeply at the onset of the pandemic in Q2 2020, it has since experienced positive growth. In Q3 2021, International trade and services exports grew 13.6 per cent compared to Q3 2020, while Financial activity exports grew 39.3 per cent. While finance-related exports are strong, it is useful to see that exports from traditional activities are also performing well and recovering from the effects of the pandemic.

FIGURE 17 EXPORT GROWTH BY COMPONENT (Y-O-Y %)



Source: *QEC* calculations using data from the Central Statistics Office.
Note: Financial activities refers to the following accounts described in Figure 16: Globalisation activities and other adjustments; Royalties/licensing; and R&D and leasing. Traditional activities refer to International trade and services trade.

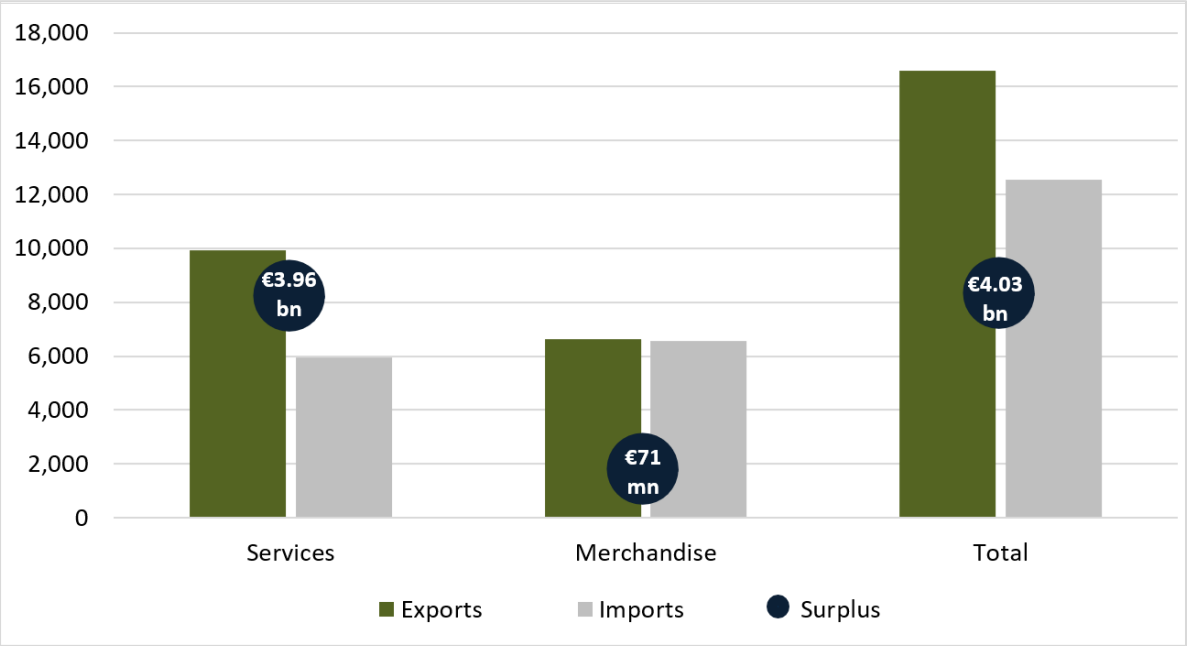
Brexit and Trade

The Trade and Cooperation Agreement, signed by the EU and the UK on 30 December 2020, has had clear consequences for Irish trade. While the negotiations between the UK and the EU managed to avoid the implementation of tariffs, many non-tariff barriers such as licensing, labelling and rules related to health and food safety have been implemented and will continue to be rolled out. The trade data presented in this *Commentary* reflect the asymmetry in Customs checks on cross-border trade between the EU and UK. Since January 2020, goods from Great Britain to the EU have been required to comply with new procedures and import requirements of EU Member States. Meanwhile, goods going from the EU to Great Britain have not been met with the same stringency, as full Customs checks in the UK are not set to apply until 2022.[7] This imbalance has proven largely beneficial to Irish trade throughout the year. In Q3 2021, the overall trade surplus with the UK was €4.03 billion (Figure 18). The trade surplus in Q3 2021 was 12.6 per cent larger than Q3 2020 and 39.2 per cent larger than Q3 2019. Throughout 2021

[7] For more information see: https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1034308/20211117_November_BordersOPModel_Final.pdf.

Ireland has also experienced a modest surplus in merchandise trade (€71 million in Q3 2021). These benefits in trade with GB may prove to be temporary in nature, as checks on goods entering GB are set to be phased in throughout 2022.

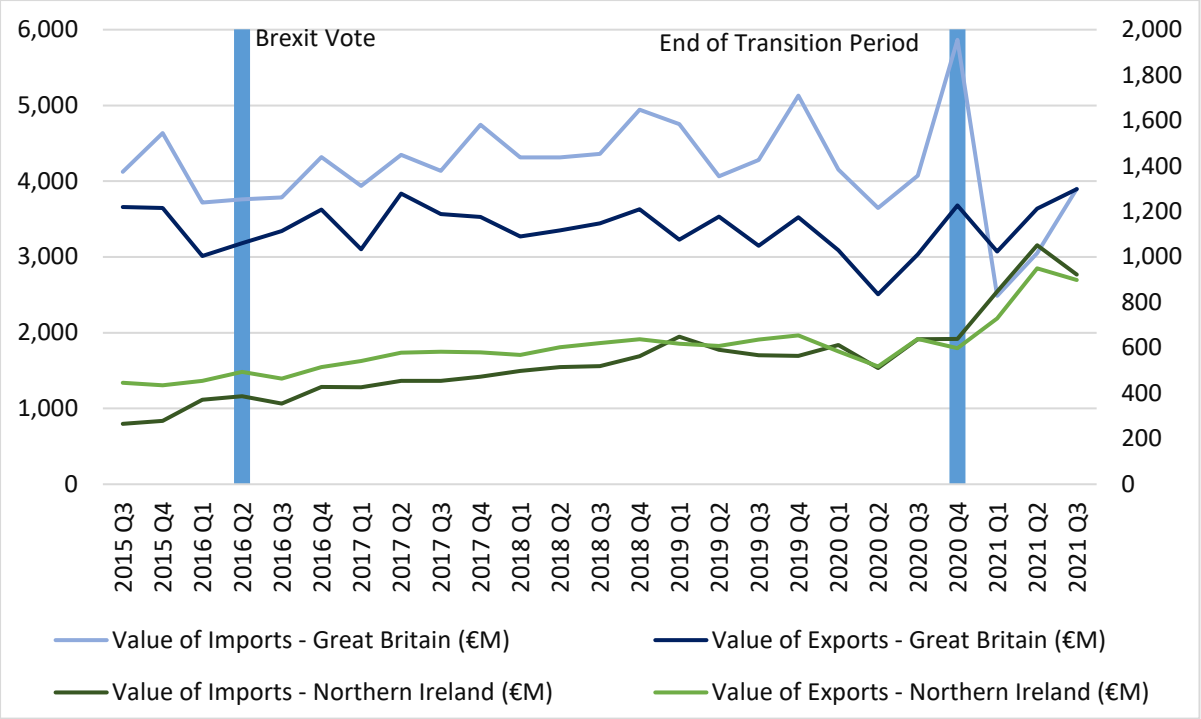
FIGURE 18 TRADE WITH THE UK IN Q3 2021 (VALUE, € MILLION)



Source: Central Statistics Office.

Monthly goods trade data offer an insight into the effect of the Trade and Cooperation Agreement's on Irish and UK trade. As the transition period came to a close, Q1 2021 marked a major shift in trade with the UK as the value of imports from Great Britain (GB) fell nearly by 60 per cent from Q4 2020 to Q1 2021, while imports from Northern Ireland increased by 33 per cent in the same period (Figure 19). However, changes in trade since Q1 2021 have been considerably less drastic. The value of imports from GB rose by 27.9 per cent from Q2 to Q3 2021, although they remain 4.3 per cent less than their value in Q2 2020. Exports to GB also increased by 7.1 per cent in Q3 2021 and remain 28.5 per cent higher than their value in Q3 2020. The value of trade between Ireland and Northern Ireland slightly declined between Q2 2021 and Q3 2021, with the value of imports and exports falling 5.4 per cent and 12.2 per cent, respectively.

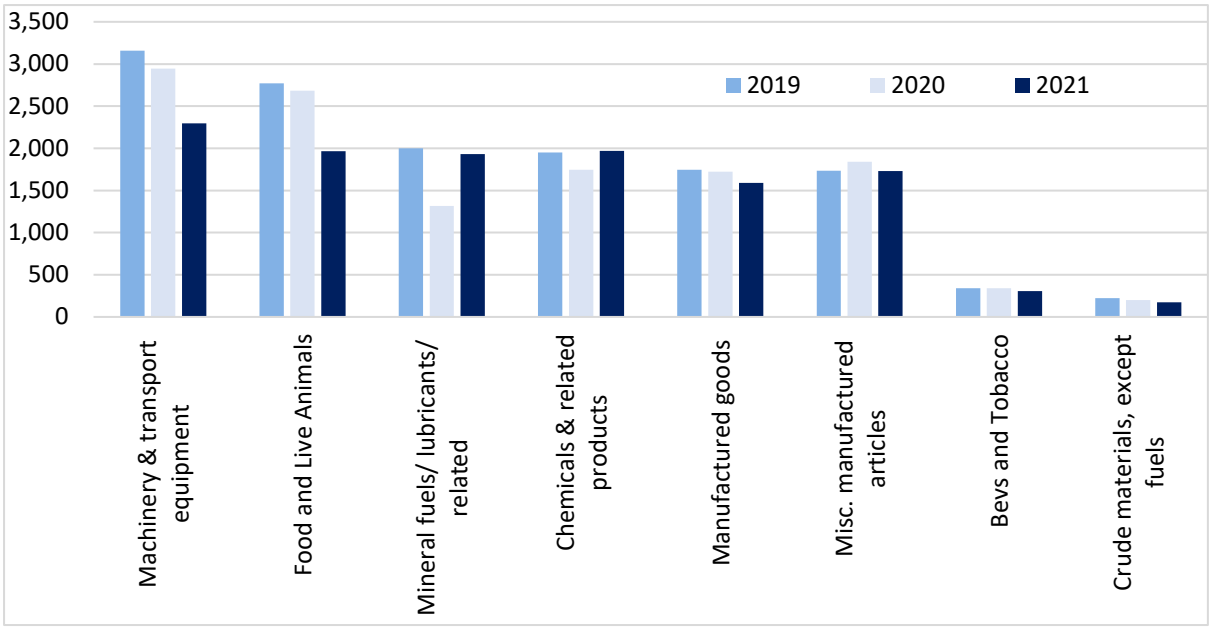
FIGURE 19 TRADE WITH GREAT BRITAIN (LHS) AND NORTHERN IRELAND (RHS) (VALUE, € MILLION)



Source: *QEC* calculations using Central Statistics Office data.

Due to the disruptions in trade in 2020, it may be more illustrative to compare trade with the UK to its levels in 2019. Figure 20 shows the value of imports to Ireland from the UK from January to September in 2019, 2020, and 2021. Between 2019 and 2021 imports declined in each commodity group except Chemicals and related products, which increased just 0.8 per cent. Machinery and transport equipment and Food and live animals registered the largest declines, at 27.3 and 29.1 per cent, respectively.

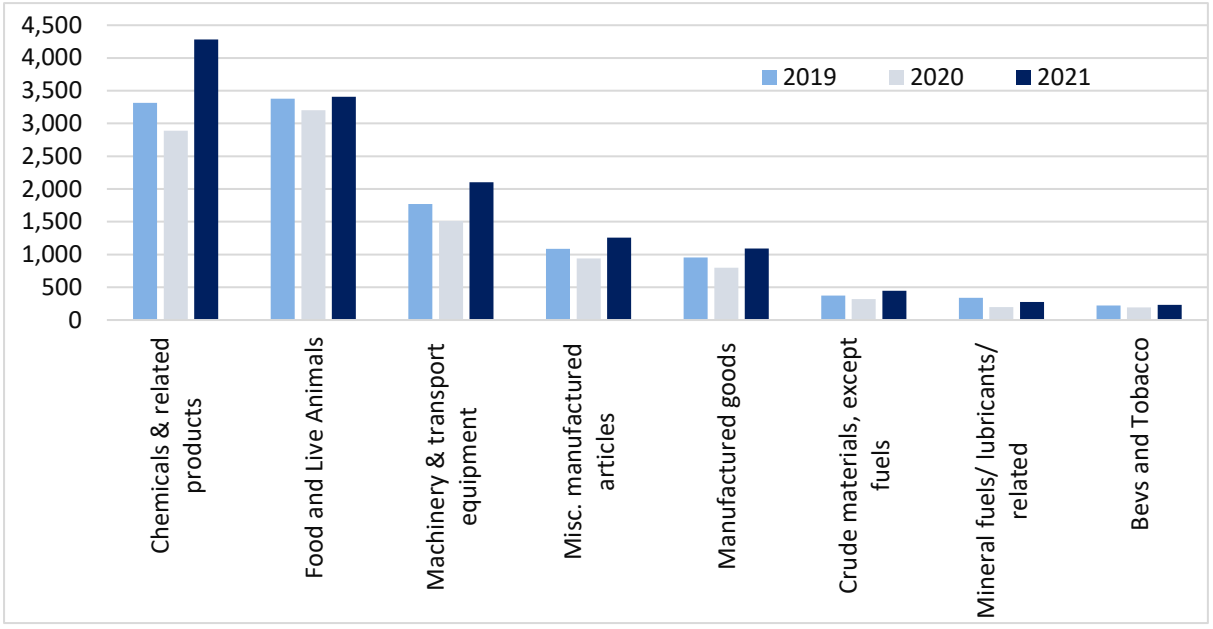
FIGURE 20 IMPORTS FROM THE UK BY COMMODITY GROUP (NON-SEASONALLY ADJUSTED, JAN-SEPT) (€ MILLION)



Source: Central Statistics Office, Value of Merchandise Trade.

Meanwhile, as shown in Figure 21, all export categories from Ireland to the UK have experienced an increase between 2019 and 2021, besides Mineral fuels and related products. The greatest increase has occurred in Chemicals and related products, growing 29.2 per cent between 2019 and 2021.

FIGURE 21 EXPORTS TO THE UK BY COMMODITY GROUP (NON-SEASONALLY ADJUSTED, JAN-SEPT) (€ MILLION)



Source: Central Statistics Office, Value of Merchandise Trade.

Trade Outlook

We expect the traded sector to continue to perform well, although we expect growth to stabilise rather than surge. Given the particularly strong performance of the export sector this year, we expect exports to increase by 16.0 per cent overall in 2021. Due to the significant decline in Q1 2021, we expect to see an overall decline in imports of 7.9 per cent this year.

As outlined in the Risk Analysis section of this *Commentary*, there are significant uncertainties which have the potential to disrupt the traded sector in 2022. Assuming these risks do not unfold, we expect to see an increase in both imports and exports in 2022, of 10.0 and 9.0 per cent respectively.

INVESTMENT

Key Points

- *Modified investment increased by 1.2 per cent annually in Q3 compared to 23 per cent in Q2.*
- *A clear rebound in investment is underway driven by higher business confidence.*
- *Recently however, the pace of recovery has slowed as uncertainty around the COVID-19 outlook continues.*
- *We expect housing completions of approximately 21,000 completions in 2021 and 26,000 in 2022.*
- *Modified investment is forecast to increase by 4.2 per cent in 2021.*

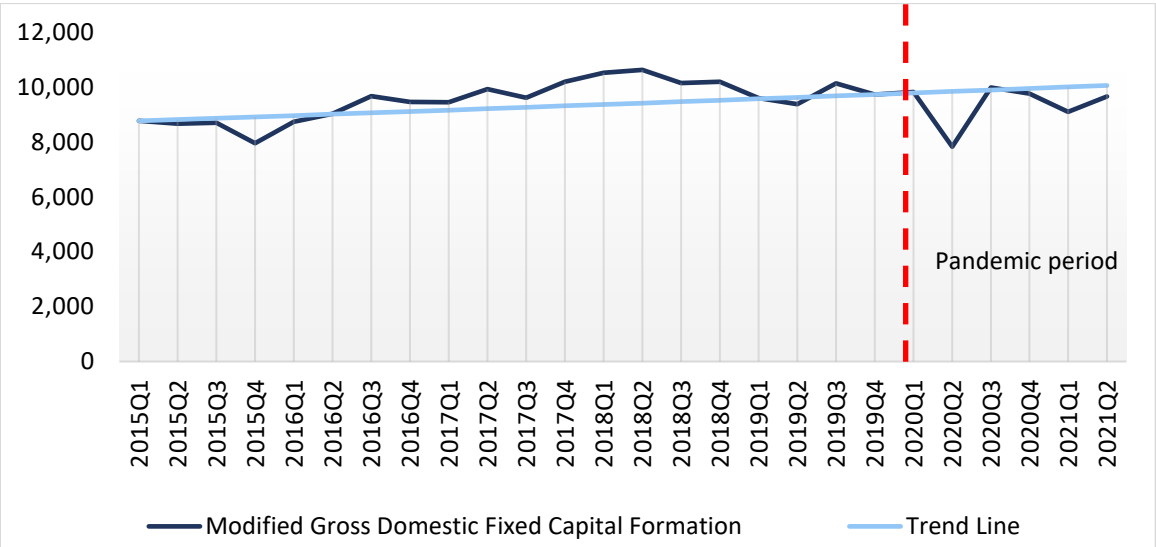
Overall Gross Domestic Fixed Capital Formation (GDFCF) declined by 4.6 per cent in Q3 2021 compared to the same period the previous year. However, given the well-publicised distortionary impact that investment in intellectual property and aircraft leasing can have on GDFCF, modified GDFCF provides a better understanding of underlying trends in investment in the domestic economy.[8] Figure 22 presents the level of modified Gross Fixed Capital Formation in constant price terms for the period Q1 2015 to Q3 2021. A pre-pandemic trend line (based on the compound annual average growth rate in quarterly terms) is also presented to provide an indication of the investment level had the series grown in line with its previous outturn. The impact of the pandemic is clear with notable drops during the lockdown phases in 2020 and 2021 and sharp rebounds in the reopening

8 For more detail on these distortionary effects see: https://www.cso.ie/en/media/csoie/newsevents/documents/seminars/globalisationinireland/Aircraft_and_Intellectual_Property_in_our_Economic_Accounts_-_Christopher_Sibley,_CSO.pdf.

phases. It is also clear that the actual outcome is well below the trend line even in the reopening phases. This is not unexpected as, given the uncertainties around the operating environment, affected firms are likely to have adjusted their investment strategies to forego or postpone large capital outlays.

During Q3 2021, many of the public health restrictions were lifted and the economy reopened as the vaccine process rolled out. This led to a rebound in economic activity. During this quarter, modified GDFCF increased by 1.2 per cent compared to the same period the previous year.

FIGURE 22 MODIFIED GROSS DOMESTIC FIXED CAPITAL FORMATION (€ MILLION)

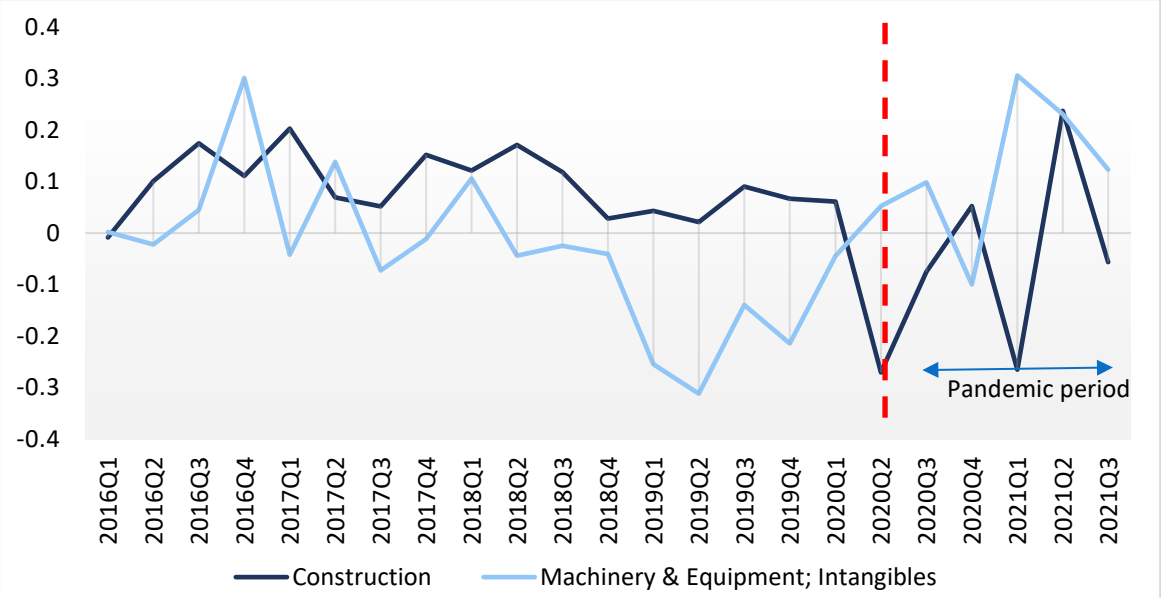


Source: Central Statistics Office; trend line calculated as quarterly annual compound growth rate between Q1 2015 and Q4 2019. Growth factor – 1.06 per cent per quarter.

The main component asset types within the business GFCF are construction (dwellings, improvements, and other construction), machinery and equipment, and intangible asset investment. Figure 23 presents the growth rate (year-on-year) of the subcomponents. Due to redactions, it is not possible to separate out machinery and intangibles.[9] It is clear the restrictions have had a significantly adverse impact on construction investment while other investment does not appear to have been affected by the lockdowns. This is likely due to the fact that this investment category still has a significant multinational component, which, in general, has remained invariant to the impacts of the public health restrictions. A drop in the growth rate was evident for both subcomponents in Q3 2021 which is not unsurprising given that Q2 2021 figures were elevated relative to the lockdown in Q2 2020.

9 Indeed, the CSO does not provide separate data for these items and what is presented is the total minus construction investment.

FIGURE 23 SUBCOMPONENTS OF MGFCF – GROWTH RATES (Y-ON-Y, %)



Source: Central Statistics Office; trend line calculated as quarterly annual compound growth rate between Q1 2015 and Q4 2019. Growth factor – 1.06 per cent per quarter.

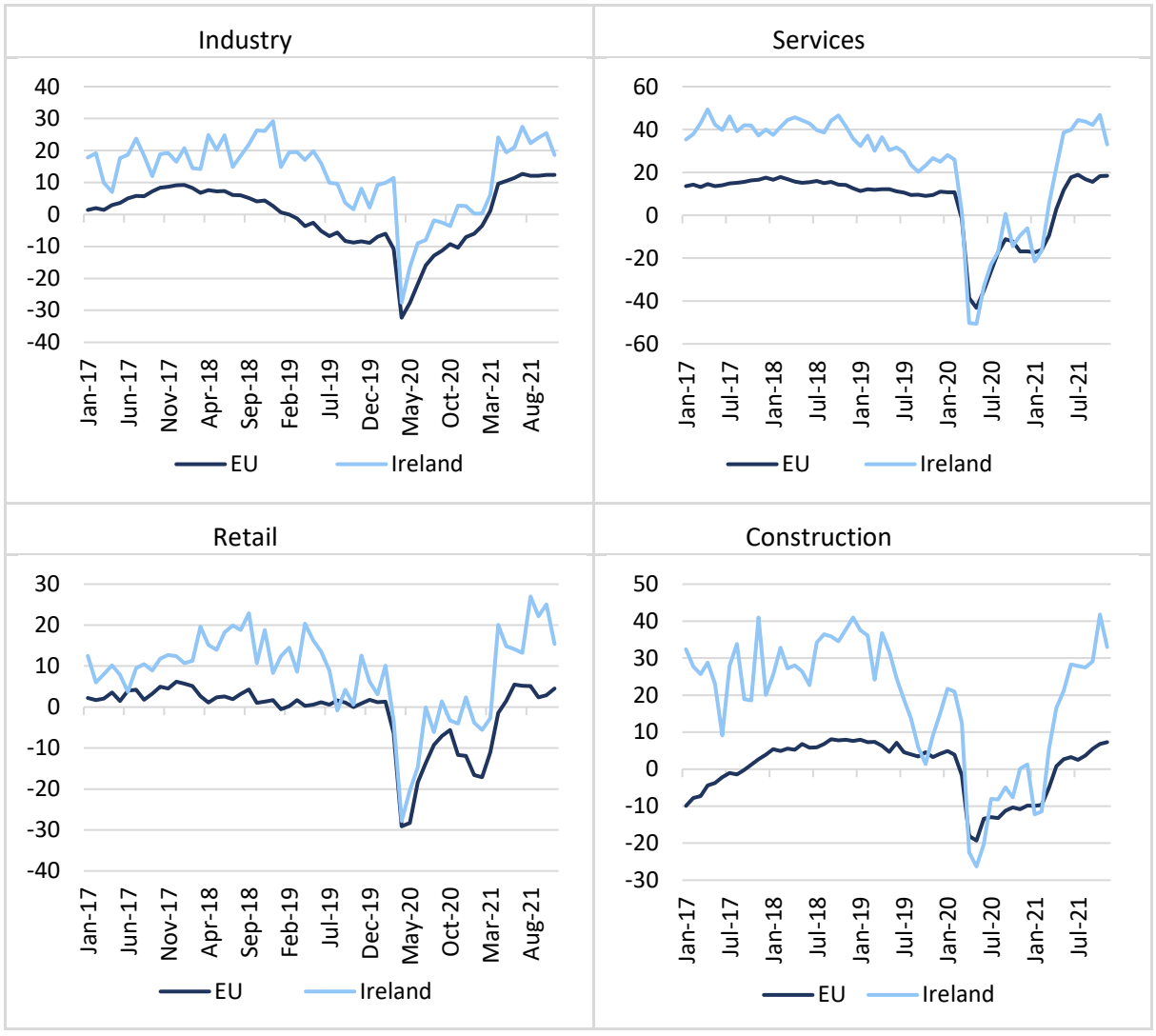
Given the link between uncertainty and investment activity, the views of businesses on the state of the current operating environment are critically important. To gain insight into how business confidence has been impacted by the pandemic, we draw on the European Commission's data on business sentiment. The Commission monitors trends in business confidence on a monthly basis for four sectors: industry, services, retail and construction. The data presented are simple arithmetic averages of the positive/negative balance of responses.

The data for the four sectors are presented in Figure 24. The data for Ireland are juxtaposed with the overall European Union figures to give a cross-country benchmark. It is clear that sentiment has followed the epidemiological situation with the adoption of public health restrictions corresponding to large drops in sentiment in early 2020 and the easing of restrictions correlated with increases in sentiment. This pattern has continued through the period until summer 2021 where a cross sectoral sentiment rebound can be seen.

Indeed, the rebound in Ireland in the second quarter of 2021 is notably stronger than elsewhere in the EU and confidence now stands at pre-pandemic levels. This strong sentiment continued through the summer months in 2021. However, in the most recent months, there has been a marginal decline in sentiment across all four sectors. This coincides with the deterioration in the epidemiological situation, and the emergence of new COVID variants. If there is a further deterioration in the

epidemiological situation in 2022, this may begin to have a negative impact on investment.

FIGURE 24 BUSINESS CONFIDENT INDICATORS – IRELAND AND EU

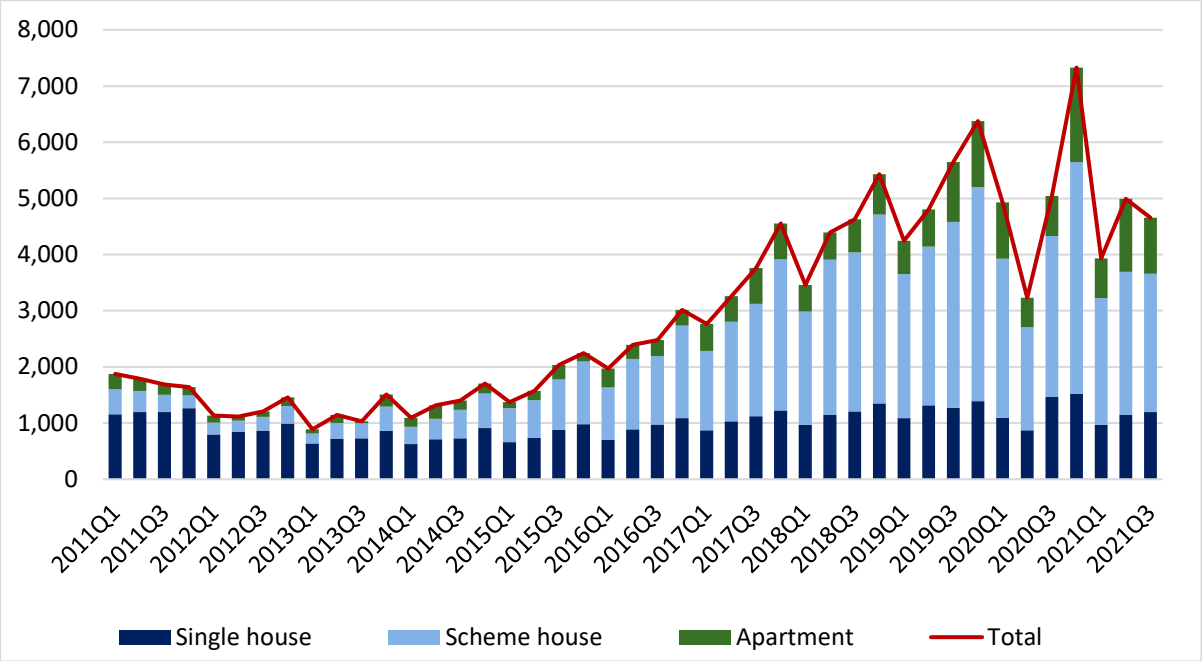


Source: European Commission.

Housing completions

In Q3 2021 there were 4,656 new residential completions, a 7.7 per cent decline on the same period in the previous year. These data are presented in Figure 25. Any decline in housing completions is unwelcome given the ongoing issue of undersupply in the market; however the current quarter drop may be a timing issue and relate to the public health restrictions which were in place earlier in the year. The overall drop masks considerable variation in the type of dwelling as new apartment completions increased by nearly 40 per cent year-on-year while scheme house completions declined by 14 per cent.

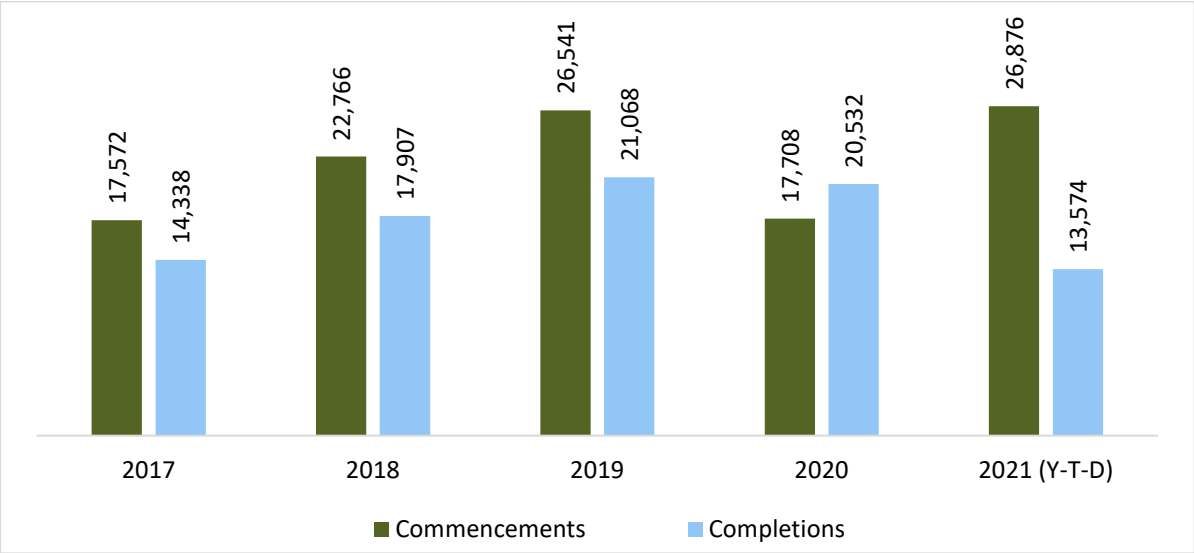
FIGURE 25 HOUSING COMPLETIONS



Source: Central Statistics Office.

To gain insight into the potential path for housing completions, it is useful to explore trends in residential construction commencements. While the initial COVID pandemic impact led to a marked decline in the number of new commencements, this has risen substantially in 2021. In 2020, a total of 21,686 commencements occurred and this has increased to over 26,000 in the year to date for 2021. Indeed, commencements in 2021 will exceed pre-pandemic levels.

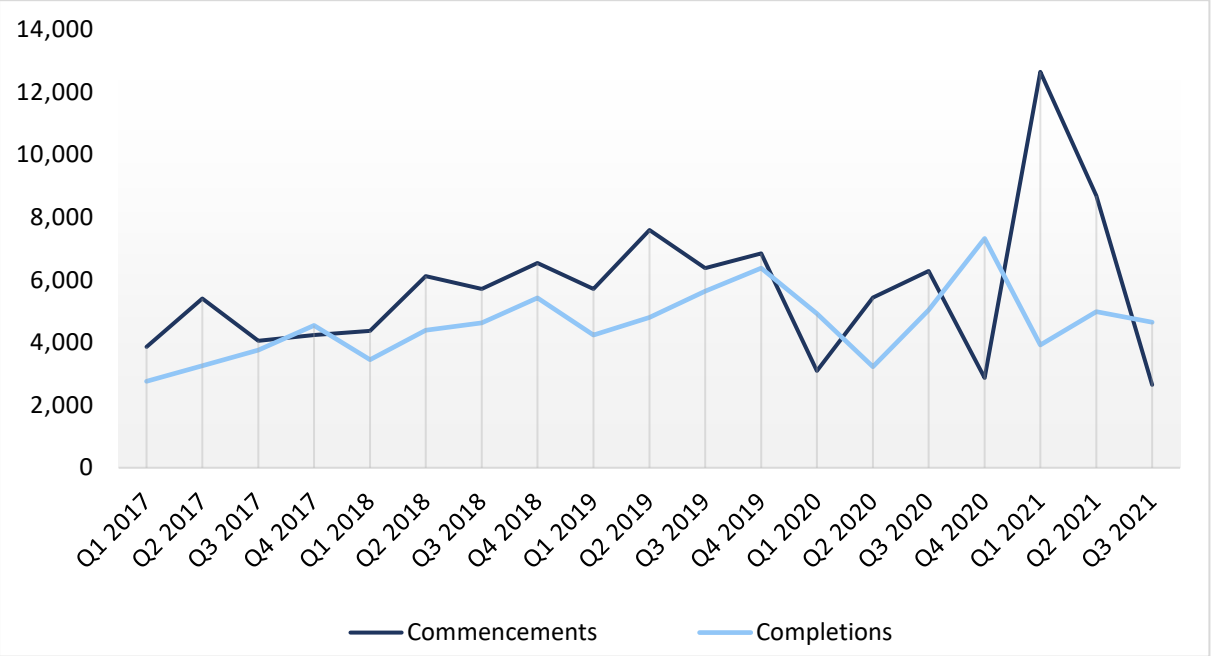
FIGURE 26 RESIDENTIAL COMMENCEMENTS AND COMPLETIONS



Source: Housing Agency and Central Statistics Office data.

Looking at the quarterly profile of commencements shows quite a dramatic rise in the first quarter of this year (Figure 27) but a drop back in the second and third quarter. When these commencements begin to come online (either towards the end of this year or next), it will provide a boost to completions.

FIGURE 27 RESIDENTIAL COMMENCEMENTS AND COMPLETIONS



Source: Housing Agency and Central Statistics Office data.

Taking into account the rise in commencements, albeit against this year's backdrop of a Q1 2021 lockdown and the lower-than-expected completions in Q3, it is likely that continued growth in completions will occur in 2021. Our forecast for the number of new completions for 2021 is approximately 21,000 units, rising to 26,000 next year.

Investment forecasts

The broadly positive economic outlook and sharp economic rebound are likely to result in a robust growth rate for modified investment for 2021. We expect modified investment to grow by 4.2 per cent this year. For 2022, if the epidemiolocal situation does not deteriorate and strict public health restrictions can be avoided from the new variant, it is likely that investment will increase strongly again in 2022. Under this series of events, we expect investment to grow by 8.4 per cent. However, any prolonged uncertainty around the impact of the disease, or the reimposition of lockdown measures, could weigh on the investment outlook growth rate for the coming year.

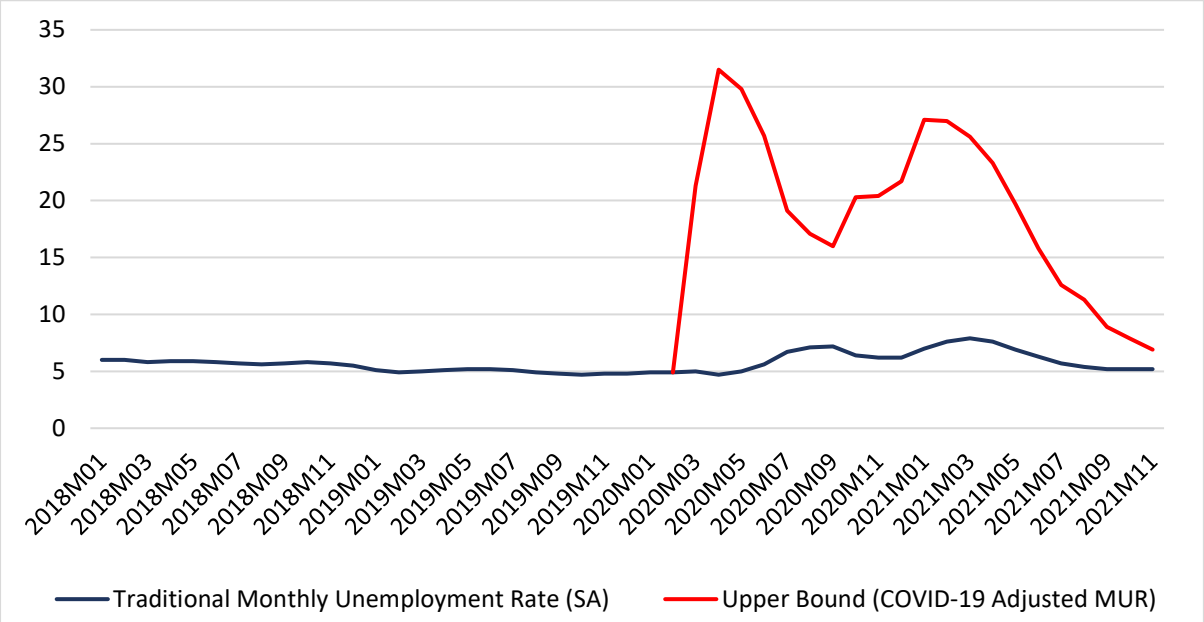
LABOUR MARKET

Key Points

- *The unemployment rate was 6.9 per cent in November 2021, down from 27.1 per cent in January 2021.*
- *Approximately 54,800 people received the Pandemic Unemployment Payment (PUP) on 30 November 2021, a fall of around 550,800 in the number of PUP recipients from May 2020.*
- *Employers received Employment Wage Subsidy Scheme (EWSS) payments for approximately 275,100 qualifying employees in November 2021.*
- *Unemployment rate in Q4 2021 will fall to 7.2 per cent.*
- *Average unemployment rate for 2022 is set to be 5.8 per cent.*

The impact of the COVID-19 pandemic on the Irish labour market throughout 2020 and 2021 has been significant in both scale and the level of fluctuation. The tightening and loosening of public health restrictions has caused substantial variation in the unemployment rate since early 2020. Prior to the pandemic in February 2020 the unemployment rate was 4.9 per cent. The COVID-adjusted unemployment rate peaked at 31.5 per cent in April 2020, and from this peak the unemployment rate declined in the months that followed with the loosening of restrictions and the associated economic gain. The unemployment rate increased from 16.0 per cent in September 2020 to 27.1 per cent in January 2021 as various public health restrictions were reintroduced. Since January 2021 the unemployment rate has declined and stood at 6.9 per cent in November 2021. The average monthly unemployment rate for 2020 was approximately 19.4 per cent and we expect the unemployment rate for 2021 to average just above 16 per cent. Figure 28 shows both the traditional and the COVID-19 adjusted monthly unemployment rate from January 2018 to August 2021.

FIGURE 28 UNEMPLOYMENT RATE BY MONTH (%)



Sources: Seasonally-Adjusted Monthly Unemployment Rate Series and the COVID-19 Adjusted Monthly Unemployment Rate Series. Central Statistics Office.

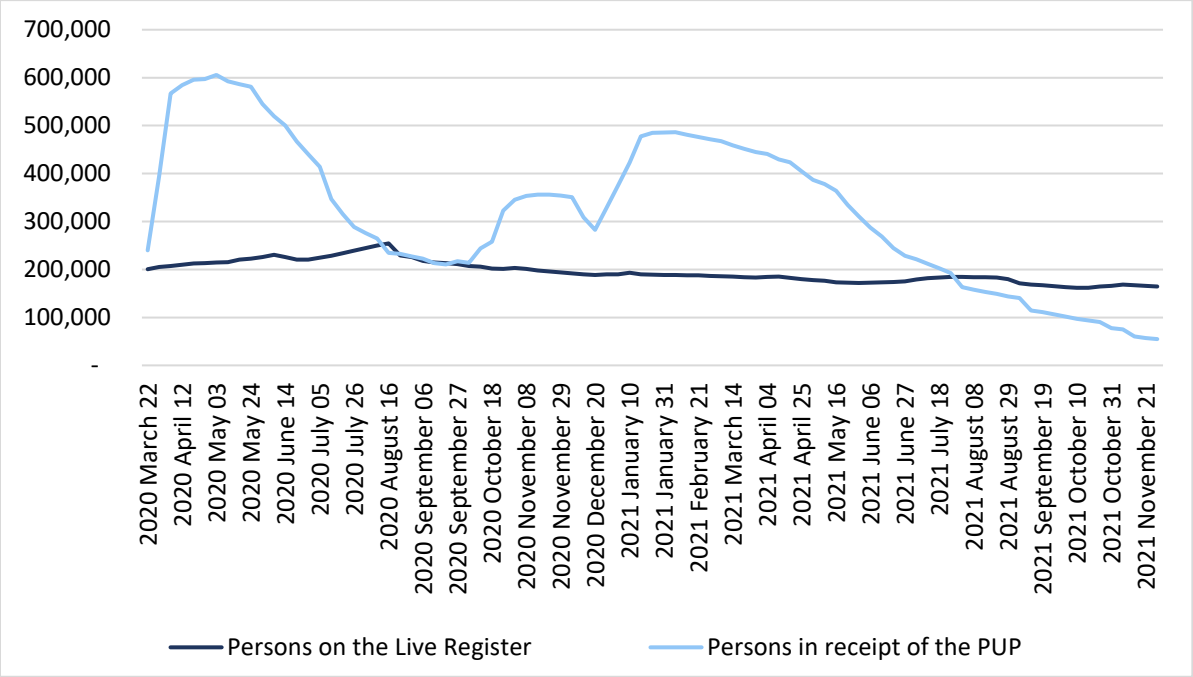
In response to the pandemic, the Government established the pandemic unemployment payment (PUP) which aimed to provide a short-term, emergency income support to affected individuals. The PUP closed to new applicants from 8 July 2021; however in light of the restrictions announced on 3 December 2021 the PUP reopened to applications on 7 December 2021. Since 16 November the weekly payment is available at two different rates (€203 and €250). In February 2022 the upper rate is due to be reduced and those on the lower rate will no longer receive a PUP payment, but they may be eligible for a jobseeker's payment if they have not returned to work by then. For those who lost employment on or after 7 December 2021, the weekly payment is available at five different rates ranging from €150 to €350. The final payments under the PUP scheme were due to be made on 29 March 2022 but it is likely this will be extended if the durations of restrictions look set to go beyond that date.[10]

Figure 29 shows the number of individuals in receipt of the PUP or on the Live Register by week from March 2020 to November 2021. Three peaks are evident in the number of people on the PUP and these peaks coincide with the implementation of the strictest public health measures since the pandemic began. The first peak occurred in early May 2020 when the number of individuals in receipt of the PUP was just under 605,700. The second peak occurred in mid-November

[10] For more information see: https://www.citizensinformation.ie/en/social_welfare/social_welfare_payments/unemployed_people/covid19_pandemic_unemployment_payment.html.

2020 when approximately 356,300 people were in receipt of the PUP after the reintroduction of some public health restrictions. The further elevation of restrictions in December 2020 was followed by the third peak in the number of PUP claimants in early February 2021 when just under 486,300 were in receipt of the PUP. Since February 2021 the number of individuals in receipt of the PUP has reduced. Prior to closing to new applicants in early July approximately 221,400 were in receipt of the PUP, and this has further reduced to approximately 54,800 individuals as of late November 2021. This marks a fall around 550,800 in the number of PUP recipients from its overall peak in May 2020.

FIGURE 29 NUMBER OF PEOPLE ON THE PUP AND LIVE REGISTER BY WEEK



Source: Central Statistics Office and Department of Social Protection.

Table 3 shows a breakdown of PUP recipients by sector. Of those who received a PUP payment on 30 November 2021, 15.0 per cent were from the Accommodation and food sector, 16.8 per cent were from the Wholesale and retail trade/repair of motor vehicles sector, 11.6 per cent were from the Administrative and support services sector and 10.1 per cent were from the Construction sector. These four sectors alone account for 53.6 per cent of PUP recipients, and while this highlights the unequal and long-lasting impact the pandemic has had on certain sectors, there has been a large reduction in the number of people from these sectors on the PUP. For example, the number of PUP claimants from the Accommodation and food sector has fallen by approximately 123,800 from the May 2020 peak in PUP claimants. The number of claimants from the Wholesale and retail trade/repair of motor vehicles sector and from the Construction sector have fallen by

approximately 85,600 and 79,100 respectively over the same period.[11] Nevertheless, there is a risk that workers in these most affected sectors are vulnerable to long-term unemployment and should be supported to some degree for the duration of public health restrictions.

TABLE 3 BREAKDOWN OF PUP RECIPIENTS BY SECTOR AS OF 30 NOVEMBER 2021

	Number (000)	Percentage
Agriculture, forestry and fishing; Mining and quarrying	0.9	1.6
Manufacturing	4.0	7.3
Electricity, gas supply; Water supply, sewerage and waste management	0.3	0.5
Construction	5.5	10.1
Wholesale and retail trade; Repair of motor vehicles and motorcycles	9.2	16.8
Transportation and storage	2.8	5.1
Accommodation and food service activities	8.2	15.0
Information and communication activities	1.8	3.3
Financial and insurance activities	1.7	3.2
Real estate activities	0.9	1.6
Professional, scientific and technical activities	3.0	5.5
Administrative and support service activities	6.4	11.6
Public administration and defence; Compulsory social security	1.0	1.7
Education	1.8	3.3
Human health and social work activities	2.1	3.8
Arts, entertainment and recreation	1.3	2.4
Other sectors e.g. hairdressing and beauty salons	2.8	5.1
Unclassified or unknown	1.0	1.9
Total	**54.8**	**100.0**

Source: Detailed PUP Statistics. Published on 3 December 2021 by Department of Social Protection.
Note: Figures refer to those on the PUP on 28 November who received a PUP payment on 30 November 2021.

The level and composition of those employed has also been affected by the pandemic. According to the Labour Force Survey there were an estimated 2,620,300 people in the labour force of which 2,471,200 people were in employment in Q3 2021. This figure does not represent the full impact of the COVID-19 pandemic on the Irish labour market as it has been determined using strict classification criteria set by the ILO.[12] To address this problem, a COVID-19 adjusted estimate of employment has been produced. The CSO estimates that

11 These are based on the sectoral breakdown published by the Department of Social Protection and are available at: https://www.gov.ie/en/publication/f4c60c-covid-19-statistics/.

12 For more information on the ILO classification guidelines see: https://www.cso.ie/en/releasesandpublications/in/lfs/informationnote-implicationsofcovid-19onthelabourforcesurvey-quarter22020update/.

2,369,731 persons aged 15 to 89 were in employment in September 2021 (the end of Q2 2021).[13]

Many workers are still being supported by a wage subsidy scheme. These schemes allow employees, whose employers were negatively impacted by the pandemic, to be supported directly through their employer's payroll system. The Temporary Wage Subsidy Scheme (TWSS) was announced by the Government on 24 March 2020 with Revenue making the first payments under the scheme four days later. The scheme ran until 31 August 2020. While the TWSS was active, 66,600 employers received subsidy payments of approximately €2.8 billion in respect of 664,500 employees. Approximately 255,800 other employees who were not directly supported by the TWSS were indirectly supported through their employer's participation in the scheme. While the TWSS was active, approximately 116,100 people regained employment and transitioned from the PUP to the TWSS. Approximately 22,000 individuals supported by the TWSS lost their jobs and transitioned from the scheme to the PUP. Approximately 260,900 individuals moved from the TWSS to non-TWSS employment.[14] By allowing employers to provide financial support directly to employees and keep employees on their payroll, the wage subsidy scheme played a significant role in helping individuals retain or regain their jobs during the pandemic.

The Employment Wage Subsidy Scheme (EWSS) replaced the TWSS from 1 September 2020 although the TWSS and the EWSS operated in parallel throughout July and August 2020. The EWSS provides a subsidy to qualifying employers based on the number of eligible employees on their payroll. The EWSS will close to new employer registrations from 1 January 2022 and will conclude on 30 April 2022. The updated payment rates for the EWSS will be introduced in February 2022 and March 2022. In a paper accompanying this *Commentary*, Roantree et al. (2021) acknowledge that maintaining the EWSS could result in a deadweight cost from subsidising employment that is not in need of support and employment that is no longer viable in the long term. However, Roantree et al. (2021) also argue that withdrawing the scheme too early could result in the failure of firms that could have been viable had the pandemic and the associated public health restrictions not occurred. They also point out that the EWSS has increasingly come to support younger female workers and that as a result such workers could be disproportionately affected by the withdrawal of the EWSS.

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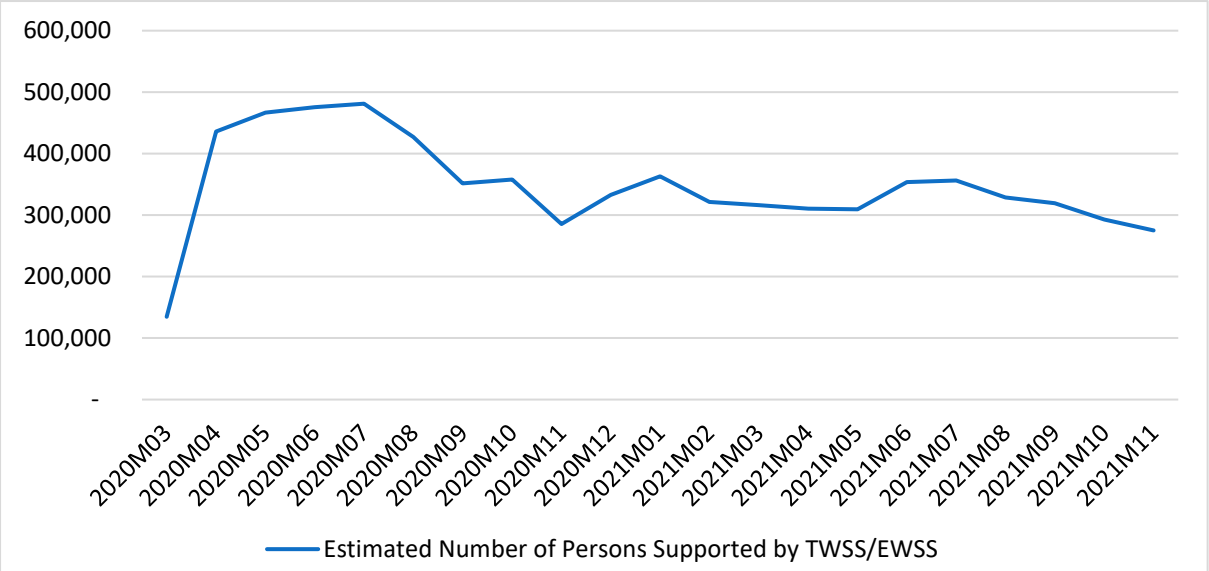
13 For more information see: https://www.cso.ie/en/releasesandpublications/ep/p-lfs/labourforcesurveyquarter32021/.

14 For more details see: https://www.revenue.ie/en/corporate/documents/statistics/registrations/a-year-of-covid-19-tax-supports.pdf.

By 2 December 2021 subsidies to the value of €5.68 billion had been paid to 51,700 employers for 694,600 employees. EWSS payments were made for 275,100 employees in November 2021. This is down from approximately 345,000 employees in January 2021. Figure 30 shows the number of individuals supported by the TWSS or EWSS from March 2020 to November 2021. Another impact of the pandemic on the labour market has been that employer Pay Related Social Insurance (PRSI) has been forgone due to the reduced rate on wages paid that are eligible for EWSS support. These receipts have also been impacted by the fact that under the TWSS, employer PRSI did not apply to the subsidy and was reduced from 10.5 per cent to 0.5 per cent for top-up payments. PRSI forgone under TWSS could not be directly calculated by Revenue but was estimated to be around €460 million. PSRI forgone under the EWSS to 2 November 2021 was calculated by Revenue to be €893 million.

FIGURE 30 NUMBER OF EMPLOYEES ON WAGE SUBSIDY SCHEMES BY MONTH

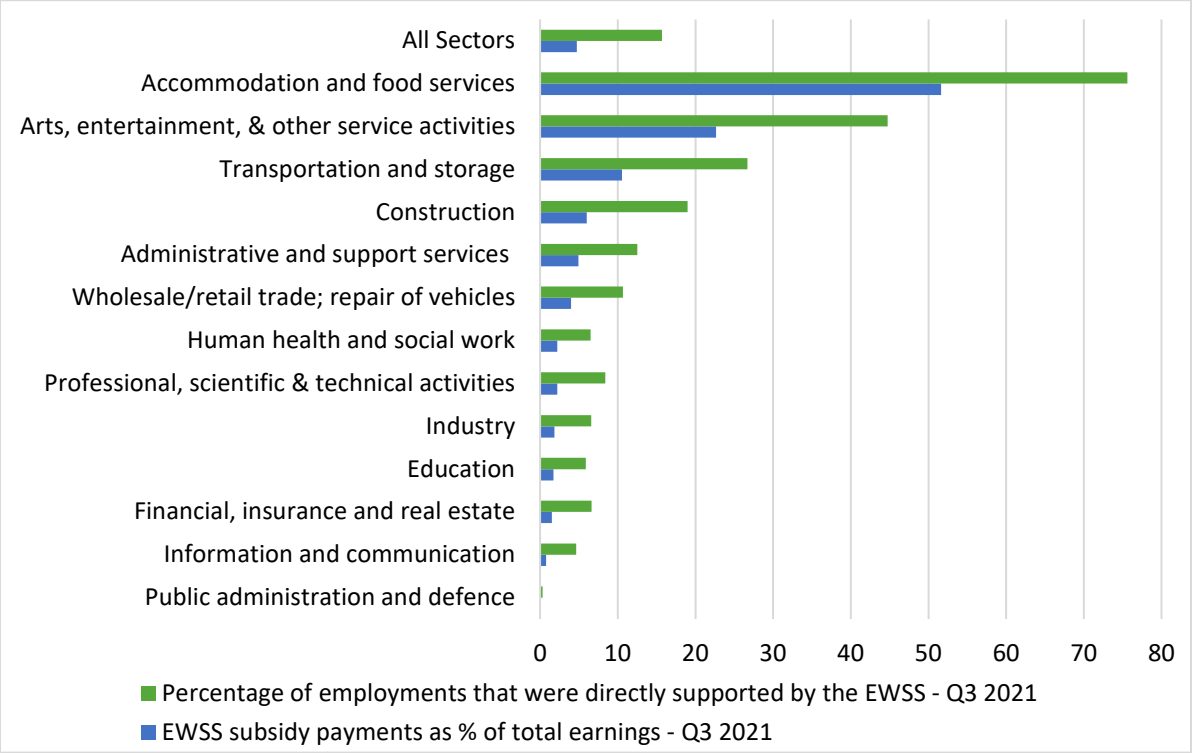


Source: Central Statistics Office and Revenue Commissioners.

While 15.7 per cent of active employments were directly supported by the EWSS overall in Q3 2021, the proportion of total employments per sector supported by the EWSS varied significantly across the sectors. The highest was in the Accommodation and food services sector (75.6 per cent) and the Arts, entertainment, recreation and other service activities sector (44.7 per cent). The Public administration and defence sector had the lowest proportion at 0.3 per cent. The largest drop in the proportion of employments supported across the sectors between Q2 and Q3 2021 was in the Construction sector where it fell from 32.2 per cent to 19.0 per cent. In Q3 2021, EWSS payments accounted for 4.7 per cent of total earnings across all sectors. In the Accommodation and food services sector, EWSS payments accounted for 51.6 per cent of total earnings, while it represented 22.7 per cent and 10.5 per cent of the total earnings in the Arts, entertainment,

recreation and other services sector and the Transport and storage sector respectively.[15] Figure 31 shows the EWSS subsidy payments as a percentage of total earnings across the sectors.

FIGURE 31 EWSS SUBSIDY PAYMENTS STATISTICS (%)



Source: Central Statistics Office.

In Q3 2021, average weekly earnings across all employments increased by 4.5 per cent compared to Q3 2020, while they decreased by 4.0 per cent compared to Q2 2021. However, these figures may be affected by a compositional effect due to the significant changes in the number of those in employment across these quarters. For this reason, the CSO has also produced an analysis of earnings based on data relating to workers that were employed in both of the quarters being compared. Under this approach, average weekly earnings in Q3 2021 increased by 0.7 per cent compared to Q2 2021, while they increased by 11.0 per cent compared to Q3 2020.[16]

The average monthly unemployment rate for 2020 was 19.4 per cent. We expect the unemployment rate for Q4 2021 to be 7.2 per cent and for 2021 as a whole to average 16.1 per cent. As the unemployment rate has recovered faster than

15 For more information see: https://www.cso.ie/en/releasesandpublications/br/b-lfs/labourmarketinsightbulletinseries9q32021/.

16 *Ibid*.

previously expected in the latter months of 2021, we now expect unemployment to average 5.8 per cent for 2022. This is based on the fact that we do not expect any significant job losses stemming from the ending of the wage subsidy scheme and, more significantly, this forecast is predicated on the assumption that no significant public health restrictions are introduced in the year ahead. If significant public health restrictions are introduced to curb the transmission of current or new/emerging variants of the virus then the unemployment rate will likely be higher and will depend on the policy response.

MONETARY, FINANCIAL, AND INFLATION OUTLOOK

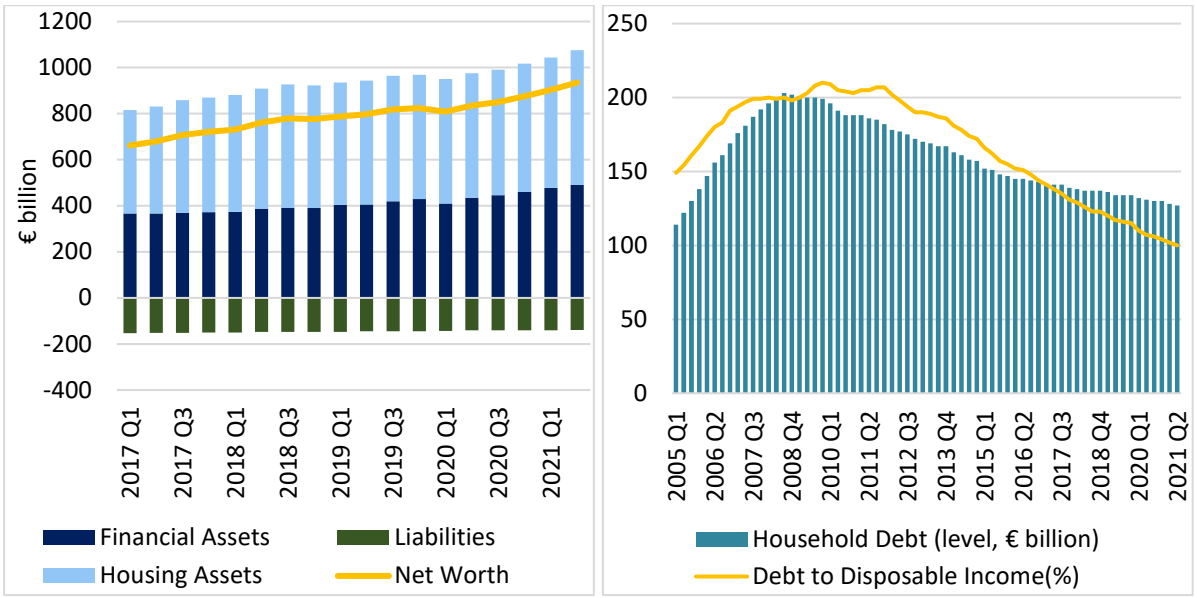
Key Points

- *Increased savings, coupled with limited supply and pent-up demand, is fuelling a recovery in mortgage lending.*
- *SME lending is gradually recovering from its decline during the pandemic, although substantial differences can be seen across sectors.*
- *Current inflationary pressures are largely due to problems in international supply chains and energy markets.*
- *Issues in the energy and property markets may continue into the medium term.*
- *Changes in foreign lending from traditional banks and non-bank sources need to be monitored from a macroprudential policy perspective.*

Household credit and mortgage market

Limited spending and substantial government supports throughout the pandemic have protected most households from experiencing significant financial losses. In fact, the net worth (housing and financial assets less liabilities) of Irish households has increased during COVID-19 (Figure 32). In Q2 2021, net worth increased 3.5 per cent on a quarterly basis and rose by 12 per cent from Q2 2020. The annual growth rate of net wealth has increased since 2013. Increased savings throughout the pandemic have also allowed households to continue paying down debts. The debt-to-income ratio reflects the indebtedness of households, in terms of their ability to pay back the principal of their debt. In 2020, this ratio fell to its lowest level since 2003. Household debt has continued to fall since, declining a further 6.5 per cent between Q2 2020 and Q2 2021. The decline in the aggregate debt-to-income ratio is likely to provide further resilience to financial risks should they arise from a systemic perspective.

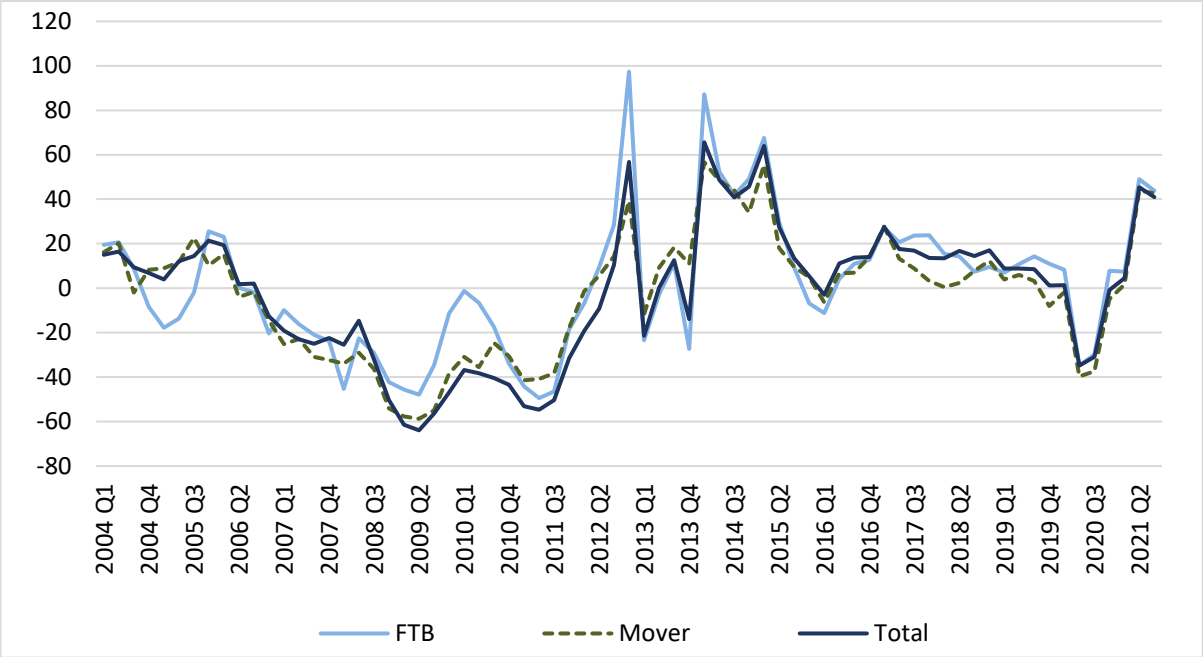
FIGURE 32 HOUSEHOLD NET WORTH AND HOUSEHOLD DEBT (€ BILLION)



Source: Central Bank of Ireland, quarterly financial accounts.

At the onset of public health restrictions, new mortgage lending fell significantly. In both Q2 and Q3 2020, total lending volumes had fallen over 30 per cent per annum. However, this decline is not indicative of reduced demand for housing but rather of a disruption to normal economic activity. Indeed, the increase in net worth of Irish households throughout the pandemic has allowed for a relatively swift recovery in lending. In Q3 2021, new mortgage lending grew 40.9 per cent per annum (Figure 33). Indeed, the rebound in lending amongst first-time buyers is particularly robust. Compared with pre-pandemic levels in Q3 2019, mortgages to first-time buyers have increased slightly, whereas mortgages for movers have yet to recover completely (mortgage volumes remained just under 11 per cent lower in Q3 2021 compared with Q3 2019 for these borrowers).

FIGURE 33 NEW MORTGAGE LENDING VOLUME GROWTH (%)

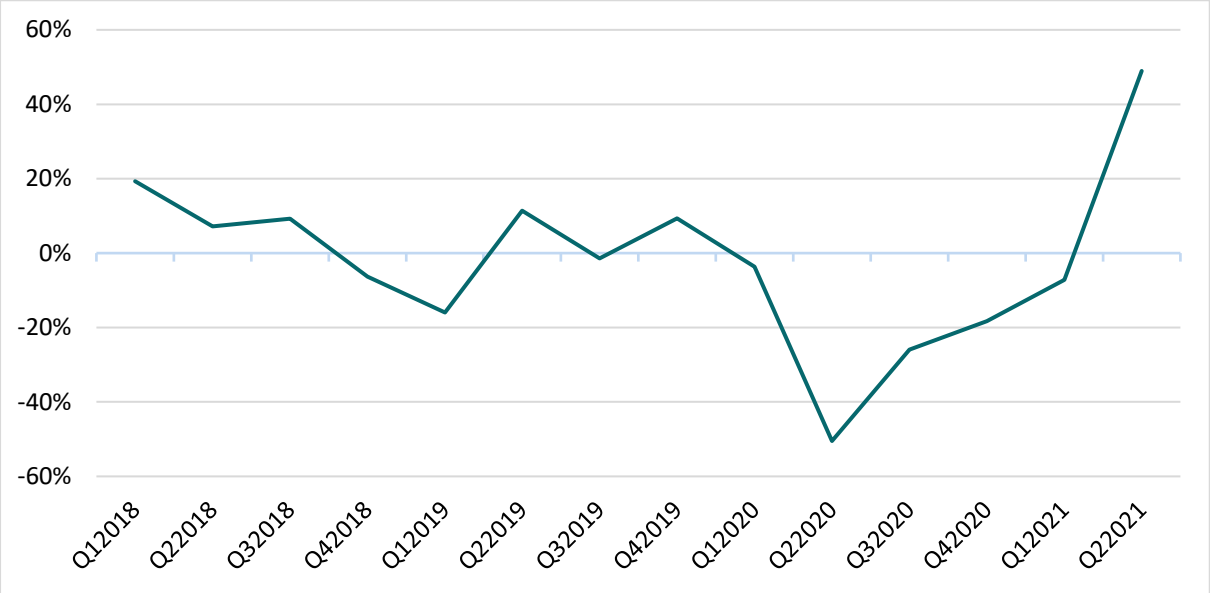


Source: Banking and Payments Federation Ireland.

SME lending activity

Growth in new lending to Irish SMEs experienced a record low at the onset of the pandemic, falling from €1.4 billion to €713 million between Q2 2019 and Q2 2020 (-50.5 per cent, Figure 34). Lending has gradually picked up since this low, reaching over €1 billion again by Q4 2020. In Q2 2021, lending increased to €1.1 billion, an increase of 48.9 per cent from the year prior (although still 26.3 per cent below its level in 2019). The improvement in lending to SMEs is encouraging, yet fluctuations quarter-to-quarter remain tightly linked to public health guidelines. For example, the reopening of the economy in Q4 2020 saw a quarterly growth in lending of 47.5 per cent. The subsequent lockdown in Q1 2021 resulted in a decline in lending of 22.5 per cent. Without further restrictions on business activity, lending will continue to increase in 2022.

FIGURE 34 GROWTH IN GROSS NEW LENDING TO SMEs (Y-O-Y %)

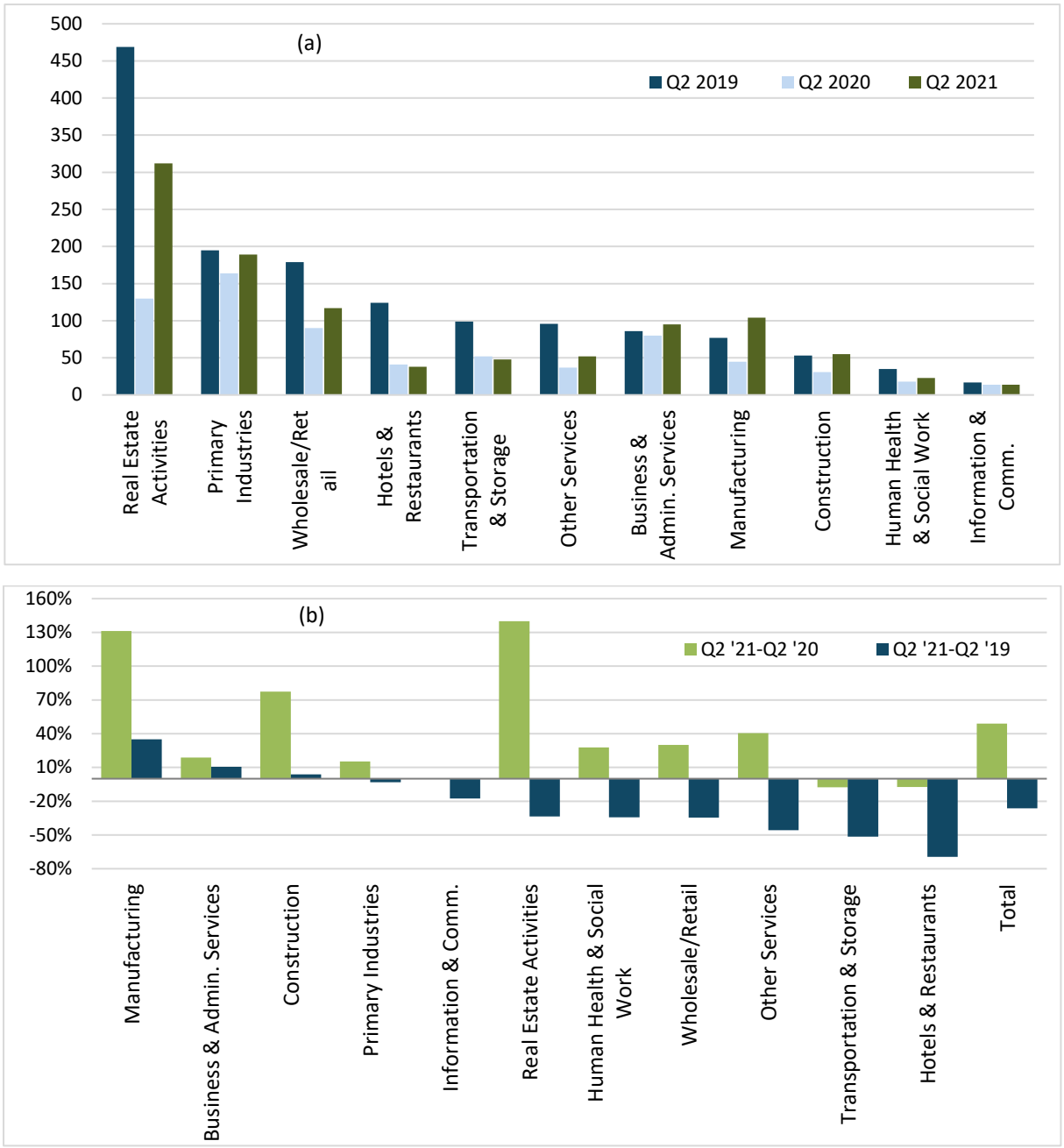


Source: Central Bank of Ireland, Table A.14.1.

New lending varies widely across sectors; SMEs most affected by the public health restrictions are recovering much more slowly than those which have remained open throughout the pandemic. Lending to SMEs in the Manufacturing, Business services, and Construction sectors managed to increase in Q2 2021, even beyond pre-pandemic levels in Q2 2019 (Figure 35(a)). Notably, the Hotel and restaurant sector has struggled significantly, with even lower levels of lending in Q2 2021 than Q2 2020. From Q2 2019, lending has declined nearly 70 per cent for SMEs in this sector. Most sectors have experienced increased lending since 2020 yet remain substantially below lending levels in 2019. Real estate-related SMEs, which received €469 million in Q2 2019, have accounted for over a quarter of total lending in recent years. While Figure 35(b) shows that lending in this sector remains one-third lower in Q2 2021 than Q2 2019, this may be more closely related to volatility in lending between quarters than a lack of recovery. In Q1 2021, new lending for these SMEs had increased 8.1 per cent from Q1 2019. Finally, retail and wholesale trade, which had seen lending halved in Q2 2020, is slowly improving.

Uncertainty surrounding a potential re-imposing of public health measures will likely slow down the recovery in lending to Irish SMEs, especially in the Hotels and restaurants sector. However, this *Commentary* expects overall lending to improve through 2022, although growth should be monitored to ensure an equal recovery across sectors.

FIGURE 35 GROWTH IN GROSS NEW LENDING TO SMES BY SECTOR – LEVELS, € MILLION (A) AND % CHANGE FROM Q2 2021-2020 AND Q2 2021-2019 (B)



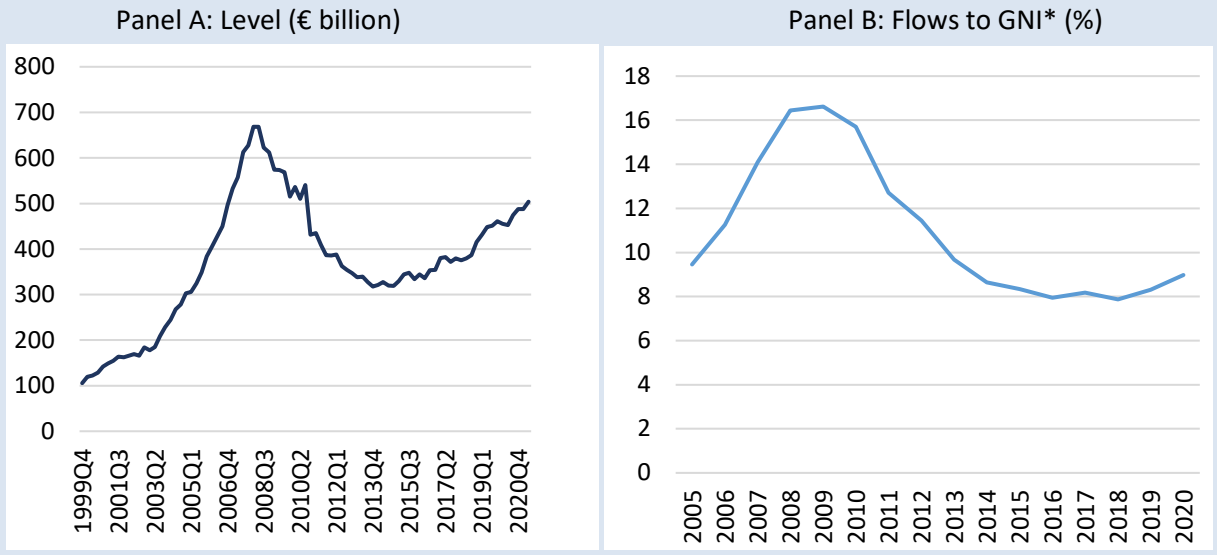
Source: Central Bank of Ireland, Table A.14.1.

BOX B FOREIGN BANK AND NON-BANK LENDING IN IRELAND

In this Box, we examine trends in foreign lending within Ireland from non-banks and traditional banking institutions. As the financial system becomes more globalised, monitoring the linkages between the domestic economy and developments abroad is an essential part of predicting macroeconomic risks. One channel in which Ireland is closely tied to the global financial system is that of foreign lending. We examine this using consolidated bank lending statistics from the Bank of International Settlements (BIS).[17]

Figure B.1 panel A shows the levels of lending provided by foreign banks to Ireland over the past two decades. Lending by foreign banks peaked in Q1 2008 at €668.4 billion, then decreased dramatically during the Great Financial Crisis (GFC). However, activity since 2013 shows a gradual increase in foreign lending activity. Prior to the pandemic, foreign bank lending in Ireland increased 15.1 per cent between 2018 and 2019. Current levels of foreign bank lending can be seen climbing gradually towards pre-GFC levels. However, when one accounts for growth in Irish GNI*, these movements do not appear to be that significant. Foreign lending as a share of GNI* has fallen considerably since the crisis, remaining relatively constant since 2013 (Figure B.1 panel B).

FIGURE B.1 LENDING BY FOREIGN BANKS IN IRELAND (Q4 1994-Q2 2021)



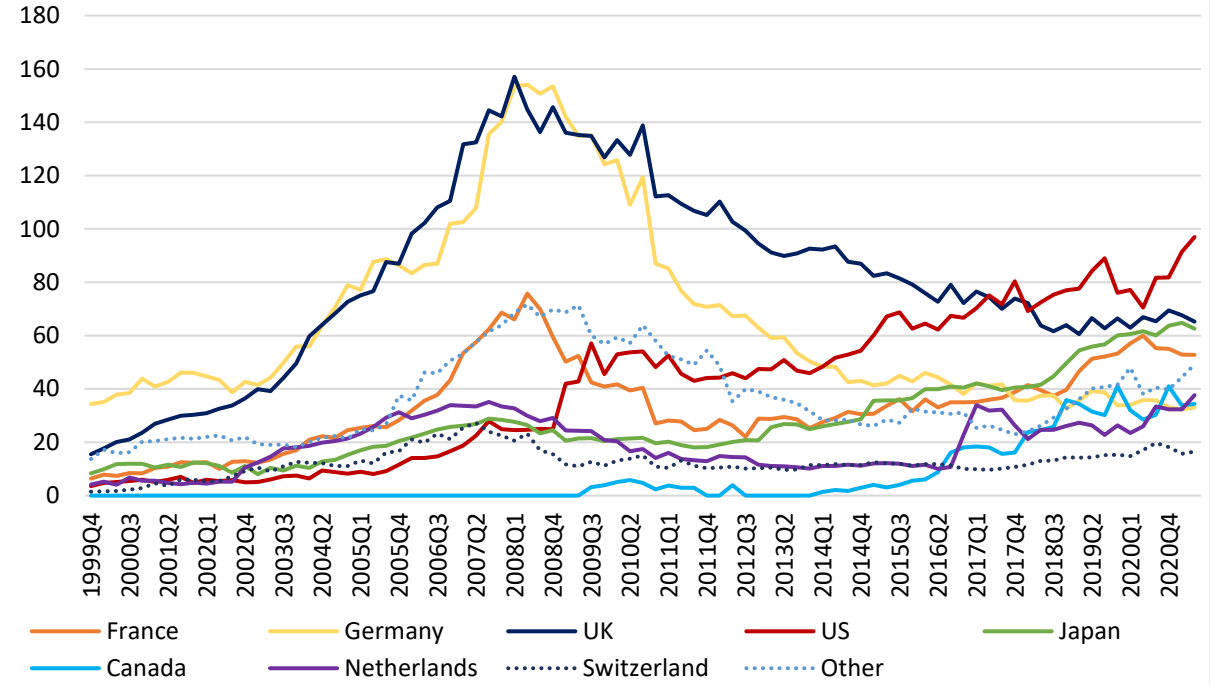
Source: Bank for International Settlements.

One notable change in foreign bank lending is the source of such funding. Lending from most states declined gradually after the GFC (Figure B.2). The US is a notable exception to this trend, with American foreign bank lending increasing since 2011. In Q1 2018, the US accounted for 18.4 per cent of foreign bank lending in Ireland. In Q4 1999, Germany accounted for nearly one-third of all foreign bank lending in Ireland. Since 2017, average lending from German banks fell to just 10 per cent of all foreign lending. The UK has

[17] See https://www.bis.org/statistics/consstats.htm?m=6_31_70 for more details.

represented the largest share of foreign bank lending in Ireland since Q4 2009. However, lending from British banks in Ireland has been declining since 2010. Most recent figures show that foreign lending from British and American banks stood at €72.2 billion and €69.2 billion respectively. Foreign lending from France and Japan has also been increasing in recent years. In Q1 2018, French and Japanese banks each accounted for 11 per cent of total foreign lending in Ireland.

FIGURE B.2 TOTAL LENDING BY FOREIGN BANKS IN IRELAND BY COUNTRY 1994-2018 (€ BILLION)



Source: Bank for International Settlements.

Foreign lending is not isolated to the banking sector. Between 2019 and 2020, nearly one-third of the €3.7 billion provided by non-bank lenders to Irish SMEs originated from the US (€1.2 billion in total). In comparison, UK non-bank lenders contributed 976 million, while other EU lenders and Irish lenders contributed €997 million and €407 million, respectively (Heffernan et al., 2021). The role of non-bank lending to Irish SMEs has been increasing over the past decade. While non-bank lending serves an important role in contributing to the diversity of the financial system, its potential contribution to systemic risks has drawn attention from central banks. In addressing the future of macroprudential policy in Ireland, the Central Bank of Ireland acknowledged the elevated role of non-bank lenders and their linkages to the real economy. The Central Bank has indicated that the development and operationalisation of the macroprudential framework for non-banks at a global level is one of the bank's key priorities (Makhlouf, 2021).

The role of non-bank lending and the risk profile of foreign lending will require monitoring in future *Commentaries.* In particular, future attention will need to focus on foreign lending

activity across the bank and non-bank sector as well as its associated risk profiles. Questions regarding the activities being financed by foreign lenders, the credit conditions associated with such loans, and their exposure to the real economy are of increasing priority from a policy perspective.

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Makhlouf, G. (2021). 'Birth, growth and towards maturity: macroprudential policy in Ireland, speech at the Economic and Social Research Institute, 8 November.

This Box was prepared by Wendy Disch and Kieran McQuinn.

Inflation Outlook

A return to pre-pandemic economic activity, while a sign of a healthy recovery, is also contributing to global inflationary pressures. As of November 2021, Irish CPI increased 5.3 per cent year-on-year.

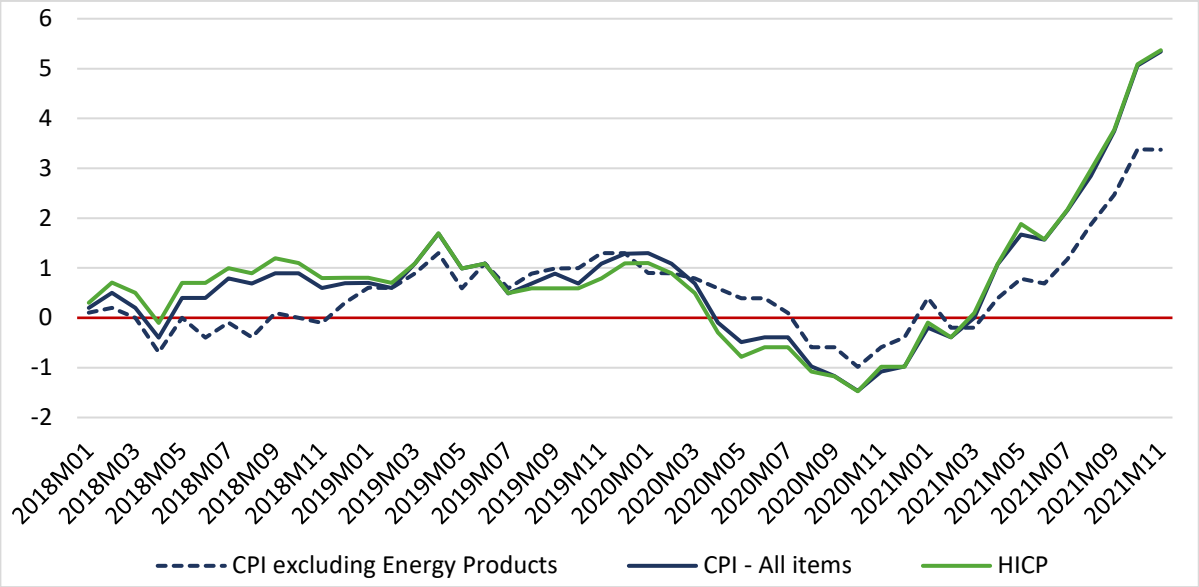
While this accounts for the largest increase since 2007,[18] conditions affecting inflation at present are quite unprecedented. In summary the current spike in prices is attributable to the following issues: the deflationary activity of 2020 resulting in base effects; a rebound in demand for goods and services that were underutilised during the pandemic; supply constraints occurring in international supply chains; and challenges occurring in the global energy market. The combination of these factors is resulting in the current elevated rates of inflation with some areas of household expenditure, such as energy and property costs being impacted more acutely than others.

The most obvious driver of the current high CPI growth are low base effects. At the onset of the pandemic and its accompanying public health restrictions, a significant portion of the economy came to a halt as households remained indoors and paused normal activities. This disruption produced *deflationary* pressures resulting in a decline in prices in 2020 and early 2021. Therefore, any improvement in economic activity would have been met with some inflation as even a no price change 'base' to the index would register year-on-year growth. A notable decline in prices occurred in November 2020 (-1.0 per cent) and thus accounts for a large portion of the inflation observed now. A more useful measure of inflation now may be to

[18] In April 2007 CPI increased 5.1 per cent (CSO).

compare prices with their pre-pandemic level (November 2019). By this measure, the growth in prices stands at 3.9 per cent and therefore 1.4 per cent of current inflation can be explained by base effects from last year. Given the ECB's inflation target of 2 per cent, the price growth between November 2019 and November 2021 is still a cause for concern and the causes behind this increase should be explored.

FIGURE 36 ANNUAL GROWTH IN INFLATION (%)



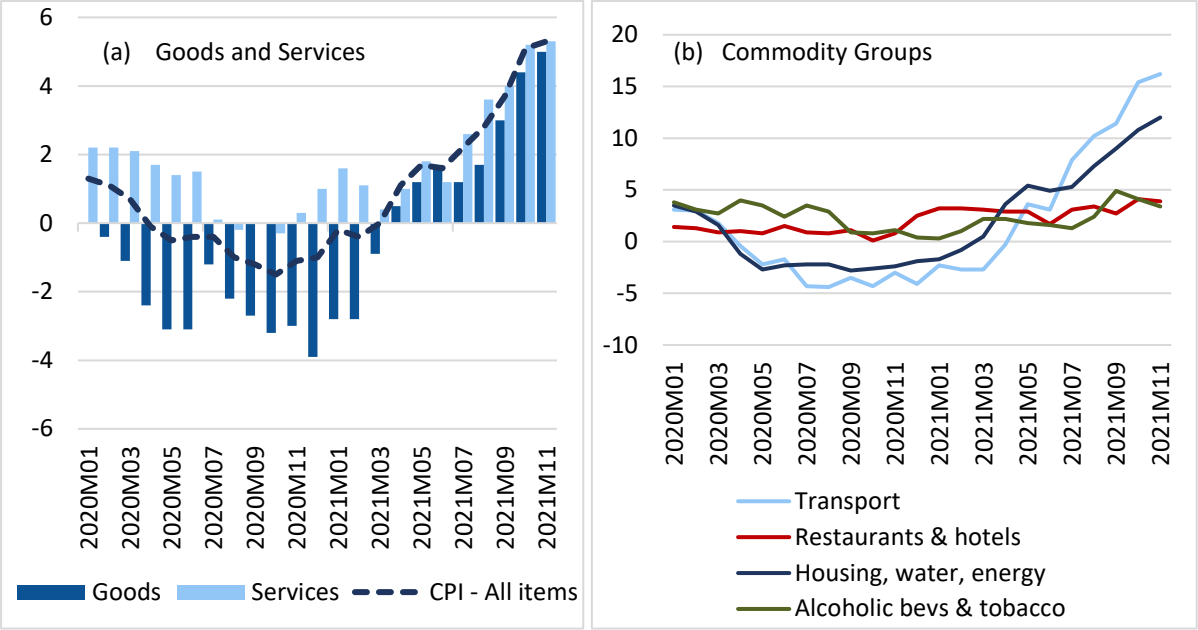
Source: Central Statistics Office.

One factor in price growth is the current surge in demand taking place across most wealthy countries. With the reopening of the economy and a boost to savings during lockdown, households have since been eager to spend on items previously unavailable to them. In November 2021, prices of goods and services were 5.0 and 5.3 per cent higher than the year prior, respectively (Figure 37 Panel A). Panel B of Figure 37 shows the four commodity groups experiencing the greatest price increases according to recent data. Unsurprisingly, experiences unavailable during lockdown, such as travel or dining, are driving some of the activity. Transport experienced the most significant increase in prices on the back of the largest decline in prices during the pandemic (an annual increase of 16.2 per cent in November 2021 following a decline of 3.0 per cent in November 2020). Restaurants and hotels also experienced a boom in activity after the easing of restrictions.

Other significant contributing factors to present inflation rates are the present bottlenecks throughout global supply chains. Raw materials, intermediate manufactured goods, and freight transport are currently experiencing the most

severe bottlenecks (Rees and Rungcharoenkitkul, 2021).[19] The price of transport materials has accelerated and delivery times across the manufacturing sector are close to record highs. Schnabel (2021) has commented that while these disruptions may take longer to resolve than previously expected, supply will eventually catch up with demand and bottlenecks will not diminish growth potential.[20]

FIGURE 37 DECOMPOSITION OF ANNUAL CPI GROWTH INTO GOODS AND SERVICES GROWTH (%)



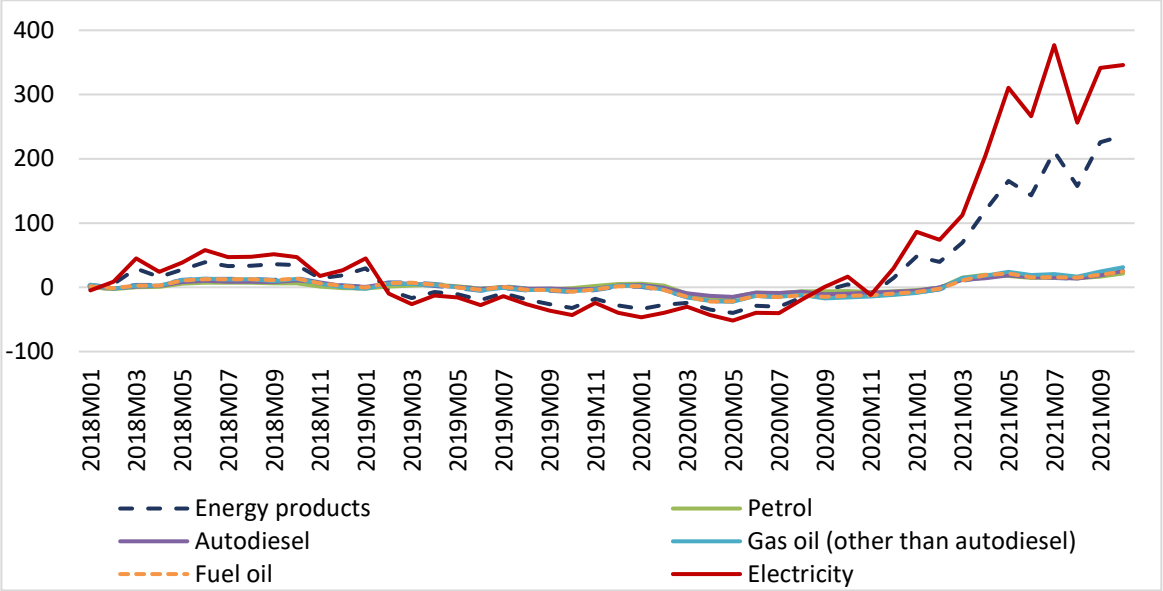
Source: Central Statistics Office.

'Housing, water, and energy' is the second largest driver of CPI, increasing 12.0 per cent per annum in November 2021. The changes in energy prices are most revealing in the wholesale market. Q2 and Q3 of 2021 have been marked by substantial increases in electricity and energy products, and show no indication of dropping in Q4 (Figure 38). The wholesale price of energy products increased over 200 per cent per annum in both September and October, while prices for electricity were up over 300 per cent in the same period. Box C in the *Commentary* details the factors influencing energy price growth, such as declining international investments and excessively cold winters.

19 Rees, D. and P. Rungcharoenkitkul (2021). 'Bottlenecks: causes and macroeconomic implications', *BIS Bulletin,* 48.

20 Schnabel, I. (2021). 'Reflation, not stagflation', speech at Goldman Sachs, 17 November. Full speech available here: Reflation, not stagflation (europa.eu).

FIGURE 38 ANNUAL CHANGE IN WHOLESALE PRICE INDEX BY ENERGY TYPE (%)



Source: Central Statistics Office.

While the sudden spike in energy prices is largely due to global issues, the same cannot be said about the property market. The public health restrictions throughout 2020 and 2021 have exacerbated pre-existing imbalances between housing supply and demand. Housing demand was largely unaffected by the pandemic; instead, the strong supports and observed increase in household net wealth has assisted the uptick in home-buying. At the same time, housing supply suffered from considerable setbacks as construction activity was delayed by lockdown restrictions. With the lifting of restrictions in the summer, consumers ready to make long awaited purchases were faced with limited supply. Consequently, prices in the property market have increased markedly.

Overall, many of the drivers of inflation are anticipated to be transitionary in nature as the economy re-stabilises from the effects of COVID-19. By Q2 2022, deflationary pressures will no longer distort year-on-year calculations of price growth and will likely lead to some improvement in inflation. Uncertainty still remains regarding supply chain bottlenecks, but once the surge in consumption falters, pressures on supply chains will gradually ease and allow them to catch up with demand. Further risks to the domestic inflationary environment are the possibility of price-wage feedback loops kicking in and more typical price pressures associated with a rapidly growing economy. Given the trajectory of current price increases, we expect to see inflation increase by 4.0 per cent in 2022. We do expect inflation to peak in spring 2022 however, and fall quickly through December 2022.

BOX C RECENT TRENDS IN ENERGY PRICES AND POTENTIAL POLICY RESPONSES

In this Box, we examine the trend in energy price growth in Europe, and the impacts for Irish households and business. We explore policy options for protecting vulnerable consumers from the impacts of energy price growth and for reducing the impact of gas price spikes on gas and electricity prices in Ireland.

Recent trends in gas prices in Europe

European commodity prices have experienced unprecedented growth in recent months. Gas prices in October 2021 were 400 per cent more expensive than April 2021. Much European electricity is generated by gas, and European wholesale electricity prices have risen by an average of 200 per cent (ACER, 2021). This growth has been driven by a rapid increase in demand, due to the economic recovery, which has been met with constraints on supply.

A number of factors have contributed to European supply constraints. International investments in oil and natural gas have declined in recent years as a result of two commodity price collapses (2014/2015 and 2020), while policies to scale up clean energy sources and technologies to fill the gap have been lagging (IEA, 2021). In addition to this, supply has been further constrained by maintenance work which was shifted from 2020 to 2021. Large-scale storage facilities usually provide a buffer during tight market conditions. However, a cold winter in 2020/2021 depleted stocks. These stocks are usually replenished during the summer, however unusually high prices led to much gas being sold rather than stored. This resulted in depleted European stocks leading into autumn/winter 2021 (ACER, 2021).

Fuel price growth has been compounded by difficulties in sourcing supplies to fill the shortfall. Approximately 35 per cent of European gas is sourced from Russia and additional supply through this channel could ease high prices. Much of the Russian supply is delivered through long-term contracts and reports suggest that these have been honoured (Simson, 2021). Russian representatives have stated that increased supply may follow once domestic storage had been replenished (Reuters, 2021) however reports in November suggest that any additional supplies were lower than expected (Twidale, 2021). Liquified Natural Gas (LNG) is often used as a supply of last resort. This is gas that is pressurised and bottled for delivery by sea shipment. Competition for these gas imports, particularly from Asian and Latin American markets, has resulted in high international prices for LNG (ACER, 2021), limiting the ability of this source to ease European prices.

Potential policy responses to protect vulnerable households

The inability of households to afford a warm home is a growing concern across the world. The combination of low energy efficiency and income poverty can both be adversely impacted by increasing energy prices (see Tovar, 2021). In Europe, this problem is particularly widespread in Eastern, Central, and Southern Europe, and the main measures implemented to allay fuel poverty are the following (Kyprianou et al., 2019): consumer protection (reduced tariffs for low-income households and disconnection protection); financial instruments (transfers to households in income poverty); subsidies for the adoption of energy efficiency and renewable generation; and information campaigns to

promote awareness and energy savings. Under the current price spike, the European Commission has prepared a 'toolbox' of temporary measures that national governments can use to protect the vulnerable and minimise the distortive effects of these interventions on energy markets (European Commission, 2021). Among these measures are government transfers that can reduce the burden imposed by higher energy bills. It is suggested by the Commission to use revenues from carbon taxes and ETS revenues to finance these transfers. It is also proposed to use minimum VAT rates and shift the financing of promoting renewable generation away from levies to alleviate the burden of electricity bills. Alongside these instruments, it is also recommended to use measures to avoid disconnections from the energy grid and temporal deferral of payments.

When designing policies against fuel poverty, some considerations need to be addressed. For example, it is important to distinguish between the short run and long run. While in the short run, a transfer can help to reduce fuel poverty issues, subsidies for the adoption of energy measures could significantly alleviate fuel poverty in the long run. In addition, there is a concern that current policy instruments used in Europe to tackle fuel poverty could be targeting poor households but not necessarily the fuel poor (Kyprianou et al., 2019). Having low energy efficiency, which is a significant driver of fuel poverty, is not explicitly a condition to be eligible for the transfers and subsidies mentioned above.

It is also important to acknowledge that increases in prices via changes in energy markets and carbon taxes have different effects on energy demand and income distribution. The literature shows that carbon taxes can yield a long-run reduction in petrol demand that is seven times larger than the effect of a market-induced increase in the price, even when they are the same amount (Tiezzi and Verde, 2016). This is attributed to the fact that taxes are more persistent, and consumers have a perception that taxes have a larger burden than equivalent non-tax price increases. In addition, unlike market-driven increases in prices, carbon taxes generate revenues that can be used to protect vulnerable households (see Tovar Reaños and Lynch, 2019).

Potential policy responses on energy price security

Ireland is impacted by spikes in international gas prices due to pressures on both the supply and demand side. On the demand side, we are reliant on gas for much of our heating requirements and the majority of our electricity generation: in 2019, gas generated 56.2 per cent of electricity and met 42 per cent of our heating demand (SEAI, 2020). Changes in gas prices therefore increase both heating and electricity costs. On the supply side, Ireland sources gas from the Corrib gas field and a small amount from Inch Entry Point, but imports the majority of its gas via the Moffat pipeline to Great Britain. The proportion of gas demand being met by Moffat is projected to increase with Moffat meeting 90 per cent of system demand by the end of the decade (Gas Networks Ireland, 2019). These supply and demand factors combine to render Ireland vulnerable to international spikes in the price of gas.

The primary mechanisms available to decrease the impact of spikes in the price of gas are via diversification of supply. Diversifying the locations from which we source our gas and diversifying the sources of electricity generation can both reduce the severity and the impact of gas price spikes. Both of these mechanisms have been studied in the literature in an Irish context.

Research by Devine and Russo (2019) found that diversifying Irish gas supply via Liquefied Natural Gas (LNG) importation can reduce energy bills for consumers. LNG is particularly helpful in reducing exposure to gas price spikes as it allows importation of gas from countries and regions that do not have a direct pipeline to Ireland (via Great Britain). The impacts of LNG on gas prices in Ireland are greater when combined with additional natural gas storage facilities. LNG and gas storage investments are complementary and can reduce short-term peak gas demand as well as long term seasonal demands. The impacts of investment in LNG and/or gas storage on energy price variability and security should be considered as part of any cost-benefit analysis on policy responses to increasing gas prices.

In relation to electricity, research by Di Cosmo and Malaguzzi Valeri (2018) found that wind generation reduced electricity prices and therefore consumers' electricity bills over the period 2008-2012. The net effect of wind lowered electricity bills even when the cost of wind subsidies and the increased costs imposed by the variability of wind on the system were taken into account. Renewable energy is therefore an appropriate policy response to increased fossil fuel prices. Research by Lynch and Curtis (2016) also found that wind power is particularly effective in shielding consumers from very high electricity prices when fossil fuel prices increase significantly. Thus, while wind dampens electricity prices in general, wind is especially valuable during periods of high gas prices. The structure of wind subsidisation in Ireland enhances this effect: the subsidy paid by Irish consumers generally increases during low fuel price years and decreases during high fuel price years. Diversifying the electricity supply via increased renewable generation therefore depresses both average and peak electricity prices. These impacts of renewable generation on electricity prices and on price security should be considered in conjunction with the impacts of renewables on electricity costs, prices and reliability.

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This Box was prepared by Niall Farrell, Muireann Lynch, Eva Shiel and Miguel Tovar Reaños

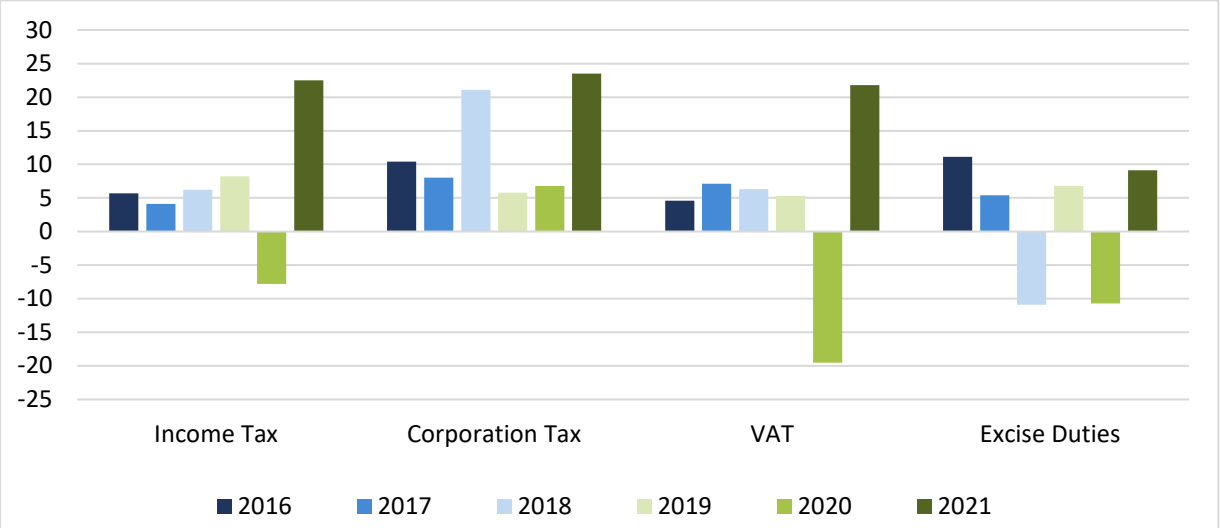
PUBLIC FINANCES

Key Points

- *Strong economic growth has positive implications for the public finances.*
- *A quicker rebound in taxation receipts than was expected coupled with lower-than-projected spending will further ease constraints on the public finances.*
- *Significant underlying growth continues to underpin the increases in tax receipts.*

Taxation receipts for the most recent quarter highlight the continued recovery in the labour market, with income tax revenue rebounding strongly. VAT receipts have increased in 2021, however, they have not recovered to the same degree as income tax – VAT receipts are slowly recovering to their pre-pandemic level, whereas income tax receipts in January-November 2021 exceed those collected in the same period of both 2020 and 2019. This illustrates how income support schemes such as the Pandemic Unemployment Payment (PUP) and the Employment Wage Subsidy Scheme (EWSS) have allowed many to retain employment and maintain income levels despite the public health measures, whereas consumption saw a much more pronounced decline. Meanwhile, corporation tax receipts continue to grow significantly and are likely to be considerably greater than was thought at the start of the year. Figure 39 shows the levels of receipts across the main taxation items for the year to November since 2016.

FIGURE 39 GROWTH RATES OF MAIN TAXATION ITEMS (%)

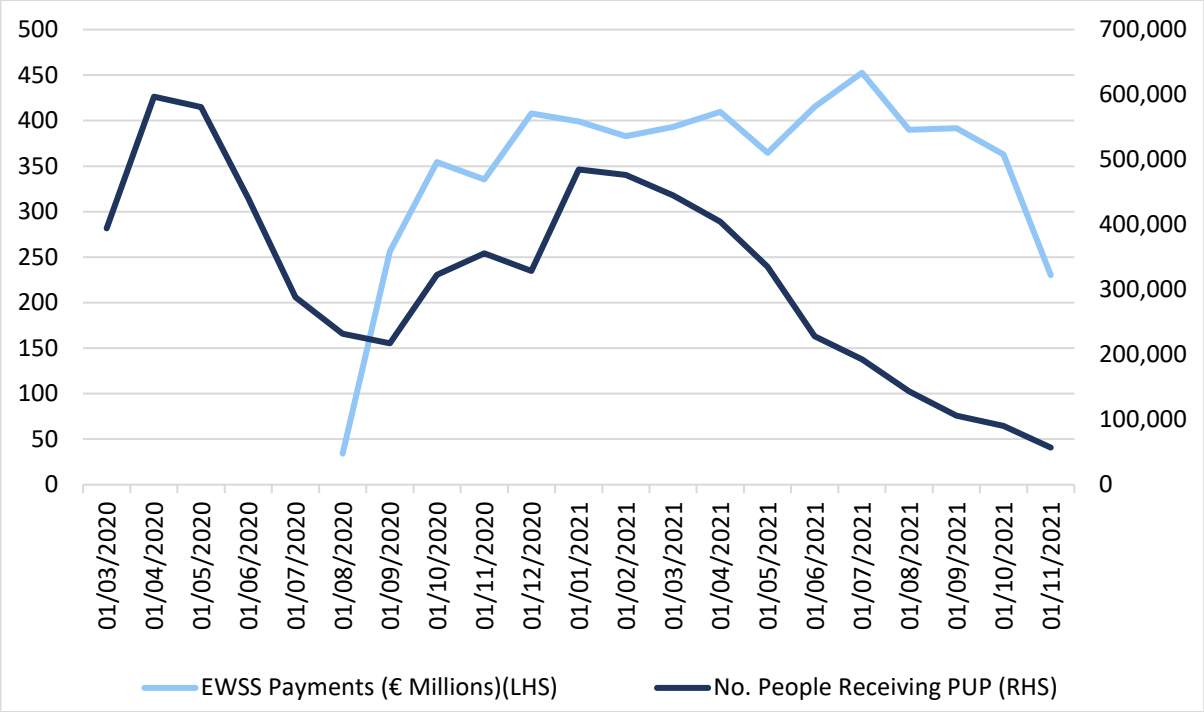


Source: *QEC* calculations.

Coupled with the stronger than expected nature of the recovery in taxation receipts, Government expenditure has been lower than was initially targeted, with levels of capital spending on areas such as housing and transport for the year to date far below the levels allocated at the start of the year. Total Government spending between January and November 2021 was €2.6 billion less than target. This can be explained, in part, by supply chain issues and/or lagged effects of the public health restrictions that were imposed on the construction sector, as well as other sectors. Current spending on healthcare for the year to date was also significantly lower than expected.

Expenditure on pandemic supports has also decreased as restrictions have eased and people have returned to work. The ensuing recovery has led to a drop in the number of people in receipt of the PUP and those availing of the EWSS. The emergence of a new variant of COVID-19 – Omicron – has led to speculation as to the possible re-introduction of public health restrictions. If significant restrictions are re-introduced, then spending on pandemic supports will rise once again. The development of the PUP and EWSS can be seen below.

FIGURE 40 PANDEMIC SUPPORTS



Source: Revenue, Gov.ie, *QEC* calculations.

Given the particularly robust increase in taxation receipts, it is appropriate to update the counterfactual exercise conducted in the previous *Commentary*. This exercise attempts to assess how actual taxation receipts for the year to date in 2021 compare with those which would have prevailed in 2020 if the pandemic had

not occurred. As a result, the increase in taxation receipts in 2021 due to the underlying growth in the economy as opposed to the 'bounce-back' from the low levels in 2020 can be quantified.

A counterfactual level of tax receipts is calculated for 2020 using the average growth rate for each tax heading for January-November over the 2016-2019 period. These growth rates are applied to the actual 2019 taxation levels and hence are used to generate a set of figures for the 2020 taxation categories. These are shown in Column A in Table 4.

TABLE 4 COUNTERFACTUAL 2020 AND ACTUAL 2021 TAXATION CATEGORIES (JAN-NOV)

Component	A	B	C	B vs C	A vs C
	2020 Counterfactual (€billion)	2020 Actual (€billion)	2021 Actual (€billion)	% Difference	% Difference
Customs	0.324	0.250	0.466	62.3	36.1
Excise Duty	5.517	4.807	5.265	9.1	-4.7
Capital Gains Tax	0.464	0.425	0.604	35.2	26.3
Capital Acquisitions Tax	0.555	0.342	0.551	47.7	-0.9
Stamps	1.444	1.907	1.256	-41.8	-14.0
Income Tax	22.399	19.524	24.452	22.5	8.8
Corporation Tax	11.143	10.717	13.552	23.5	19.6
Valued Added Tax	15.703	12.214	15.188	21.8	-3.3
Total	57.552	50.186	61.334	20.1	6.4

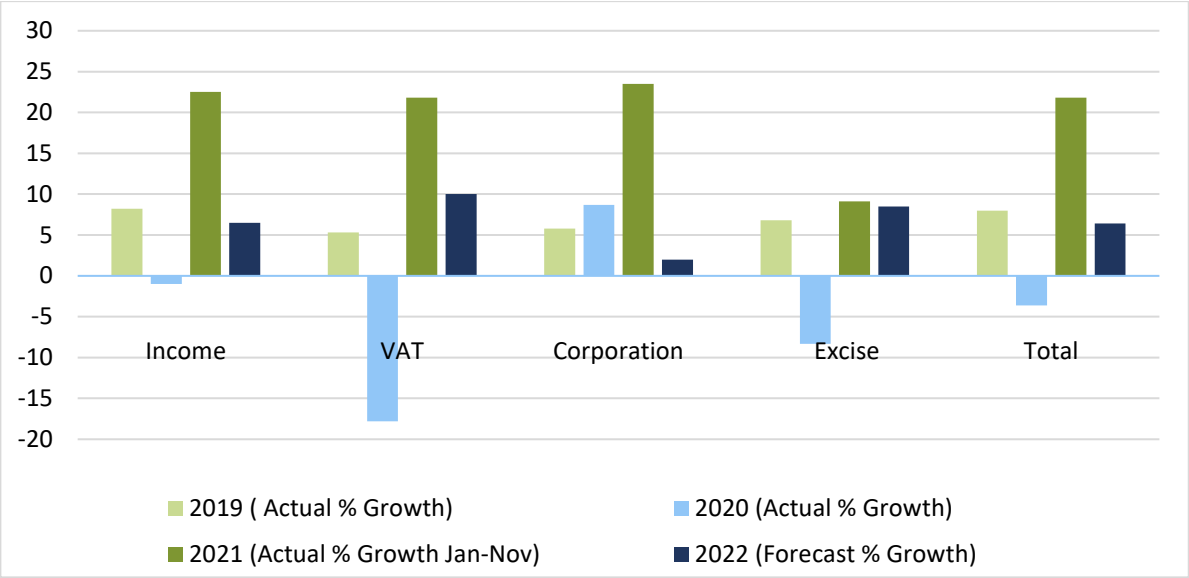
Source: *QEC* estimates.

From Table 4, the large increase in the actual tax levels between 2020 and 2021 (B vs C) is evident with overall tax levels up 20.1 per cent between the two years. All items register a strong increase with the exception of stamp duties.

When the difference between the actual 2021 level and the counterfactual level for 2020 is examined (A vs C), it is evident that there has been a strong rate of underlying growth in taxation revenue. It is estimated that if there had been no pandemic, this year's tax receipts still would have increased by 6.4 per cent overall, and income tax may have continued to increase by over 8 per cent. It is important to note that VAT levels registered negative growth between the actual 2021 level and the counterfactual 2020 level. This item has been significantly affected due to the public health restrictions which lowered household spending. These figures indicate that VAT receipts are yet to reach the levels they would have reached in the absence of COVID-19, according to this estimation.

Overall, it is evident that despite the fact that the sizable increases in tax revenues between 2020 and 2021 are due to the low base in 2020, there has also been underlying growth in taxation levels above the rebound effect in 2021. This is concurrent with the strong growth rates that have been reported throughout this year. Forecasts of the different taxation items for this year and 2022 are shown in Figure 41.

FIGURE 41 FORECASTS OF KEY TAXATION AGGREGATES 2021 AND 2022

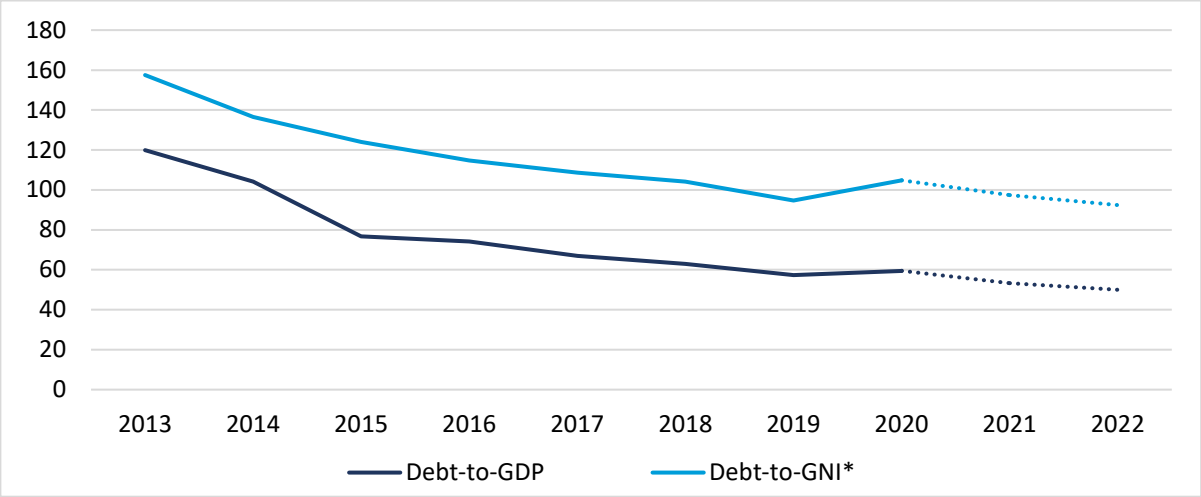


Source: Department of Finance and *QEC* estimates.

The expected increases in taxation receipts in 2022 are a result of continued forecast improvements in the labour market and increased economic activity in general. Based on the increased taxation receipts and the lower-than-expected expenditure levels, we now expect a General Government Balance (GGB) of -2.3 per cent in 2021. This better-than-expected outcome for an important fiscal indicator is due to both the significant recovery in domestic economic activity after the lifting of recent public health restrictions, and the underlying pace of growth in the Irish economy. Next year, the expected continued strong pace of growth will likely result in a GGB of -1 per cent. It should, however, be acknowledged that the accuracy of these forecasts will be affected by any changes to the current public health restrictions.

Nevertheless, these improvements to the GGB and a continued economic recovery would see Ireland's debt ratios decrease. It is forecast that by the end of 2021, the debt-to-GDP ratio will have fallen to 53.3 per cent, while it is expected that the debt-to-GNI* ratio will fall to 97.4 per cent. If the economy is allowed to continue to recover throughout 2022, it is forecast that these ratios will fall to 50 per cent and 92.4 per cent, respectively. The paths of these ratios are shown below.

FIGURE 42 DEBT-TO-GDP AND DEBT-TO-GNI* RATIOS (%)



Source: *QEC* calculations.

A General Government Balance of -2.3 per cent is within the parameters of the European Union fiscal rules, which have been suspended during the pandemic. This illustrates the degree to which the domestic public finances have been quickly restored to a more sustainable basis despite the impacts of the pandemic. Recently, it has been proposed that the EU fiscal rules should be reformed to allow for more ambitious fiscal policy in order to tackle climate change and other crucial issues, such as housing and healthcare, through large-scale capital investment (see Darvas and Wolff, 2021, for example).

The type of reform that the EU fiscal rules may undergo is currently a topic of debate, but the possible easing of some of these rules would present Member States with the opportunity to adopt more expansionary fiscal policy over the medium term. This, in turn, may lead to a larger role for the State in economic activity. The following Box examines this issue in an Irish context.

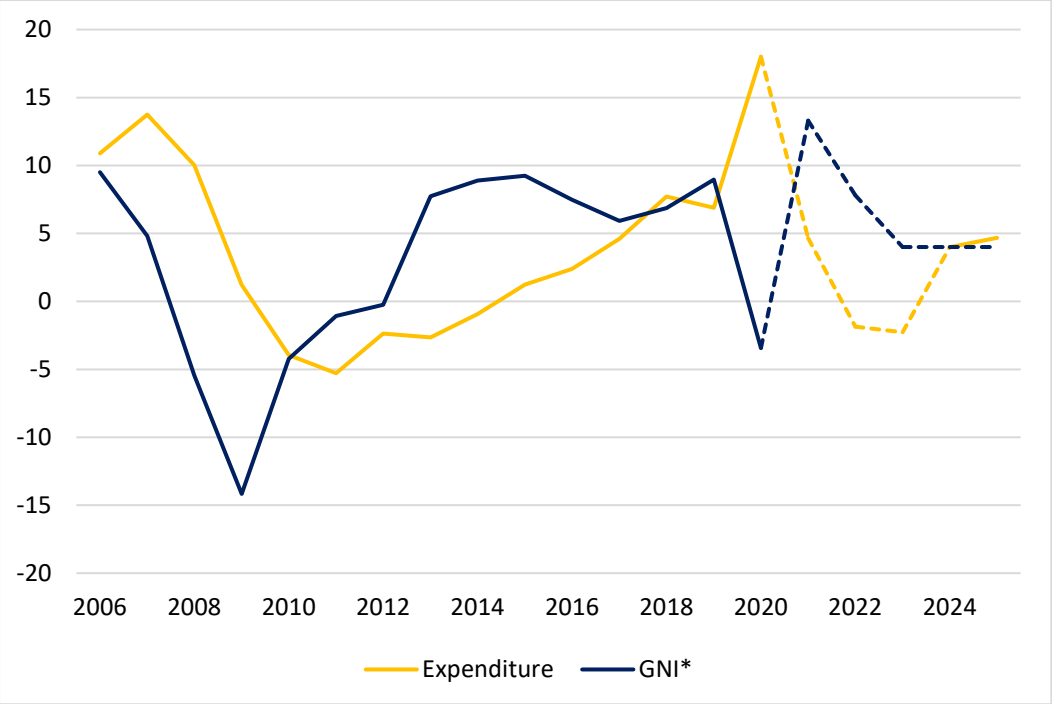
BOX D HOW LARGE IS THE GOVERNMENT'S ROLE IN THE IRISH ECONOMY SET TO BE?

Government spending in Ireland: from the GFC to COVID-19

The unprecedented and immediate nature of the COVID-19 public health crisis led to a rapid expansion of Government expenditure in order to support household incomes and firms. In 2020, expenditure rose 18 per cent per annum and is estimated to grow an additional 4.6 per cent in 2021. While this growth is substantial, it is not expected to persist. As pandemic-related supports come to an end and unemployment continues to fall, the pressure on public finances will ease considerably. As a result, the pace of expenditure growth in 2022 is set to decline before turning negative in 2023 (Figure D.1).

Given the recent increases in public expenditure, it is important to look back at Ireland's pace of recovery since the Great Financial Crisis. From 2012 to 2019, the pace of growth of the economy has substantially outpaced that of Government expenditure. The expansion of public spending during the pandemic is therefore somewhat offset by the relative restraint in spending experienced over this period. The increases in expenditure[21] are also complimented by Ireland's strong economic performance throughout the pandemic, with GNI* set to increase 13.3 per cent in 2021. By 2022, growth in public expenditure[22] is set to fall below that of GNI* once more.

FIGURE D.1 ANNUAL ACTUAL AND FORECAST GROWTH RATE (%) OF TOTAL GOVERNMENT EXPENDITURE AND GNI*



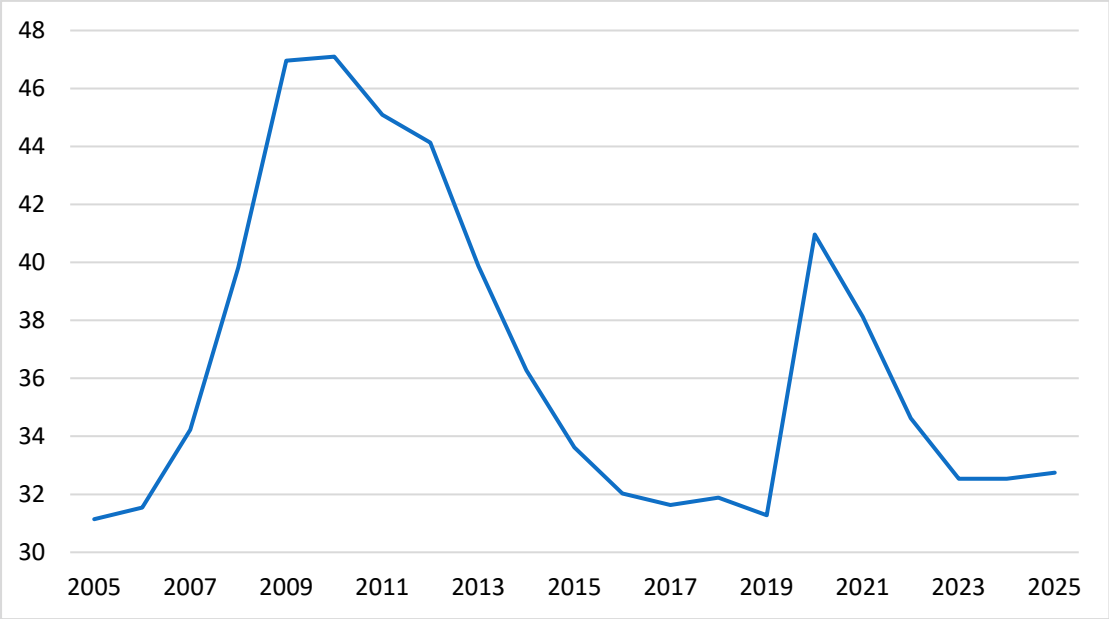
Source: Department of Finance, Central Statistics Office and *QEC* calculations.

21 The increases in expenditure are taken from 'Budget 2022 Economic and Fiscal Outlook', available on the Department of Finance website: https://assets.gov.ie.

22 Future expenditure levels can of course be revised upward in subsequent budgets.

As a result of Ireland's economic growth since 2013, recent expenditure as a share of GNI* is far lower than that of the GFC period. At its peak during the COVID-19 crisis, public expenditure was 41.0 per cent of GNI*, which is comparable to its rate in 2009[23] (Figure D.2). Despite a slowdown in economic activity during 2020, Ireland's economy continued to grow; Ireland alone in the EU experienced GDP growth in 2020 and is expected to benefit from a robust recovery in the immediate aftermath of the pandemic. Declining unemployment, a strong export sector and increases in tax receipts in 2021 are facilitating a swift return to pre-pandemic levels of government expenditure. Forecasts based on the latest Budget outlook show that expenditure as a share of GNI* is set to fall considerably through 2025, returning to its pre-pandemic point by 2022.[24]

FIGURE D.2 RATIO OF TOTAL EXPENDITURE-TO-GNI* (%)



Source: Department of Finance, Central Statistics Office, and *QEC* calculations.

Composition of future spending?

While overall spending is set to remain relatively constant as a percentage of GNI*, capital expenditure is set to grow relatively faster than current expenditure. This reflects the decline in relative expenditure on capital investment since 2007/2008 and Government commitments towards greater investment in areas such as housing; the recently announced 'Housing for all'[25] plan, for example, committed the Government for the first time to a specific level of investment in housing on a multi-annual basis.

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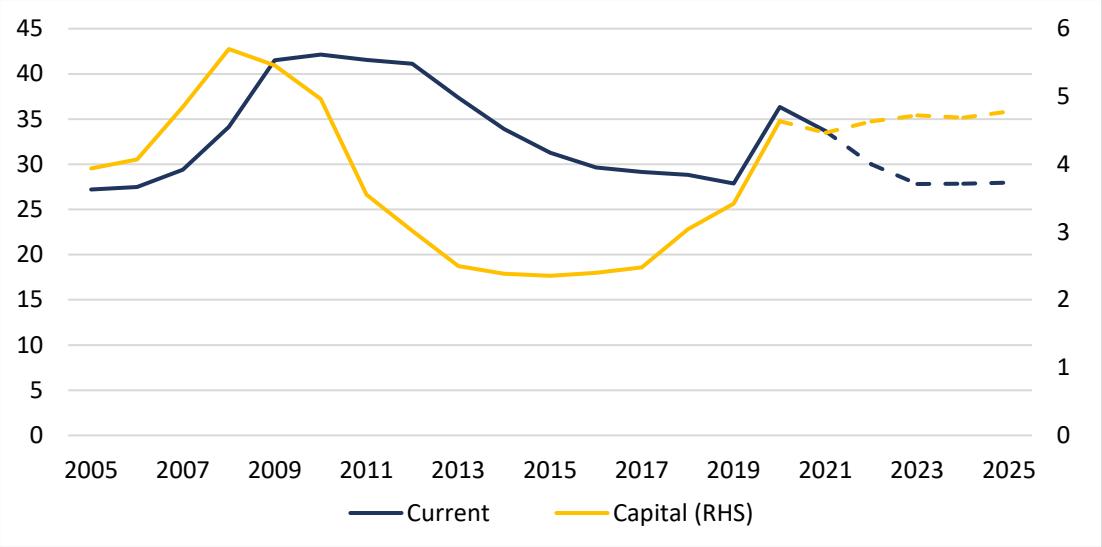
23 A significant component of Government expenditure in 2010 and 2011 relates to the bailout of Irish financial institutions.

24 This exercise does of course assume that the Irish authorities will adhere to the future expenditure levels set out in Budget 2022. GNI* is assumed to grow by 4 per cent per annum in nominal terms between 2022 and 2025. This can be considered quite conservative given recent growth rates.

25 See https://www.gov.ie/en/campaigns/dfc50-housing-for-all/ for details.

Figure D.3 plots the past and projected expenditure of the current and capital accounts as a share of GNI*. As can be seen capital spending reduced significantly from 2008 where it reached nearly 6 per cent of GNI* to a low of 2.5 per cent between 2013 and 2017. Forecasts indicate that, while capital investment is set to increase as a percentage of GNI*, it will still be less than the rate of expenditure at the height of the Celtic Tiger.

FIGURE D.3 RATIO OF CURRENT AND CAPITAL EXPENDITURE-TO-GNI* (%)



Source: Department of Finance, Central Statistics Office, and *QEC* calculations.

This Box was prepared by Wendy Disch and Kieran McQuinn.

BOX E CLIMATE CHANGE: THE CLIMATE ACTION PLAN 2021

Introduction

In this reoccurring Box, we will discuss climate-related topics that have impacts on the Irish economy. We start with an overview of the current position of Irish and EU climate policy and discuss the economic impacts and effectiveness of carbon tax policy to reach our emission targets.

Recognition of the need to limit climate change has driven global negotiations concerning combined efforts to decrease greenhouse gas (GHG) emissions over the past decades within the United Nations Framework Convention on Climate Change (UNFCCC). In 2015, the Paris Agreement was adopted and to date has been ratified by 197 states and the European Union; the global commitment to this agreement was reinforced in the Conference of Parties (COP) held in November 2021 and the resulting Glasgow Climate Pact. Under the Paris agreement, the EU has submitted its EU-wide emissions targets (through Nationally Determined Contributions (NDCs)), which commit to a GHG emissions reduction goal of at least 55 per cent compared to 1990 levels by 2030 and net-zero emissions by 2050. These targets have been legislated through the EU Climate Law, making them legally binding.

To achieve these targets at the least cost, the EU has implemented a cap and trade system, namely the EU Emissions Trading System (ETS). It operates in all 28 EU countries as well as in Iceland, Liechtenstein and Norway, and covers 45 per cent of EU GHG emissions. In this system, large energy-using installations (power stations and industrial plants) and airlines in the EU must buy emissions allowances. Companies can trade emissions allowances throughout the system, ensuring that emissions are reduced where it costs the least to do so. The remaining 55 per cent of emissions fall under non-ETS emissions and are to be reduced through Member State (national) policies, where the EU sets individual binding targets for each Member State. Non-ETS emissions result from three main sources: agriculture, transport and residential heating. The non-ETS legally binding target for Ireland is set at a reduction of 30 per cent compared to 2005 levels by 2030, where Ireland will face financial consequences should it not meet its targets. Hence, Ireland is also impacted by climate policies at the EU level and needs to set climate policies to ensure the non-ETS targets are met.

Ireland has shown its commitment to reducing emissions, where the recent Climate Action and Low Carbon Development (Amendment) Act of 2021 has put Ireland on legally binding emission reduction path of 51 per cent reduction of emissions by 2030 and net-zero emissions by 2050. The government has also made significant strides over the past years to introduce and formulise policies needed to ensure these targets are met, where the recently published Climate Action Plan (CAP) 2021 sets out a detailed policy path to reaching our emissions goals.

At the core of these policies is the commitment to an increasing carbon tax; in this Box we discuss the potential contribution of carbon taxes towards achieving our emissions goals as well as their potential economic impacts. To this end, we apply the Ireland Environment,

Energy and Economy model (I3E).[26] As the first fully dynamic general equilibrium model for the Irish economy, I3E provides a comprehensive analysis of the interactions between the environment, energy use, and the economy. The model comprises 37 representative sectors producing 42 commodities (ten of which are energy commodities), ten representative households (five in urban and five in rural areas based on disposable income), three types of labour based on educational attainment, and detailed government accounts. The labour market is characterised by the inclusion of international migration, which is an important element of Irish labour market dynamics, involuntary unemployment, and endogenous labour force participation of domestic workers. The treatment of the EU ETS is another distinct feature of the model, in which sectors subject to the EU ETS endogenously internalise the net cost of the system.

Carbon taxation and the Irish economy

Carbon taxes are charges on the carbon content of fossil fuels, including petrol, diesel, kerosene, natural gas, coal and peat. Putting a price on carbon increases the prices of fossil fuels, carbon-based electricity, and general consumer products (based on the carbon used in their production), and therefore promotes switching to lower-carbon alternatives and conserving energy. Furthermore, by increasing the costs of fossil fuels, carbon taxation puts low-carbon alternatives on a more competitive footing. The principal rationale of carbon taxation is that by directly taxing carbon use across different fuel types and consumer goods, carbon use will be reduced where it is cheapest to do so and is considered by economists to be the most cost-effective policy option to reduce carbon emissions. A recent statement issued by the European Association of Environment and Resource Economics (EAERE), signed by thousands of economists, states:

> *A price on carbon offers the most cost-effective lever to reduce carbon emissions at the scale and speed that is necessary. By correcting a well-known market failure, a carbon price sends a powerful signal ... to steer economic actors towards a low-carbon future.*

In this statement, it is also suggested that a carbon price should be steadily increased over time until the relevant emissions goals are met.

Placing a price on carbon is an essential part of any climate policy mix; under CAP21, Ireland has committed to an increased carbon tax rate reaching €100 per tonne by 2030. de Bruin and Yakut (2021), based on the I3E model shows that if the carbon tax increases in line with CAP21, the economy-wide and non-ETS energy emissions will be 15.8 per cent and 19.7 per cent lower in 2030, respectively, compared to no increase in carbon tax, i.e. the baseline. Emissions will still exceed the legally binding target by approximately 50 per cent. The increased carbon tax will reduce gross domestic product (GDP) in real terms by 1.4 per cent by 2030, whereas the adverse impacts of the tax will be progressive across

[26] See https://www.esri.ie/current-research/the-i3e-model for more details on the I3E model.

households.[27] The reason behind a progressive outcome is the dynamically responding welfare system assumed in the model, which increases transfers in line with increases in both the aggregate unemployment rate and the Consumer Price Index (CPI). The contraction in economic activity due to the adoption of carbon taxation reduces the demand for labour, which increases the unemployment rate. The increase in carbon taxes directly increases energy prices, which in turn, leads to an increase in other commodity prices and hence contributes to a rise, overall, in the CPI. This assumption is roughly in line with the government's commitment to redistribute a share of the carbon tax revenues to poorer households.[28]

In the baseline analysis, the government is assumed to use its additional revenue to reduce its debt stock. However, under the adoption of carbon taxes, the decline in the overall economic activity reduces government revenues, and the increased inflation puts upward pressure on government expenditures. As a result, government indebtedness increases, compared with what it is in the baseline.

The sectoral impacts in terms of real value-added of the increased carbon tax differ based on the energy intensity of the sectors and whether the emissions for the sectors fall under the EU-ETS. The most impacted sectors, under the adoption of carbon taxes, are accommodation, hotel and food and beverage services, transportation and construction.[29]

Establishing a trajectory for future carbon taxation rates is the first step in a carbon taxation policy. However, a crucial complement to this policy concerns how carbon tax revenues are utilised (recycled) and ultimately determine both the economic and distributional impacts of a carbon taxation policy.

Using the I3E model, de Bruin et al. (2019) show that, where carbon taxes increase to €80 by 2030 and a share of carbon tax revenues are recycled to reduce other taxes in the economy, a well-designed revenue recycling scheme can lead to both a reduction in emissions and to limited impacts on real GDP. Through increased transfers to poorer households, the regressivity of the carbon tax can also be eliminated with no impact on emissions reductions. Furthermore, de Bruin and Yakut (forthcoming) show with a higher carbon tax (reaching €100 by 2030), a revenue recycling scheme that utilises all carbon tax revenues can lead to both a reduction in emissions and an increase in real GDP i.e. a double

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27 The definitions of GDP and thus gross national income (GNI) include all economic activity generated by agents located in Ireland. Although some of the transactions of multinational companies belong to Irish National Accounts, the actual economic activity is conducted outside Ireland. Therefore, the CSO introduced a new measure in 2017, namely Modified GNI or GNI*, excluding all those transactions, which are factor income of redomiciled companies, depreciation in R&D service imports and trade in Intellectual Property, and depreciation of aircraft leasing. The CSO advises to use this measure 'to give an even more precise indicator of the domestic economy'. Since the base year of the I3E model is 2014, the GDP figure and all its components are not affected by the methodology update, and the calculated GDP in the model produces closer results to those of the GNI*.

28 The additional transfers in 2030, as calculated by the adaptive welfare system in I3E, are of the same magnitude as the carbon tax revenues committed by the government to assist poorer households.

29 The aggregate transportation sector comprises land, water, and air transportation. The former two sectors are subject to the carbon taxation, and the latter one is subject to the EU ETS. Thus, the aggregate sectoral impact results from the former two sectors.

dividend. de Bruin and Yakut (forthcoming) show that various revenue recycling schemes can create a double dividend for the Irish economy. Moreover, a triple dividend (a double dividend accompanied by an improvement in income inequality) can be found when combining reduced sales tax rates and increased welfare transfers. These results show that the adoption of a carbon tax need not be an economic burden and can even boost overall economic activity. More importantly, de Bruin and Yakut (forthcoming) highlight the importance of a well-designed carbon tax policy, which focuses not only on the level of taxation but also on how carbon tax revenues will be utilised.

References:

de Bruin, K.C, E. Monaghan and A.M. Yakut (2019). *The Economic and Distributional Impacts of an Increased Carbon Tax with Different Revenue Recycling Schemes*, ESRI Research Series No 95, doi: 10.26504/rs95.

de Bruin, K. and A.M. Yakut (forthcoming). 'The Impacts of Electric Vehicles Uptake and Heat Pump Installation on the Irish Economy', ESRI Working Paper Series.

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This Box was prepared by Kelly de Bruin and Aykut Mert Yakut.

General Assessment

While COVID-19 continues to pose a significant health risk, it is evident that in 2021 the Irish economy has recovered very quickly as public health restrictions were eased and the vaccination programme progressed. The latest information from the National Accounts indicates that Modified Domestic Demand (MDD), the most accurate indicator of domestic economic activity, is set to increase by 6.2 per in the present year. MDD is also set to grow strongly in 2022. This reflects the strong underlying dynamic in the Irish economy which was evident prior to the pandemic. Growth in the present year is set to come from both domestic and foreign sources. Our forecast in the *Commentary* is now accompanied by a nowcast estimate of MDD as set out in a Box in the *Commentary* by Egan.

One area where the robust nature of the domestic recovery is particularly evident is in the labour force. Unemployment, which had peaked in January 2021 at over 27 per cent, has fallen below 7 per cent and is likely to continue to decline this year. Furthermore, it appears that the unemployment rate is now set to fall to its pre-pandemic low of 5 per cent by the end of 2022. While the effects of the public health restrictions will continue to present difficulties for specific sectors of the economy, the Irish labour market, in general, has demonstrated remarkable resilience in terms of its recovery.

Given the faster than expected recovery in the labour market and the overall robust pace of growth, the public finances have improved to such an extent as to be back on a more sustainable path. Evidence of this is that the General Government Balance (GGB) in the present year is now expected to be -2.3 per cent. This is within the limits set out in the EU fiscal rules, which were of course suspended during the COVID-19 crisis.

Due to the heightened levels of Government expenditure over the past 18 months, a number of commentators have wondered whether the Irish State is set to increase in size relative to the overall economy. In a Box to the *Commentary* Disch and McQuinn assess this in light of the likely growth trajectory of the Irish economy over the next few years and given the stated future expenditure levels of the Government. Under fairly conservative growth forecasts, it would not appear that the Irish State is set to grow significantly on a relative basis over the medium term.

The recovery evident in many European economies has prompted some debate about possible reforms in the future reintroduction of the European Union's fiscal

rules. It is clear that certain targets such as aiming for a debt-to-GDP target of 60 per cent would pose considerable difficulties for a number of European countries. Furthermore, it is clear that while many countries are now recovering from the pandemic, most, if not all, will still face significant fiscal outlays in terms of meeting climate change targets. It is important for any future reform of the rules to also address this 'new reality'. For example, Darvas and Wolf (2021)[30] have suggested that excluding net green investment from the fiscal indicators used to measure fiscal rule compliance is one way of meeting climate targets at a time of fiscal consolidation. Nielsen (2021)[31] suggests 'standards' being adopted which would enable an agreed minimum ratio of investment relative to GDP in areas such as climate change being incorporated in any future reforms. Given the evident fiscal challenges posed by climate change, some innovation along these lines will be required in any reform of the European Fiscal Compact.

The Box by de Bruin and Yakut examine certain climate-related topics and their impact on the Irish economy. In particular the commitments that Ireland, as well as other countries, have made in seeking to reduce emission levels are outlined. The Box also details the importance of carbon taxes in that regard and summarises the results of recent research, which has quantified the impact of the adoption of carbon taxation in the domestic economy. The Box stresses the importance of well-designed carbon tax policy in terms of meeting emission targets while using the revenues from carbon taxes in a redistributive manner.

Notwithstanding the strong performance of the Irish economy, it is evident that there are a number of potential challenges to the growth outlook in 2022 and beyond. A new risk assessment section in the *Commentary* outlines some of these issues. The recent increase in incidence of COVID-19 amongst the general population in Q4 2021 along with the emergence of a new strain of the virus, Omicron, does give rise to the possibility of additional public health restrictions into 2022. Indeed, the rapidity and frequency with which new variants are emerging increases the uncertainty around a more permanent full relaxation of public health rules. This ongoing uncertainty is likely to exacerbate the challenges for those sectors such as tourism and hospitality which have been particularly affected by health restrictions.

Another area of significant uncertainty is in the future trade relationship between Ireland, the United Kingdom and the European Union. It is clear that already significant changes have occurred in Irish trade due to Brexit and the Protocol with

30 Darvas Z. and G. Wolf (2021). 'A green fiscal pact: climate investment in times of budget consolidation', *Bruguel Policy Contribution* Issue No. 18/21, September.

31 Nielsen E. (2021). 'The need for better fiscal rules in Europe'. Available online at https://voxeu.org/article/need-better-fiscal-rules-europe.

imports from Great Britain down somewhat while imports from Northern Ireland have increased substantially since the start of the year (see Flynn et al., 2021).[32] The ongoing stand-off concerning the Northern Ireland Protocol and the possible triggering of Article 16 gives rise to the potential for a significant trade war between the European Union and the United Kingdom. Any escalation of trade tensions between the European Union and the United Kingdom would have a significant impact on the Irish economy given its small and open nature. It would see a curtailment in the contribution to growth from external sources.

Inflation rates in 2022 are now set to be greater than was previously thought. Notwithstanding this, from a policy perspective, it is important to note that the general expectation is that recent increases are mainly due to the exceptional circumstances to do with the pandemic. In general, the increase in demand across countries which has occurred following the easing of public health restrictions has been accompanied by delays on the supply side of the economy as supply chains in particular struggle to react to greater levels of economic activity. This, as demonstrated by Rees and Rungcharoenkitkul (2021),[33] has had a significant impact on international inflation rates. Given the pace of recovery in Ireland, it is inevitable that the domestic economy is particularly sensitive to these pressures. More generally, while monetary authorities and forecasters generally may underestimate these inflationary pressures, this does not mean that the same authorities need to react immediately by increasing policy interest rates. That, as noted by Goodhart and Pradhan (2021),[34] could result in monetary authorities threatening the nascent economic recovery which is apparent across countries. However, if inflationary pressures become more ingrained over time, for example if wage-price feedback loops emerge, the risk of monetary policy tightening naturally rises.

A significant contributing factor to recent increases in inflation has been the role of energy prices. In a Box to the *Commentary*, Farrell et al. assess the reasons behind the recent increases in energy prices while also outlining some policy conclusions. These include the importance of renewable energy as a response to increased fossil fuel prices. In an Irish context, it has been established that a greater reliance on wind power can shield consumers from high electricity prices when fossil fuel prices increase significantly.

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32 Flynn E., J. Kren and M. Lawless (forthcoming). 'Initial impact of Brexit on Ireland-UK trade flows', Economic and Social Research Institute (ESRI) Working Paper series.

33 Rees D. and P. Rungcharoenkitkul (2021). 'Bottlenecks: causes and macroeconomic implications', *Bank of International Settlements Bulletin* No. 48, November.

34 Goodhart C. and M. Pradhan (2021). *What may happen when central banks wake up to more persistent inflation?*, Vox CEPR Policy Portal, October.

The relatively unpredictable nature of current inflation rates is particularly important in the context of the recent Budget. In a paper to the *Commentary*, Roantree et al. (2021) assess the distributional implications of Budget 2022 from a household perspective. They conclude that while the tax and welfare measures announced in Budget 2022 will on average – on the basis of contemporaneous/ Budget forecasts – compensate households for rising prices, below inflation increases to the Working Families Payment and State Pension mean that some low-income working parents and retired couples who do not receive the Fuel Allowance will see their disposable incomes eroded by inflation. In addition, if the outturn for inflation is higher than forecast, the announced increases to other payments may not be enough to insulate low-income households from rising prices. The paper questions the ad hoc manner in which certain budgetary measures were introduced and argues, in general, for a more coherent approach in setting welfare payment rates and tax thresholds.

Special Article

BUDGET 2022

Barra Roantree, Karina Doorley, Theano Kakoulidou and Seamus O'Malley[1]

ABSTRACT

This Article outlines and assesses changes to the tax and welfare system announced as part of Budget 2022. It first looks at the main taxation measures announced before turning to employment, education and social welfare supports. It then considers the effect of the package of measures as a whole on the incomes of households using representative survey data from the Survey of Incomes and Living Conditions run on SWITCH – the ESRI's tax and benefit microsimulation model – and ITSim – an indirect tax microsimulation model developed jointly by the ESRI and the Department of Finance. The Article concludes with some brief reflections on inflation forecasts and the policy-making process.

1. INTRODUCTION

General Government Expenditure is forecast by the Department of Finance (2021a) to be €105.0 billion in 2022, equivalent to 43.6 per cent of modified Gross National Income (GNI*). This will be financed by €96.7 billion in General Government Revenue (equivalent to 40.2 per cent of GNI*), leaving a General Government Balance deficit of €8.3 billion (3.4 per cent of GNI*) compared to that of €13.3 billion (5.9 per cent of GNI*) in 2021.[2] While the vast bulk of this expenditure, revenue and borrowing arises from the continuation of existing programmes and taxes, changes to the tax and welfare system announced on Budget day are forecast to cost around €1.1 billion.[3]

This Article outlines and assesses these changes, first looking at the main taxation measures announced in Section 2, before turning to employment, education and social welfare supports in Section 3. It then in Section 4 considers the effect of the package of measures as a whole on the incomes of households using representative survey data from the Survey of Incomes and Living Conditions (SILC) run on SWITCH – the ESRI's tax and benefit microsimulation model – and ITSim –

1 Funding from the ESRI's Tax, Welfare and Pensions Research Programme (supported by the Departments of Public Expenditure and Reform, Employment Affairs and Social Protection, Health, Children and Youth Affairs and Finance) is gratefully acknowledged. We are grateful to the CSO for facilitating access to the Survey of Income and Living Conditions (SILC) Research Microdata File used to construct the database for the SWITCH tax-benefit model and to the Irish Social Science Data Archive for facilitating access to the Household Budget Survey used in the ITSim model.

2 See Table 11 of the Budget 2022 Economic and Fiscal Outlook, available at http://budget.gov.ie

3 See Department of Finance (2021b) and Department of Public Expenditure and Reform (2021, pp.107-109).

an indirect tax microsimulation model developed jointly by the ESRI and the Department of Finance. The Article concludes in Section 5 with some brief reflections on some of the challenges facing the government in the coming years.

2. TAXATION MEASURES

Table 1 shows the full year revenue yield or cost of the taxation measures announced in Budget 2022, as estimated by the Department of Finance (2021b). The most expensive measure was the above forecast inflation increases to income tax credits and bands, costing almost €600 million per year. This will see the standard rate band increase by €1,500 per year (e.g. from €35,300 to €36,800 for single taxpayers, 4.2 per cent), and the main (PAYE, personal and earned income) tax credits increase by €50 per year (from €1,650 to €1,700, 3.0 per cent). While the standard-rate band has been raised in some recent Budgets, this marks the first increase in the personal and PAYE tax credits since 2008 and means that the after-income tax purchasing power of those earning enough to pay income tax will rise slightly in real terms, so long as the inflation outturn is similar to forecast levels.[4]

[4] At the time the Budget was announced, the Department of Finance (2021a) forecast HICP inflation of 2.2 per cent in 2022, somewhat below the 2.9 per cent forecast of the Central Bank (2021) and the 2.5 per cent (CPI) forecast in the ESRI Autumn *Quarterly Economic Commentary*.

TABLE 1 FULL YEAR YIELD OR COST OF TAX MEASURES ANNOUNCED IN BUDGET 2022

	€ million
Personal income tax measures	
Increases to income tax credits and bands	-597
Extension of sea-going naval personnel tax credit	-0.5
Employer PRSI threshold increase	-12.5
USC	
Increase in 2% rate ceiling	-26
Extension of reduced rate for medical card holders	-72
Bank Levy extended at reduced rate	+87
Introduction, extension or expansion of tax reliefs	
Taxation of International Flight Crew	-12
New tax credit for digital gaming development	-6
Exemption from corporation tax for certain start-ups	-10
Extension and expansion of the Employment Investment Incentive	-10
Extension of stock relief	-8
Extension of Young Trained Farmer (Stamp Duty) Relief	-15
Extension of Help to Buy at 'enhanced' rates	-175
Extension of pre-letting expenses for landlords	-3
Income tax disregard for households who sell electricity they generate	-1
Changes to excise duties	
50c increase in duty on pack of cigarettes	+56
Increase in carbon tax to €41.00 per tonne	+148
VRT	
Revised rates and extension of benefit-in-kind relief for electric vehicles	+82

Source: Department of Finance, 'Budget 2022 Tax Policy Changes' document, available at https://www.gov.ie/en/publication/7e491-taxation-measures/.
Note: Full year cost or yield. Excludes certain measures with unknown or nil cost/yield.

However, given forecast growth in compensation per employee of 4.8 per cent (Central Bank of Ireland, 2021), the increase in income tax credits and bands is unlikely to be sufficient to offset 'fiscal drag': the exposure of a greater share of aggregate earnings to tax because of slower growth in credits and bands than earnings, which – all else equal – leads to a larger share of national income taken in tax. In addition, unlike income tax credits and bands, most of the corresponding thresholds for PRSI and the USC were held fixed in nominal terms, amounting to an effective PRSI and USC increase for many taxpayers. Exceptions to this were the ceiling for the 8.8 per cent rate of employer PRSI (which was increased by €12 per week – 3.0 per cent – at a cost of €12.5 million) and the 2 per cent rate of USC (which was increased by €608 per year – 2.9 per cent – at a cost of €26 million).

While the reason given for the former increase was that the Low Pay Commission had recommended ensuring 'that the increase in the hourly minimum wage does not lead to work disincentives for workers' (Department of Finance, 2021b, p.14),

the change simply moves the point at which a small rise in weekly earnings can lead to a discontinuous jump in employer PRSI contributions. For example, given the new minimum wage of €10.50 per hour the changes mean that PRSI contributions for a worker on the minimum wage jump discontinuously by around €9 per week (€470 per year) if they go from working 39 to 40 hours per week instead of from 38 to 39. Indeed, the 2021 Low Pay Commission's report published on budget day[5] recommended a far more comprehensive reform of PRSI to eliminate the discontinuities in the employee and employer schedules, which research has shown can lead part-time workers in particular to earn less than they otherwise would (Adam et al., 2021; Hargaden, 2020).

The other significant change announced to taxes on personal income was that the exemption of medical card holders from the higher (4.5 per cent and 8 per cent) rates of USC would be extended for another year at a cost of €72 million. Similarly, the Bank Levy – introduced in 2003 and charged on the amount of Deposit Interest Retention Tax (DIRT) paid by eligible financial institutions in a past 'base' year – will be extended for another year, though raising €87 million instead of €150 million as previously.[6]

The introduction, expansion and extension of an assortment of tax reliefs was also announced by the Minister for Finance. These have a combined estimated cost of €250 million, with the single most expensive measure the extension for another year of the Help to Buy scheme at a cost of €175 million. This provides a refund of income tax and DIRT paid in the previous four years to first-time owner-occupiers taking out a mortgage to self-build or buy a new-build residential property. Introduced as a temporary measure in 2016, the relief has been expanded and repeatedly extended at a cost of more than €500 million to date (compared to an anticipated cost of €130 million) despite concerns that it is poorly targeted towards its stated aims and likely to fuel house price growth.[7]

The tendency for tax reliefs to cost significantly more than anticipated when introduced highlights the importance of regular and rigorous review. However, as highlighted by Roantree and Kakoulidou (2021), evaluations are routinely based almost exclusively on responses to surveys of beneficiaries gathered through a non-representative public consultation process, a methodology which cannot deliver credible evidence on their impact. They argue for the development of

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5 See Low Pay Commission (2021), available at https://www.gov.ie/en/publication/a8e07-low-pay-commission-annual-report-2021/ [accessed 02/11/2021].

6 The rationale given for this was that the levy would not apply to Ulster Bank Ireland DAC and KBC Bank Ireland plc 'due to the fact that they are exiting the market' (Department of Finance, 2021, p.13).

7 See, for example, Kakoulidou and Roantree (2021), O'Toole and Slaymaker (2021), and Parliamentary Budget Office (2019).

greater expertise in the evaluation of tax reliefs, potentially through the establishment of a dedicated tax relief evaluation unit within the Irish Government Economic and Evaluation Service or the Parliamentary Budget Office.

Alongside these tax reliefs, the Minister for Finance also announced he would introduce a new tax on land zoned suitable for residential development, but which has not been developed for housing. The stated aim of this Zoned Land Tax (ZLT) is 'to increase the supply of residential accommodation, rather than to raise revenue', and will replace a vacant site levy which local authorities have struggled to implement.[8] Research suggests that recurrent land taxes can help increase housing supply by encouraging owners to develop or dispose of underutilised sites.[9] They can also act to deter sprawl (Banzhaf and Lavery, 2010) and – through capitalisation into the price of zoned land – capture a share of the windfall gains that up-zoning or obtaining planning permission bestows upon landowners without – as is the case with 'betterment' or development taxes – encouraging landowners to delay development in the hope that the tax is abolished.[10]

However, the effectiveness of the ZLT in achieving these outcomes depends heavily on the details of what is and what is not included within its scope. The Finance Bill currently being debated by the Houses of the Oireachtas specifies that the ZLT will only apply to land zoned for residential (or mixed-residential) use that:

> *it is reasonable to consider may have access, or be connected, to public infrastructure and facilities, including roads and footpaths, public lighting, foul sewer drainage, surface water drainage and water supply, necessary for dwellings to be developed and with sufficient service capacity available for such development.*[11]

This restriction has the potential to create an incentive for owners of residential zoned land to defer seeking connection of their sites to public infrastructure and facilities in order to avoid the ZLT, particularly if there is a prospect of the tax being abolished by a future government.

In addition, the Finance Bill specifies that the ZLT will not apply to land 'that it is reasonable to consider is being used to provide services to residents of adjacent residential areas' or:

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8 As noted by the Parliamentary Budget Office (2020), 'of 31 local authorities, just 17 had active registers (i.e. with listed sites) with assigned market valuations' by the end of 2019, while of these only four had collected any payment.

9 See Morley et al. (2015) for an accessible overview of some of the research on this topic.

10 See the discussion in Mirrlees et al. (2011, pp.370-373).

11 See pp.163-166 of the Finance Bill 2021, available at https://www.gov.ie/en/press-release/56823-minister-donohoe-publishes-finance-bill-2021-underpinning-measures-to-support-economy-and-society-in-budget-2022/.

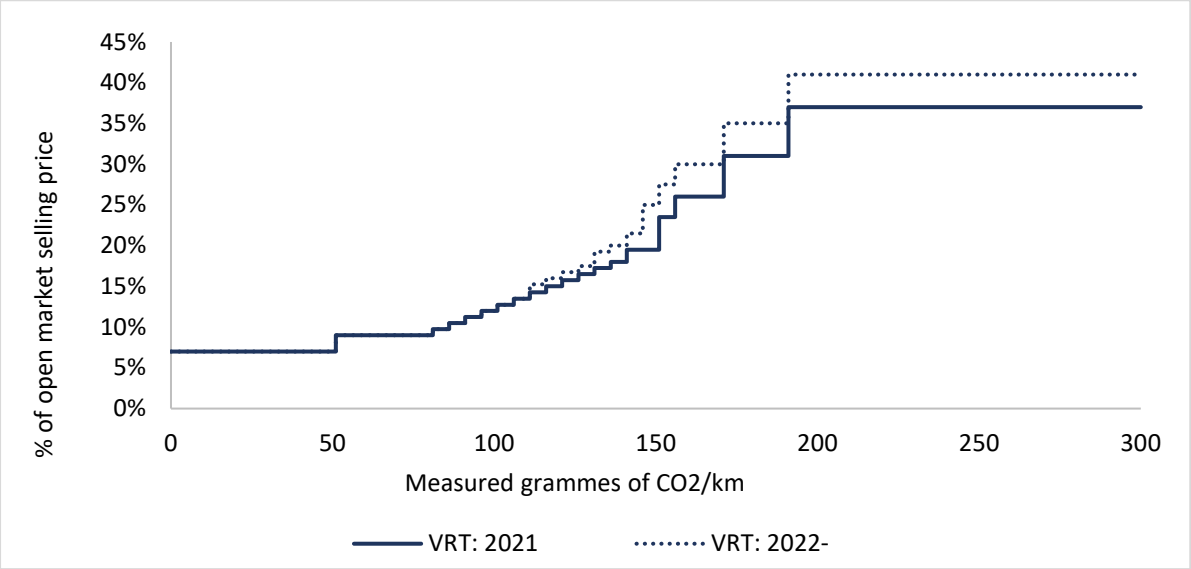
> *that it is reasonable to consider is required for, or is integral to, occupation by … social or community infrastructure and facilities, including educational or healthcare infrastructure and facilities; transport facilities and infrastructure; energy infrastructure and facilities; telecommunications infrastructure and facilities; water and wastewater infrastructure and facilities; waste management and disposal infrastructure; recreational infrastructure, including sports facilities and playgrounds.*

While such exemptions may have a genuine underlying policy rationale, they nevertheless also have the potential to undermine the effectiveness of the tax in achieving its stated aim by, for example, enabling landowners to avoid the ZLT by using a site as a temporary car park, allotment or playing pitch.

Budget 2022 also saw changes to a number of indirect taxes announced. Although most excise duties were frozen in cash terms (amounting to an effective cut given rising prices), Tobacco Products Tax was increased by the equivalent of €0.50 on a pack of 20 cigarettes. Increases in the tax on tobacco are likely to be effective at furthering deterring people – particularly younger people – from smoking as much or at all, but they can also lead some to purchase tobacco products abroad or illegally (Friedson et al., 2021; Kennedy et al., 2015). For these reasons, Revenue have historically placed a wide range around their central estimate of the yield from raising Tobacco Products Tax, forecast to be €56 million per year for the increase announced in Budget 2022 but subject to a large degree of uncertainty.

For the second year in a row there was an increase in the rates of VRT applied to high CO2 emission cars. This is forecast to raise €82 million per year but is also intended to encourage consumers to purchase smaller, less-emitting cars. Figure 1 illustrates this, plotting the rate of VRT charged on the estimated value of a vehicle with a given level of emissions in 2021 and from 1 January 2022. This shows that the VRT levied on vehicles emitting more than 110 grammes of CO2 per kilometre will increase, with proportionally larger increases in tax rates for vehicles of between 130 and 170 grammes.

FIGURE 1 CHANGES TO VEHICLE REGISTRATION TAX (VRT)



Source: Authors' calculations based on Department of Finance (2021b).

While there is a coherent rationale for using upfront taxes on newly registered cars to incentivise behavioural change among consumers, Adam and Stroud (2019, p.227) argue such a policy is likely to be more effective if combined with a scrappage scheme that similarly depends on emissions. Such a combination of tax and subsidy would be neutral for someone replacing an old car with a new car of the same emissions level, but encourage people with old, high-emitting cars to replace them with cleaner, new models.

A final change to indirect taxes was the increase to the carbon tax from €33.50 to €41.00 per tonne of carbon dioxide emitted.[12] A carbon tax is the most efficient way of incentivising carbon abatement; that is, of achieving a given reduction in carbon emissions at the lowest economic cost, with a large literature finding that such taxes would reduce emissions in Ireland with little wider economic costs (e.g. FitzGerald and McCoy, 1992; FitzGerald et al., 2002; Bergin et al., 2004; di Cosmo and Hyland, 2013; Conefrey et al., 2013; de Bruin and Yakut, 2018; 2019).[13] Even though few broad-based carbon taxes have been in place for long, there is now also substantial evidence from ex-post evaluations that they are highly effective at reducing emissions, particularly from transport (see, for example, Andersson, 2019; Runst and Thonipara, 2020; Metcalf and Stock, 2020; Best et al., 2020).

12 This and the following paragraph draw on the discussion in O'Malley et al. (2020).

13 This goes back as far as Baumol and Oates (1971) and Weitzman (1974). See Metcalf (2019) for an accessible summary of this literature and discussion of arguments in favour of a carbon tax over cap and trade schemes, namely less administrative complexity, damaging price volatility and potential for adverse policy interactions.

However, there is also widespread recognition that carbon taxes can have distributional consequences that policymakers may be concerned about. This arises largely because certain groups – especially lower-income households – spend a disproportionate share of their incomes on carbon-intensive goods, in particular heating fuel. As a result, a carbon tax can have a regressive impact in the absence of an accompanying package of compensation measures. As discussed in the next section, Budget 2022 also saw the announcement of measures to compensate low-income households for such impacts by increasing certain welfare payments (as well as income tax credits and bands, discussed above). One should therefore consider the impact of the carbon tax increase on households' incomes in conjunction with other changes to the tax and welfare system, as we go on to do in Section 4.

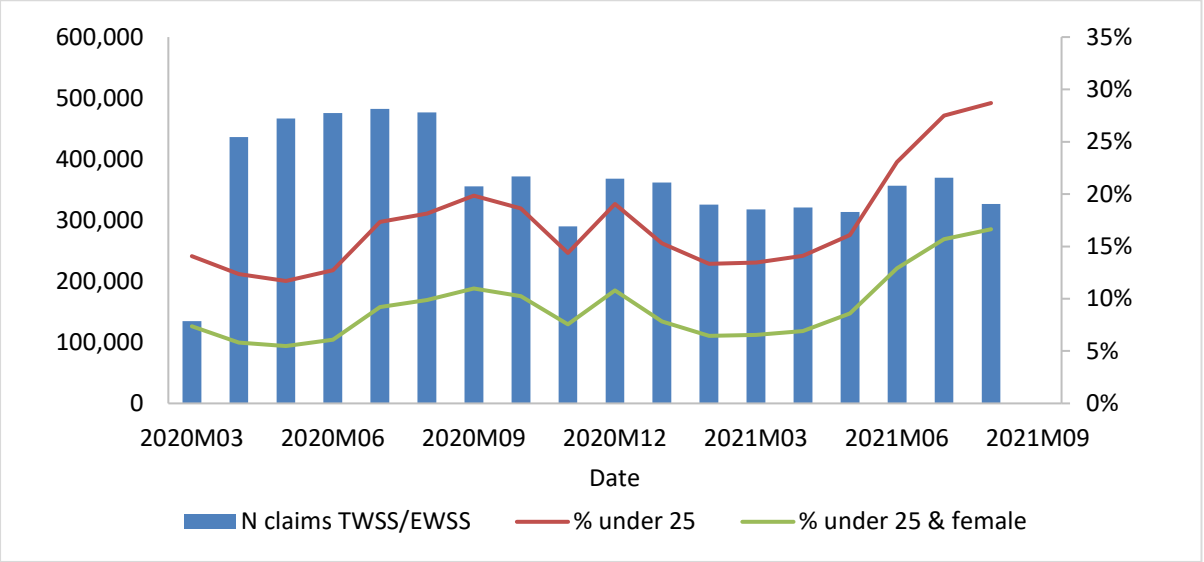
3. CHANGES TO EMPLOYMENT, EDUCATION AND SOCIAL WELFARE SUPPORTS

The most significant announcement in Budget 2022 in cost terms was changes to the Employment Wage Subsidy Scheme (EWSS). This was introduced in September 2020 and replaced the Temporary Wage Subsidy Scheme (TWSS), with the aim of both being to provide support to those affected by the COVID-19 pandemic while maintaining a link between employers and employees. While the precise structure has varied over time, broadly speaking the schemes have operated as a subsidy to firms experiencing a decline in turnover based on the number and earnings of eligible employees along with a reduced rate of employer PRSI on the earnings of these employees. €8.6 billion has been paid through the TWSS and EWSS to date, though the ultimate cost to the Exchequer depends on the extent to which the scheme was paid to firms who would have continued to operate and pay their employees even if the subsidy was never introduced; something on which there is currently no good evidence.

On Budget day, the Minister for Finance announced the EWSS would continue at the current rates for October and November before being cut in December then closed to new entrants from 1 January 2022. This reduction in rates was subsequently delayed until February 2022,[14] with remaining claims to be paid at a reduced rate per eligible employee – and with the standard rates of employer PRSI applied – in March and April before the scheme ceases to operate entirely in May.

[14] See press statement from the Minister for Finance and the Minister for Public Expenditure and Reform, available at https://www.gov.ie/en/press-release/1a168-ministers-donohoe-and-mcgrath-announces-update-on-business-supports/ [accessed 13/12/2021].

FIGURE 2 CLAIMS FOR AND COMPOSITION OF TWSS/EWSS



Source: Authors' calculations using ITSim linked to the 2015-2016 Household Budget Survey uprated to 2022 prices, and SWITCH run on 2019 Survey of Income and Living Conditions data, uprated to 2022 income levels.

Determining how long to continue operating the EWSS for is challenging. On the one hand, maintaining the subsidy would mean supporting both employment which would exist even if the subsidy was no longer in place (a deadweight cost) and employment which is no longer viable in the long term (where employees should be given the opportunity to re-train in other roles). On the other hand, withdrawing it too early could lead some firms to fail who would – had the pandemic never occurred – have continued to be viable. An additional consideration is that the EWSS has increasingly come to support younger, female workers. This is shown in Figure 2, which plots the number of eligible employees covered by the EWSS and TWSS along with the share of these employees who are under 25 (in red) and under 25 and female (in green). These shares have risen in recent months to almost 30 per cent and 20 per cent respectively, much higher than the share of total employment these groups make up. This suggests that such workers could be disproportionately affected by the withdrawal of the EWSS, particularly given the recent announcement of additional public health restrictions affecting the hospitality industry in which a large number of younger workers are employed (Roantree et al., 2021).

There was also an increase in generosity announced to the main student maintenance grants for the first time since 2012. In addition to increasing rates by €200 per year (an increase of 6 per cent in the full non-adjacent rate, currently set at €3,025 per year), the threshold which family income must be below in order to qualify for a grant will rise by €1,000 per year (from €39,875 for the full non-adjacent rate for someone from a family with 1-3 dependent children) and the distance someone must normally live from the institution they are going to attend to avail of the non-adjacent rate reduced from 45km to 30km. However, these are

ultimately quite small changes to a system whose coverage – as Keane et al. (2021) note – has declined in recent years 'because income thresholds for the grant have tended to remain static for long periods despite incomes rising'. Indeed, Keane et al. point out that the full non-adjacent maintenance grant currently amounts to 29 per cent of even the €112.40 per week 'young' jobseeker's allowance rate, compared to about the same level of the full jobseeker's allowance rate in the early 1970s. Given the importance of financial support for both access to and retention in post-secondary education (Mooney et al., 2010), there is good reason to think that more radical reform of student grants may be needed to help achieve the Government's objectives in this area.

Another area that saw supports increased was childcare. An extension to the duration of parent's leave and Parent's Benefit to seven weeks from five weeks was announced. There was also a substantial increase in funding for the providers of registered childcare – accounting for around half of all childcare in Ireland – who commit to freezing their prices. There were also changes to the National Childcare Scheme (NCS), which subsidises registered childcare, with the Universal Subsidy – which current pays 50c per hour for children under three – extended to cover children up to age 15 and an increase in the hours covered by the NCS for children in school or pre-school. Wider eligibility for the Universal Subsidy is likely to benefit higher income households who are not eligible for the income-assessed component of the subsidy while expanding the hours available to pre-school and school children is likely to benefit more low income households. The rate of payment of the NCS was frozen in cash terms as were the income limits for eligibility for the income-assessed component of the subsidy. Given forecast wage growth for 2022, some families are therefore likely to lose their eligibility for the income-assessed subsidy.

Finally, Budget 2022 saw increases to most social welfare payments. There were significant above-forecast inflation increases in the Fuel Allowance (a seasonal supplementary support payable to long-term recipients of certain social welfare payments, increased by 18 per cent or €5 per week) and the additional payments made to those living alone or with dependent children in receipt of social welfare payments (the Living Alone Increase and Increases for Qualified Children, which rose by 16 per cent and c.6 per cent respectively). Recipients of these benefits are more likely to be at risk of poverty and to spend a high share of their income on fuel than social welfare recipients living with other adults, making the measures well-targeted at mitigating – and potentially offsetting – the adverse impacts of the carbon tax increase on vulnerable low-income households (Bercholz and Roantree, 2019; O'Malley et al., 2020). There were smaller increases in the main social welfare payments for working-age couples without children, with the €5 per week rise in personal rates and proportional increases for dependent adults corresponding to a 2.5 per cent rise: just above the forecast rate of inflation.

However, the decision to also announce a €5 per week increase in the maximum rate of the contributory and non-contributory State Pension amounts to a below inflation rise (real cut) for retirees living with another adult. This is because the maximum personal rate of the contributory (non-contributory) State Pension is currently set at €248.30 (€237) per week for those aged 66-79 compared to €203 per week for most working-age payments, making the €5 per week increase equivalent to a 2.0 per cent (2.1 per cent) increase compared to 2.5 per cent for working-age payments. Similarly, the €10 per week increase in the income limits for Working Families Payment corresponds to an at most 1.8 per cent rise in payments for many low-income working-age families with children, again below the forecast rate of inflation. The combined effect of these decisions was – as we will see in the next section – to protect the incomes of some households but not others from both inflation and increases to indirect taxes.

4. IMPACT OF MEASURES ON HOUSEHOLD INCOMES

We use SWITCH – the ESRI's tax benefit microsimulation model – and ITSim – an indirect tax microsimulation tool jointly developed by researchers at the ESRI and the Department of Finance – to assess the combined impact of taxation and welfare policy changes on households' incomes. SWITCH is run on data from the 2019 Survey of Income and Living Conditions (SILC), the primary source of information on household incomes collected annually by the CSO. The scale, depth and diversity of this survey allows it to provide an overall picture of the impact of the policy changes on Irish households, which cannot be gained from selected example cases. ITSim estimates the indirect taxes (VAT and excise duties, including carbon taxes) paid by Irish households on the basis of their reported expenditure, collected by the CSO's nationally representative Household Budget Survey (HBS) in 2015-2016.[15]

Given the substantial impact of the COVID-19 pandemic on employment, we first adjust the 2019 data in order to be representative of the 2021 population in terms of unemployment rates. A proportion of workers in each industry are assumed to have either lost their job or to have been put on the Employment Wage Subsidy Scheme (EWSS). The number of individuals to either lose their job or receive the EWSS is calibrated from publicly available data on the number of people in receipt of the Pandemic Unemployment Payment (PUP) and the EWSS. Both calibrations are done using the latest available numbers at the time of the Budget. EWSS figures

15 Incomes are uprated to 2022 levels using a variety of earnings, output and price growth indices and expenditures are uprated to 2022 levels using price growth indices.

are calibrated to August 2021[16] while PUP figures are calibrated to October 2021.[17] Both calibrations account for the industry and age breakdown of recipients of either scheme.[18]

We then use SWITCH to calculate households' social welfare entitlements, tax liabilities and net incomes under the system that will apply next year (including the changes announced in the Budget) and under a counterfactual inflation-indexed system. This increases the tax credits, bands, thresholds and welfare payments currently in place by forecast inflation of 2.2 per cent[19] between 2021 and 2022. Doing so provides a benchmark that holds welfare payments, tax credits and thresholds constant in real terms and so can be considered an 'inflation proofed' Budget (at least to the extent that inflation transpires to be no higher than forecast, a topic we return to in our conclusion).[20]

Figure 3 illustrates the impact of Budget 2022 across the distribution of household income, adjusted for family size, with the population divided into ten equally sized groups (deciles) ordered from lowest- to highest income, left-to-right. The effect of direct tax and welfare measures, indirect tax measures and changes to the National Childcare Scheme are shown separately with the total effect represented by the solid green line. Compared to an inflation-indexed system, we estimate that direct tax and benefit measures will result in small gains for most households. On average, the gain is 0.2 per cent of household disposable income but there is some variation across the income distribution.

16 COVID-19 Support Schemes Statistics Update 09 September 2021 (revenue.ie).

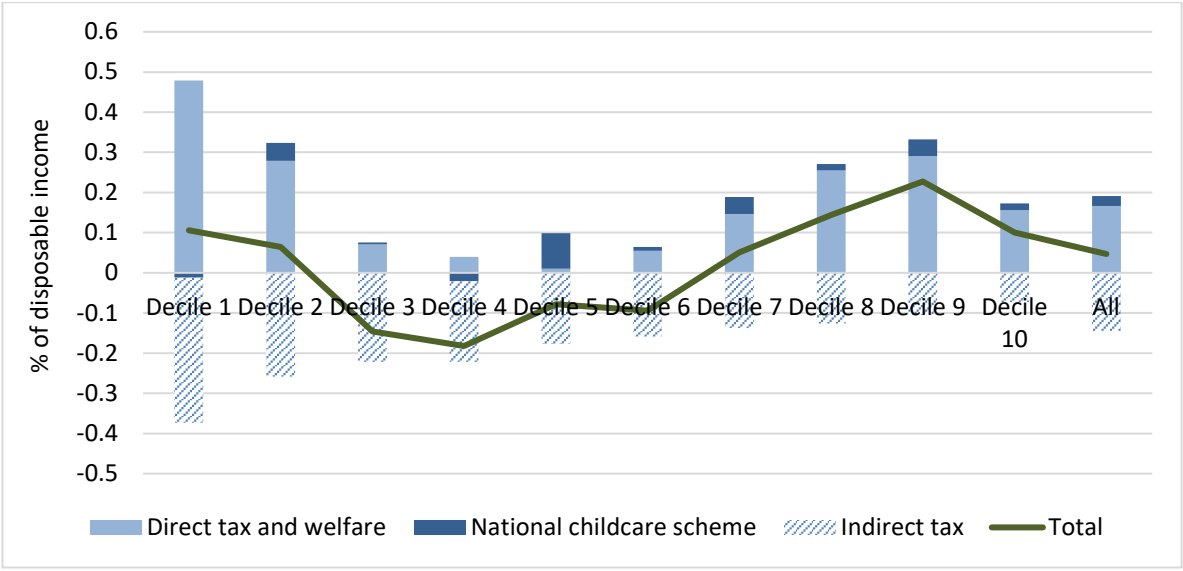
17 https://www.gov.ie/pdf/?file=https://assets.gov.ie/200907/51f7e7e4-8713-48ea-8919-4744e9b00d22.pdf#page=null

18 COVID-19 Adjusted Monthly Unemployment Estimates by Age Group, Lower and Upper Bound, Month, Statistic and Sex https://statbank.cso.ie/px/pxeirestat/Statire/SelectVarVal/Define.asp?maintable=MUM02&PLanguage=0

19 As per the Department of Finance (2021a) forecast available at the time of the Budget.

20 While these rules could alternatively be indexed by forecast wage growth to provide a more distributionally neutral benchmark, no such forecast was available given the uncertainty associated with the ongoing pandemic. See Callan et al. (2019) for a discussion of indexation options and the associated issues they raise.

FIGURE 3 DISTRIBUTIONAL EFFECT OF BUDGET 2022



Source: Authors' calculations using ITSim linked to the 2015-2016 Household Budget Survey uprated to 2022 prices, and SWITCH run on 2019 Survey of Income and Living Conditions data, uprated to 2022 income levels.
Notes: Deciles are based on equivalised household income, using CSO national equivalence scales.

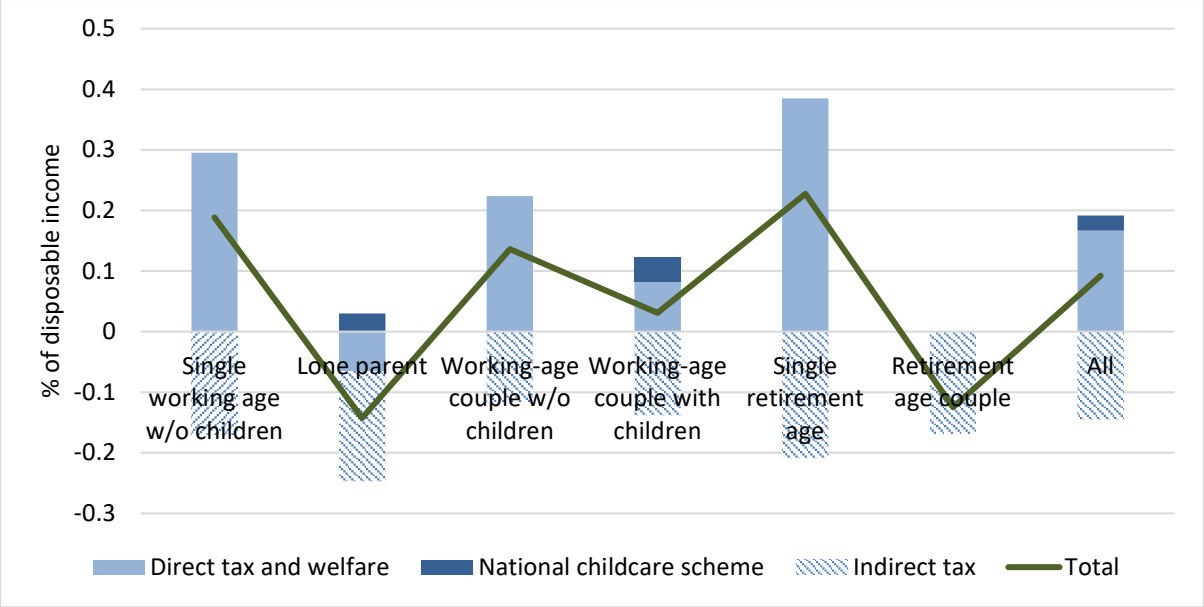
Lower income households benefit relatively more from above-inflation increases to some welfare payments. Higher income households benefit more from the increased tax band and credits. Middle income deciles, which contain many earners who do not pay tax or do not pay the top rate of tax benefit less from taxation measures. This results in a U-shaped pattern of gains with lower and higher income households gaining more than middle income households.

Compared to an inflation indexed system, indirect tax measures decrease household disposable income by 0.15 per cent on average with lower income households experiencing slightly higher income losses than higher income households. Reforms to the National Childcare Scheme result in very small changes to disposable income across the income distribution. Some deciles experience small gains as they benefit from the extension of the Universal Subsidy or increased hours of subsidised childcare. Some deciles experience small losses due to the freezing in cash terms of the income bands for eligibility to the NCS.

The overall effect of Budget 2022 compared to an inflation-indexed system is to leave average disposable incomes virtually unchanged. There are small gains on average in the lower two deciles and upper four deciles which are counteracted by small losses in the middle four deciles. As a note of caution, these estimated effects are very small as a proportion of disposable income (between -0.2 per cent and +0.2 per cent) and there is uncertainty inherent in any such summary measures. Our main take-away, therefore, is that Budget 2022 largely maintains disposable income, on average, compared to an inflation-indexed system.

Figure 4 shows the estimated effect of Budget 2022 by household type. Most households are estimated to experience small income gains, compared to price-adjusted policies. Two exceptions are lone parents and retirement age couples. In each case, direct tax and welfare measures do not fully compensate these household types for changes to indirect taxation. In each case, this can be explained by below average increase to particular benefits. Lone parents are more likely to receive child benefit, which was frozen in nominal terms, compared to other household types. This results in a real decrease in disposable income for this group. Retirement age couples experience real income losses as the contributory pension increase is below forecast inflation. This group benefits less from fuel allowance and does not receive the living alone allowance, both of which increased by more than forecast inflation, leading to income gains for single retired households.

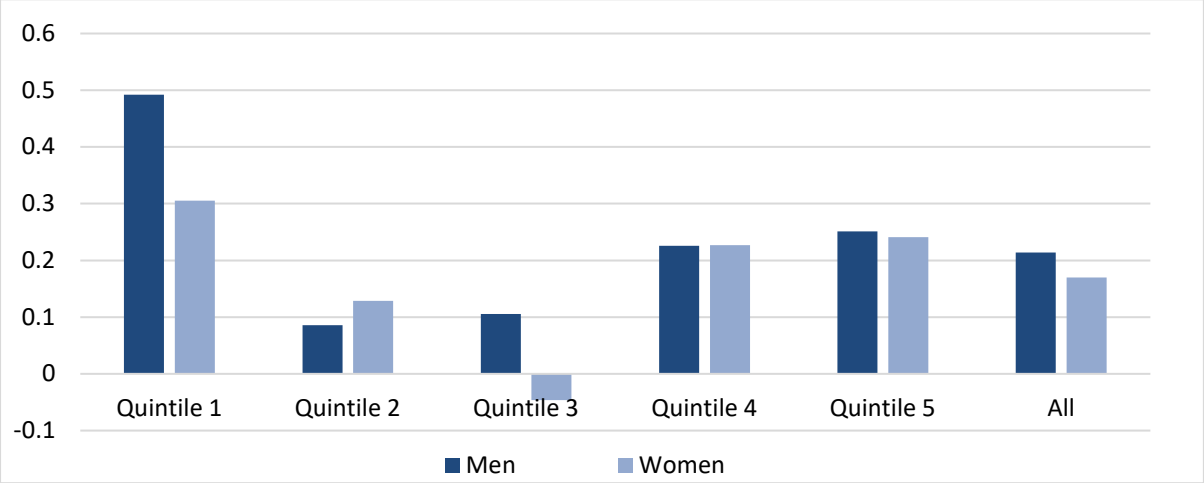
FIGURE 4 THE EFFECT OF BUDGET 2022 BY HOUSEHOLD TYPE



Source: Authors' calculations using ITSim linked to the 2015-2016 Household Budget Survey uprated to 2022 prices, and SWITCH run on 2019 Survey of Income and Living Conditions data, uprated to 2022 income levels.

Figure 5 shows the estimated effect of the direct tax and welfare measures announced in Budget 2022 by gender, under the assumption that income is split evenly between members of a couple. We estimate that, compared to a price-adjusted budget, men gain slightly more as a result of Budget 2022 than women. These differences are more pronounced in the lower half of the income distribution and reflect the fact that women are more likely than men to be lone parents and, due to lower average labour market attachment, less likely than men to benefit from increases to tax bands and credits.

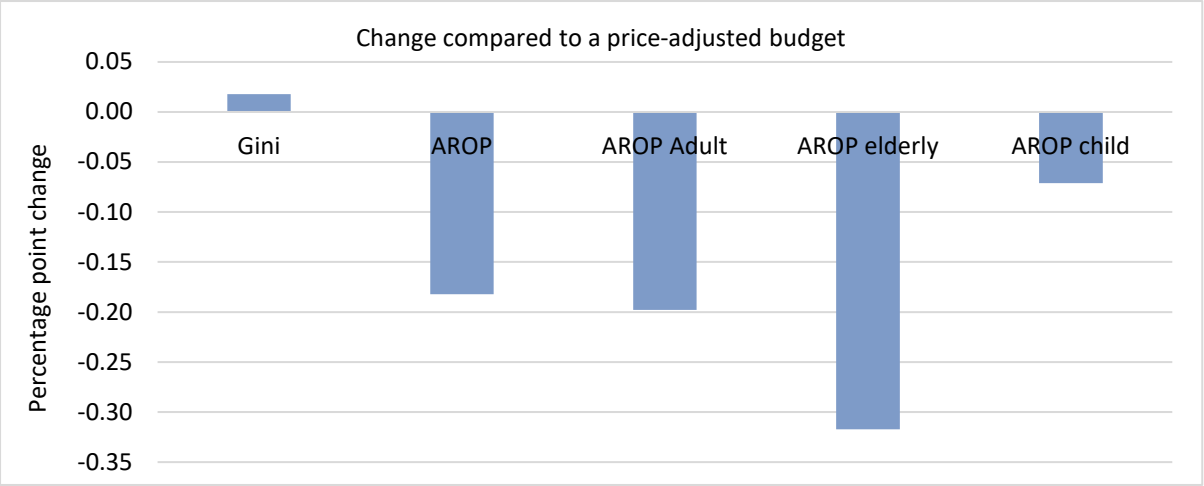
FIGURE 5 THE EFFECT OF BUDGET 2022 BY GENDER



Source: Authors' calculations using ITSim linked to the 2015-2016 Household Budget Survey uprated to 2022 prices, and SWITCH run on 2019 Survey of Income and Living Conditions data, uprated to 2022 income levels.
Note: Income is assumed to be fully shared between members of a couple.

Figure 6 shows the estimated effect of Budget 2022 on inequality and at risk of poverty (AROP) measures. Income inequality, measured by the Gini index, is stable compared to an inflation-indexed system. There are small decreases to the AROP rate, reflecting the targeted measures used to insulate lower income households from indirect tax increases. This decrease is slightly higher for elderly households, who already have a relatively low AROP rate compared to working age adults and children.

FIGURE 6 THE EFFECT OF BUDGET 2022 ON INEQUALITY AND POVERTY



Source: Authors' calculations using ITSim linked to the 2015-2016 Household Budget Survey uprated to 2022 prices, and SWITCH run on 2019 Survey of Income and Living Conditions data, uprated to 2022 income levels.
Note: The poverty rate is calculated based on a poverty line equal to 60 per cent of median equivalised disposable income. The CSO equivalence scale is used. Working age defined as aged 18-65 and children as those under age 18.

5. CONCLUSIONS

Budget 2022 contained some well-targeted reforms with clear objectives. For example, above inflation increases to the Living Alone and Qualified Child payments are effective ways to tackle poverty and to compensate low-income households for indirect tax increases. Similarly, raising tax on carbon and cars is an effective way to cut emissions.

However, our analysis reveals some inconsistencies in how tax and welfare parameters are changed. It seems unlikely that it was the Government's intention to announce some real increases and some real cuts to the main social welfare payments. Yet this was the effect of announcing the increases as an easy to communicate but undifferentiated €5 per week rise in maximum personal rates. Such increases have the effect of changing the connection between levels of payments and adequacy in an ad-hoc way that generates uncertainty for and inequality across claimants. Similarly, it's not clear why the Government chose only to raise income tax credits and bands but leave most PRSI and USC thresholds frozen in cash terms (a real tax increase).

A more coherent way to approach the setting of welfare payment rates and tax thresholds would be for a Government to set out an overarching strategy for the tax and welfare system in its first few months in office, with changes announced on Budget Day then directed at achieving this. Such an approach would provide greater certainty to households on how their incomes are likely to evolve – as well as to the public finances – by providing an indication of how much is likely to be needed in the medium-run to fund the Government's tax and welfare package.

Taken together, the tax and welfare measures announced in Budget 2022 will – on the basis of contemporaneous forecasts – compensate most households for rising prices next year. However, below inflation increases to the Working Families Payment and State Pension mean that some low-income working parents and retired couples who do not receive the Fuel Allowance will see their disposable incomes eroded by inflation, even on current forecasts. In addition, given the disruption to international supply chains and rising wholesale energy prices, it is possible that the outturn for inflation will be higher than forecast. In this case, the increases to some targeted welfare measures like the Fuel Allowance, Living Alone and Qualified Child payments may not be enough to insulate low-income households from rising prices.

There is also uncertainty around the evolving public health situation. The identification of a new – potentially more transmissible – variant of COVID-19 has led to the reintroduction of restrictions on hospitality, leisure and entertainment

activities. This raises the question of whether there is a case for expanding – or delaying the closure of – supports to affected workers and firms which had already or were due to expire in the coming months, something the Government was considering as this Article was going to print. As discussed above, determining how long to keep such supports in place is a challenging question to which there is no obvious correct answer. However, the longer such supports remain in place, the more important it is to address issues around their design. For example, Keane et al. (2021) highlight the potential for the cliff-edge withdrawal of the PUP to inhibit employees from returning to work, something which could be mitigated by allowing returning workers to retain some of their payment for a period of time. Such a reform could ease the transition to a 'new normal' for workers affected by restrictions, particularly if they face returning to work at initially reduced hours: a situation which may last longer than previously hoped or anticipated.

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APPENDIX

The SWITCH model provides a detailed and accurate representation of almost all aspects of the Irish personal tax and benefit system. It does not include taxes on businesses (like corporation tax), which are difficult to assign to individual households, or expenditure on public services, which unlike cash transfers provided through the benefit system, are conceptually difficult to assign a value to (O'Dea and Preston, 2014).

The ITSim model estimates the indirect taxes (VAT and excise duties, including carbon taxes) paid by Irish households on the basis of their reported expenditure, collected by the CSO's nationally representative HBS in 2015-2016.

The main measures we include in our analysis of Budget 2022 using SWITCH are:

DIRECT TAXES

- Increase in income tax bands and credits;
- Increase (and cash freeze) to various USC and PRSI thresholds.

INDIRECT TAXES

- Carbon tax increase;
- Tobacco tax increase;
- Cash freeze to other duties.

SOCIAL WELFARE

- Personal rate of benefits increased with proportional increases for qualified adults and children;
- Working Families Payment increase;
- Living Alone Allowance increase;
- Fuel Allowance payment and threshold increase;
- Carer's Allowance disregard increase;
- Disability Allowance earnings limit increase.

OTHER

- Extension of National Childcare Scheme (NCS) Universal Subsidy to under 15s; cash freeze to NSC thresholds and rates of payment.

Whitaker Square,
Sir John Rogerson's Quay,
Dublin 2
Telephone **+353 1 863 2000**
Email **admin@esri.ie**
Web **www.esri.ie**
Twitter **@ESRIDublin**
ISSN **0376-7191**

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