



An Roinn Airgeadais
Department of Finance

Economic Insights

Economic Statistics during Covid 19

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Department of Finance

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Executive Summary

The Covid-19 pandemic has had profound impacts on livelihoods, health systems and economies the world over. Here in Ireland we have seen three waves of infections and comparatively stringent, but necessary, lockdowns. As a result, the domestic economy suffered a sharp contraction last year. The labour market remains highly stressed having been on the economic front-line throughout the pandemic. On the other hand, the multinational sector has proven to be very resilient, particularly the pharmaceutical and computer services sectors, and likely pushed GDP into positive territory last year.

The pandemic period has also proven to be a challenging one for the compilation and interpretation of economic statistics. The speed of movement in some indicators is without precedent. Retail sales collapsed by 44 per cent in annual terms last April, the largest ever decline, pushing the household savings rate to record levels, while almost 600,000 people had been laid off from their jobs by the end of that same month. Meanwhile pharmaceutical exports surged last March, growing by 75 per cent annually to the highest monthly level on record, with strong annual growth seen to the end of the third quarter last year.

The three analytical notes within this report attempt to shed light on three topical economic developments that have arisen during the pandemic. *Firstly*, household savings are considered. The household savings rate doubled in the second quarter of 2020 - to 34 per cent of household income – with implications for household behaviour during the pandemic and beyond. How likely are households to ‘unwind’ their high savings balances and drive a consumption-led recovery once the pandemic passes, and can any lessons be taken from a past experience with high savings rates, namely the *Special Savings Incentive Accounts*. The note finds that the extent of the ‘unwind’ will depend on consumer sentiment, prospects in the labour market, and the income distribution of savers, with higher income groups likely to ‘re-save’ some of the excess savings built up during the pandemic.

Next, the phenomenon of surging pharmaceutical exports in the face of falling world trade is examined, with a deep-dive into the products that are behind this growth. While pharma exports grew by around 15 per cent in value terms over the first ten months of 2020, around two-thirds of this growth was accounted for by Covid-19 products, in particular products used in testing kits and other medicinal treatments. It is likely that at some point this year this growth will level-off, and should decline thereafter as societies develop herd-immunity following vaccine rollout.

Lastly, attention turns to the labour market, and the uncertainty around the level of unemployment. The Central Statistics Office (CSO) produces the official unemployment rate in line with International Labour Organisation rules, as well as an ad-hoc Covid-adjusted measure that includes all recipients of the Pandemic Unemployment Payment. However, neither of these measures, recorded at 7 and 17 per cent respectively in the third quarter of 2020, adequately capture events on the ground. A number of alternative CSO labour market data sources can be used to construct an alternative unemployment rate that better tallies with broader macroeconomic and labour market series. This alternative measure sat roughly mid-way between the two published measures in the third quarter of 2020 at 12 per cent.

These three notes provide insights into economic developments that have proven puzzling throughout the pandemic. A thorough understanding of these issues is essential in order to understand the macroeconomic outlook, in particular post-pandemic recovery prospects.

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¹The data and analysis set out in this document are compiled by Department of Finance staff. Every effort is made to ensure accuracy and completeness. When errors are discovered, corrections and revisions are incorporated into the digital edition available on the Department's website. Any substantive change is detailed in the online version.

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Will Household Savings Stimulate a Consumer-Led Recovery? Lessons from Special Savings Incentive Accounts²

1.1 Introduction

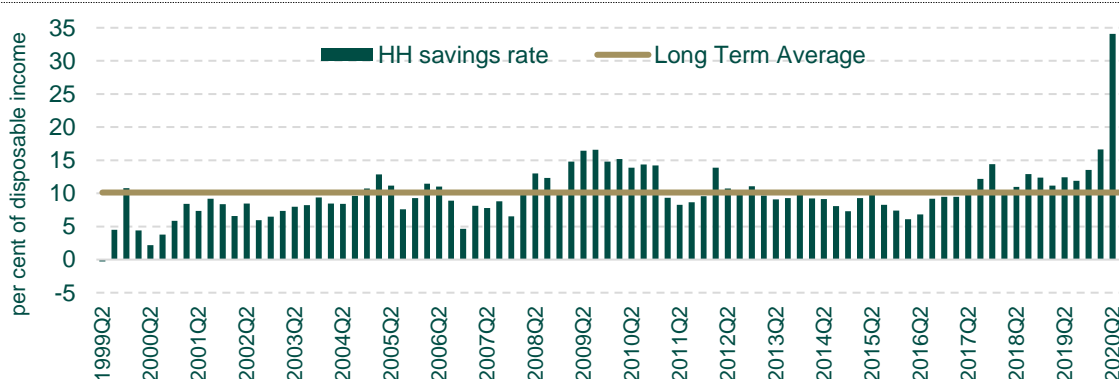
Developments in the household savings ratio are closely related to the dynamics of personal consumption and in turn the pace of economic growth. An understanding of household intentions when it comes to the building-up or unwinding of these savings is essential for policymakers. This is particularly pertinent today, given the rapid and significant increase in household savings prompted by the outbreak of the Covid-19 pandemic in the first quarter of 2020 and the resulting containment measures introduced to suppress the virus.

1.2 Developments in household savings

The household savings rate is that part of household after-tax income that is not spent on goods and services. Both cyclical and structural factors can drive changes in the household savings rate. In periods of heightened economic uncertainty, households may choose to temporarily increase the share of disposable income they save for precautionary reasons. By contrast, in periods of low uncertainty, households may choose to unwind savings in response to negative income shocks in order to smooth consumption over time. On the other hand, macro-prudential lending rules that increase the deposit required by households to obtain a mortgage could result in a structural increase in the savings rate.

The household savings ratio rose from 17 per cent of disposable income in the first quarter of 2020 to 34 per cent in the second quarter. This is the highest rate on record and is well above the long-term average of 10 per cent (see Figure 1). The savings rate was about 5-10 percentage points above that in the US, UK and euro area where record levels of savings (ratios of 26, 29 and 25 per cent respectively) were also recorded in the second quarter. While the household savings rate declined to around 20 per cent in the third quarter, it remains well above the long-term average.

Figure 1: Household savings ratio

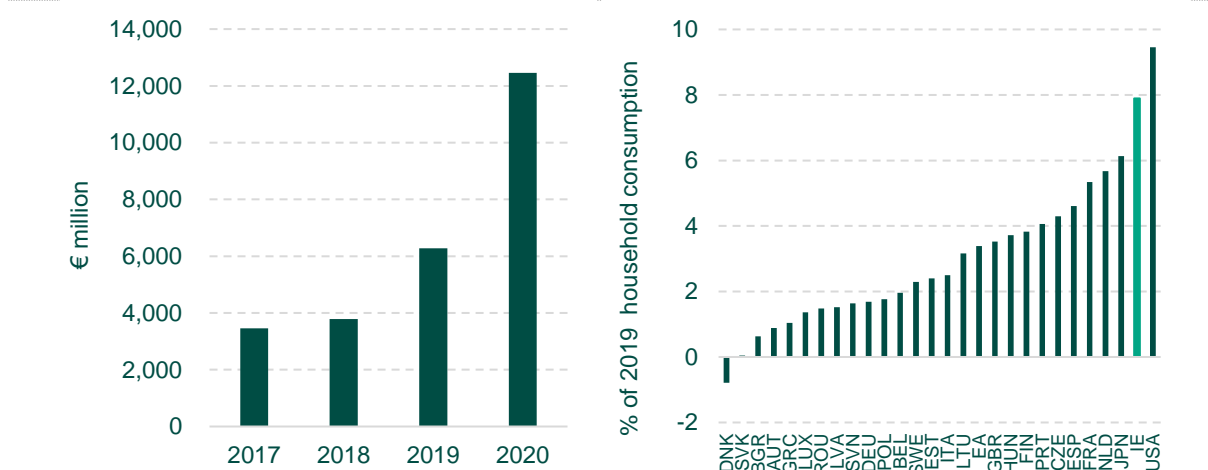


Source: CSO and Department of Finance calculations

² This note was prepared by Eimear Flynn, an economist in the Economics Division of the Department of Finance. The analysis and views set out are those of the author only and do not necessarily reflect the views of the Department of Finance or the Minister for Finance. The author would like to thank Luke Daly and Ruth Lennon for providing data. The author would also like to thank John Harnett and Brendan O'Connor for their input and guidance. Any outstanding errors or omissions remain those of the author.

This increase in the household savings ratio in the second quarter was also reflected in a substantial rise in household deposits at commercial banks, which increased by over €12 billion between December 2019 and October 2020, almost twice the change seen over the same period in 2019 (see Figure 2a). Household net worth has also risen as a result and reached €817 billion in the second quarter, the highest level on record.

Figure 2: a) Change in household deposits Dec-Oct b) Excess household deposits Sept/Oct 2020



Note: Excess deposits are calculated as the difference between September 2020 level of deposits and the level implied by the average percentage change over the past five years (December to September) applied to the 2019 level. The IE figure is the equivalent calculation for October 2020.

Source: a) Central Bank of Ireland b) OECD Economic Outlook and Department of Finance calculations

However, there remains considerable uncertainty about how households might use these savings after the pandemic. On the one hand, households could unwind the accumulated savings and stimulate a consumption-led recovery once the pandemic is over. Indeed the “excess” household deposits (above recent norms) in October amounted to around 8 per cent of total household consumption in 2019 (see Figure 2b). However, the impact of any increase in consumer spending on GDP could be more limited given the proportion of the consumption basket that is imported. On the other hand, it is also possible that households could choose to invest or ‘re-save’ their savings, particularly higher-income groups.

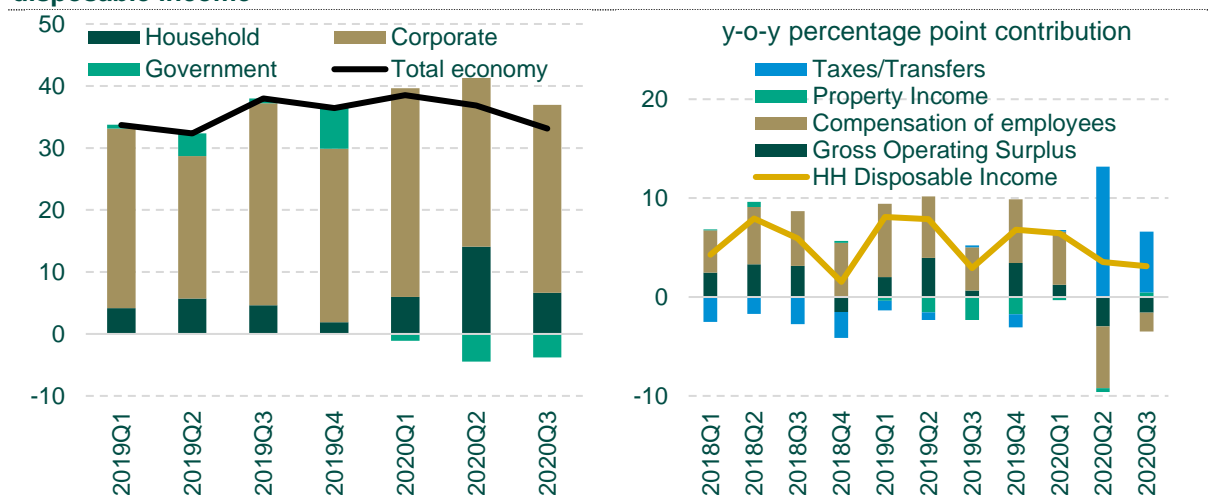
While the sharp increase in the household savings rate in the second quarter of 2020 was unprecedented, household savings have already been elevated in recent years. The household savings ratio has exceeded its long-term average since 2017 (see Figure 1). Despite strong economic growth and a labour market approaching full employment in these years, economic uncertainty due to Brexit and rising geopolitical tensions may have seen households build up precautionary savings.³ Macro-prudential policies such as those requiring high deposits may also have contributed to the increase in household savings over the same period.

By contrast, the increase in the household savings rate during the pandemic was, in part, financed by an increase in net liabilities of the general government sector via a flow-of-funds between institutional sectors of the economy (the Government deficit increased to support household incomes – see Figure 3a). Although many households suffered an income shock due to the Covid-19 restrictions, Government

³ Heffernan, Saupe and Woods (2020), [Investigating household deposits during Covid-19](#), Central Bank of Ireland

supports such as the *Pandemic Unemployment Payment* and the *Temporary Wage Subsidy Scheme* helped to offset these income losses (see Figure 3b). As a result, household gross disposable income was largely unchanged in the second quarter, remaining close to its first quarter level of around €31 billion, and rose by around 1.1 billion (or 3.5 per cent) year-on-year. Gross disposable income remained around this level in the third quarter as government supports continued to support household incomes.

Figure 3: a) Sectoral contribution to total savings (share of GDP) b) Change in household disposable income



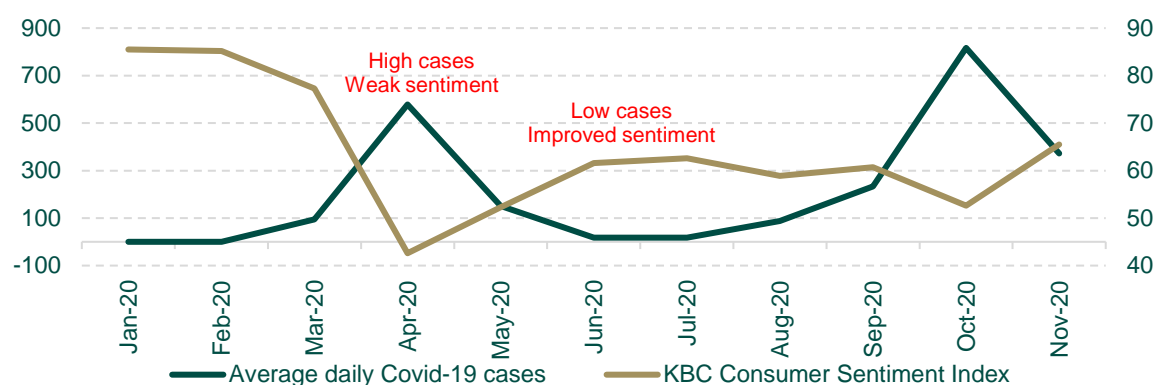
Source: CSO

In contrast to the stability in household incomes, consumer spending contracted by about one fifth in the second quarter of 2020. The closure of many retail and service sector outlets during the second quarter meant that households simply could not consume, thus generating ‘involuntary savings’. Households likely also responded to heightened economic uncertainty by building up precautionary (or ‘voluntary’) savings.

This situation was, in part, reversed in the third quarter with the re-opening of the economy and the release of pent-up demand boosting consumption of goods, though services activity remained below pre-pandemic levels, particularly for hospitality and other close-contact activities. As a result, the household savings rate declined to around 20 per cent in the third quarter. While the ‘involuntary savings’ may have unwound somewhat, ‘voluntary’ savings could however persist for some time and will depend on the trajectory of the virus, (and the likelihood of further lockdowns). Indeed, the rebound in consumer sentiment seen in November was a result of the downward trend in the number of Covid-19 cases at that time (see Figure 4). On the other hand, if consumers price in the possibility of further lockdowns, households could opt to maintain their precautionary savings for a prolonged period.

This unprecedented increase in savings gives rise to an important question regarding how households are likely to use these savings once the pandemic is over. It is possible that households could choose to spend their ‘excess savings’, however, a scenario in which households opt to maintain the additional savings built up during the pandemic is also imaginable.

Figure 4: Average daily Covid-19 cases and consumer sentiment



Source: European Centre for Disease Prevention and Control and KBC

1.3 Special Savings Incentive Accounts: Evidence from 2001-2007

Past policy experiences may be able to shed light on this question - specifically, Ireland's experience with *Special Saving Incentive Accounts* (SSIA), a five year savings scheme introduced in 2001 to incentivise household saving. As part of the scheme, the Exchequer topped up savings in SSIA's by 25 per cent of the amount saved each month over a five-year period. The scheme, which was open between May 2001 and April 2002, attracted around 1.1 million subscribers and saw the accumulation of an estimated €16 billion in savings,⁴ with funds maturing between May 2006 and April 2007.

There is unlikely to be a single event that triggers the release of the savings built up by households during the pandemic, as was the case with the fixed maturity of the SSIA scheme. However, it is possible that the easing of restrictions when the crisis is over could see households make a decision about how to use these savings, similar to that faced by households at the end of the SSIA scheme. It is therefore worth asking whether the desired increase in household savings in the years the SSIA scheme was in place and subsequent behaviour once SSIA policies matured can offer insights into what might happen with today's excess savings.

Looking at household savings over this time period (see Figure 5a), the scheme appears to have achieved its objective. Household savings increased in the years following the scheme's introduction and were unwound as SSIA's matured.⁵ Over the period 2001-2005 the household savings rate rose from 8 to 10 per cent. This was followed by an unwinding of savings between 2006 and 2007, with the savings ratio falling just below its 2001 level of around 8 per cent.

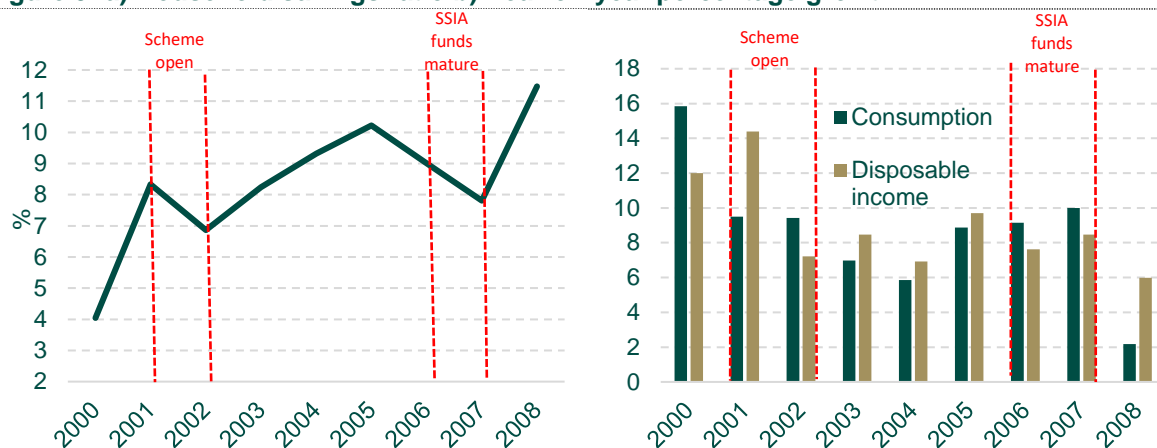
However, other factors may also have been at play. Modest softening in the labour market and declining consumer sentiment between 2001 and 2003, a period coinciding with the bursting of the dot-com bubble, may have seen households reduce spending and build up some precautionary savings. Furthermore, households were investing heavily in the housing market over this period and house prices were rising rapidly. This may have seen prospective buyers build up savings either for a deposit or to

⁴ Central Bank of Ireland (2006), Quarterly Bulletin 3 2006

⁵ The savings rate increased each year between 2001 and 2005, with the exception of 2002. However, the Central Bank (Quarterly Bulletin 3 2006) notes that given the low interest rates at the time, the decline in household savings rate could have been greater in the absence of the scheme.

make mortgage repayments. Thus, while the introduction of SSIA's can perhaps explain part of the increase in household savings during this period, it is unlikely to have been the sole driver of this increase.

Figure 5: a) Household savings ratio b) Year-on-year percentage growth



Source: CSO and Department of Finance calculations

Nevertheless, as the scheme matured consumption growth picked up despite a slowdown in disposable income growth. This pattern marked a reversal of the trend seen in the preceding years, whereby disposable income growth outpaced consumption growth, and suggests that households unwound savings to smooth consumption as SSIA's matured.

Survey data can provide further insight into how households intended to use the elevated levels of savings that resulted from the SSIA's. The CSO included an SSIA module in the Quarterly National Household Survey in the fourth quarter of 2005 that asked respondents how they intended to use their SSIA savings. SSIA holders indicated that they would spend approximately one third on 'consumer items', including home improvements, cars and foreign holidays, around 10 per cent on debt repayments and commit almost half to 'savings, investments or pensions' (see Figure 6).^{6 7}

The latter point is extremely pertinent today given that the savings accumulated during the current pandemic likely accrued to higher-income households with higher marginal propensities to save as evidenced by resilient income tax receipts and the experience of both the UK and the US.⁸ Additionally, Covid-19 restrictions constrained the spending of higher-income households to a greater extent – according to the OECD these households tend to spend a greater proportion of their income on services (such as international travel, restaurants and cultural events) - thereby giving them greater scope to

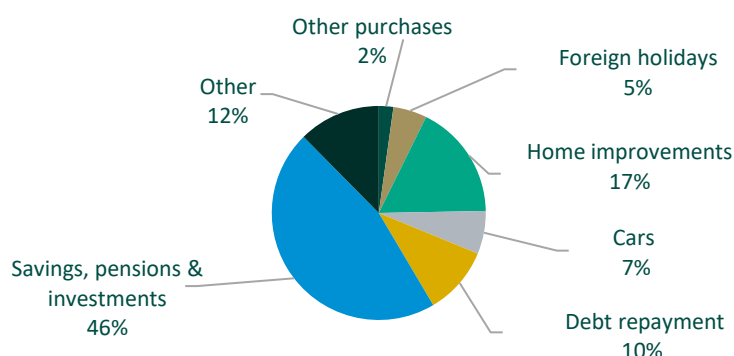
⁶ The data reflects the intentions of those who had either 'a clear idea' or 'some idea' about how they would use their savings - approximately 60 per cent of the sample

⁷ Spending intentions during the SSIA period are broadly in line with the intentions of savers today. Evidence from the CSO's Social Impact of Covid-19 Survey from June 2020 indicates that households intend to spend at least part of the additional savings built up since the start of the pandemic on home and garden improvements, holidays and cars as well as debt repayment. However, around 1/2 of those with additional savings intended to save at least some of these funds going forward.

⁸ See Andy Haldane (2020), [Second Quarter](#), Chart 12; ONS (2020), [Coronavirus and its impact on the UK institutional sector accounts Q2 2020](#), Section 4.4; Resolution Foundation (2020), [Caught in a \(Covid\) Trap: Incomes, savings and spending through the coronavirus crisis](#).

increase their savings.⁹ It is therefore highly plausible that a significant proportion of today's savings could be invested (or 're-saved') once the current crisis is over.

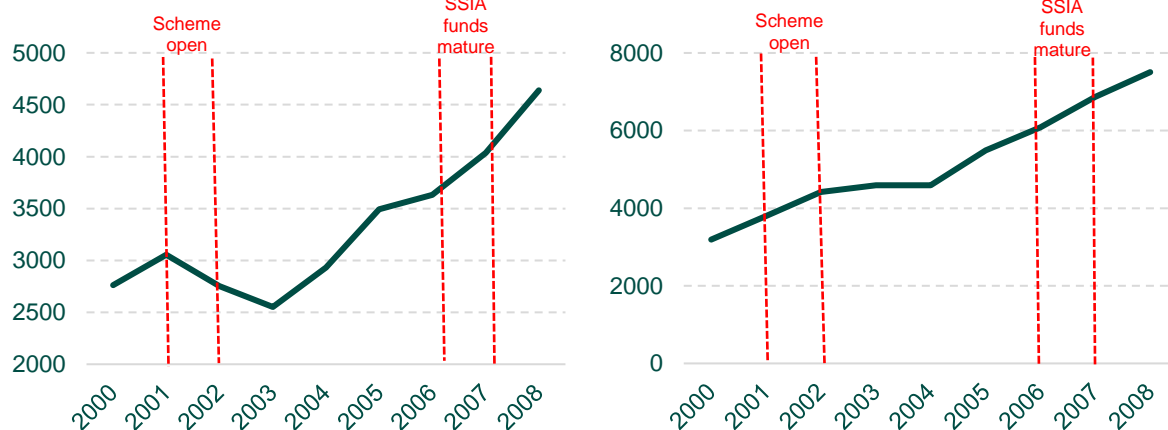
Figure 6: Share of SSIA funds by intended use



Source: CSO, Quarterly National Household Survey Special Saving Incentive Accounts Quarter 4 2005

Despite the intentions revealed by the CSO's survey, evidence of such behaviour upon maturity of SSIA's is mixed in outturn data. In the case of home improvements (see Figure 7a), there appears to be some evidence of an increase in the growth rate during the period in which SSIA funds matured. While a similar 'inflection' is not seen for expenditure outside the state (a proxy for spending on foreign holidays), the otherwise steady increase in this series indicates that households may have used their savings to maintain consumption of foreign holidays in the face of a slowdown in disposable income growth that occurred at the same time.

Figure 7: a) Improvements b) Expenditure outside the state, EUR '000



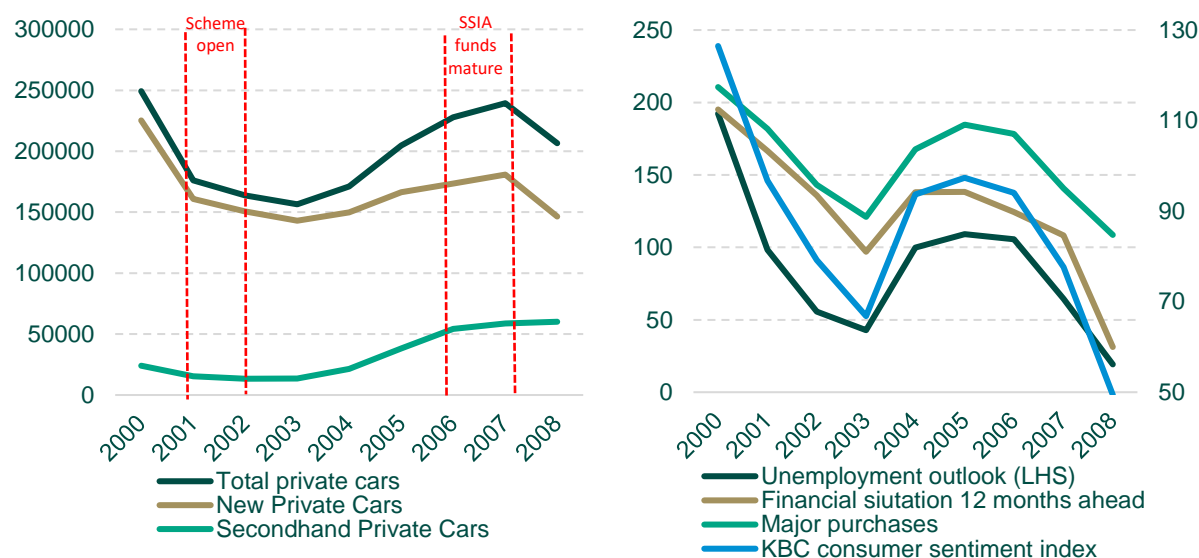
Source: CSO

Although vehicle licensing numbers increased between 2004 and 2007, the rate of growth in the number of private cars licensed for the first time actually slowed in 2006 and 2007, before contracting sharply in 2008 (see Figure 8a). This moderation in the growth rate of vehicle licensing numbers around the time that SSIA's matured may however be explained by a deterioration in consumer sentiment - in

⁹ OECD (2020), Economic Outlook

particular in KBC's major purchases and unemployment outlook indices - which declined from 2006 (see Figure 8b). Consumer perceptions of their personal finances over the next year also declined at this time. Thus, while it is possible that the end of the SSIA scheme stimulated some additional spending on cars, as suggested by the CSO survey data, this deterioration in consumer sentiment would likely have had the opposite effect, thereby dampening any impact of the scheme.

Figure 8: a) Private cars licensed for the first time b) KBC Consumer Sentiment Index



Source: a) CSO b) KBC

The end of the SSIA scheme coincided with a housing market boom that was beginning to show signs of unwinding. As such, it is possible that the savings accumulated during the pandemic could simply flow into the housing market, especially given that these savings likely accrued to higher-income households who are more likely to be homebuyers. Indeed, the findings of a survey undertaken by MyHome.ie at the end of November indicate that the majority of prospective homebuyers have not been affected by the economic impact of the pandemic. Almost 60 per cent of those surveyed have been able to save more for a deposit since the beginning of the pandemic, and nearly three quarters of respondents intend to purchase a property in the next year.

1.4 Conclusion

At an aggregate level, the data appears to suggest that SSIA facilitated increased household savings in the years the scheme was in place and allowed consumers to smooth consumption as funds matured. Survey data provides further evidence to suggest that the SSIA could have acted to boost consumption, in particular spending on cars, holidays and home improvements.

However, a surge in spending in these areas is not immediately identifiable in the data. Given the observed decline in disposable income growth at the time SSIA matured, it could be that households used their savings to maintain certain spending, including on foreign holidays, but postponed spending on big-ticket items in light of the deterioration in consumer confidence.

While it is important not to over-interpret the evidence from the SSIA scheme in terms of its relevance to the current crisis, these findings can shed light on how consumers might behave once the pandemic is over. It seems likely that households will divide the savings accumulated since the beginning of the pandemic between consumption and investment (or 're-savings'). The proportion that is consumed will depend on the income distribution of 'pandemic savers' and on consumer sentiment, in particular consumer perceptions of both their personal financial situation and labour market prospects.

Whilst an unwinding would stimulate spending and support the economic recovery, the GDP impact of this increase in consumption could be limited, given the open nature of the Irish economy and the share of the consumption basket that is imported. Furthermore, any consumption-led boost to GDP growth from an unwinding of household savings following the easing of public health restrictions is likely to be offset by a simultaneous de-leveraging of the government sector, as public finances are restored to a more sustainable position.

Chapter 2

Covid-19 Impact on Irish Pharmaceutical Exports¹⁰

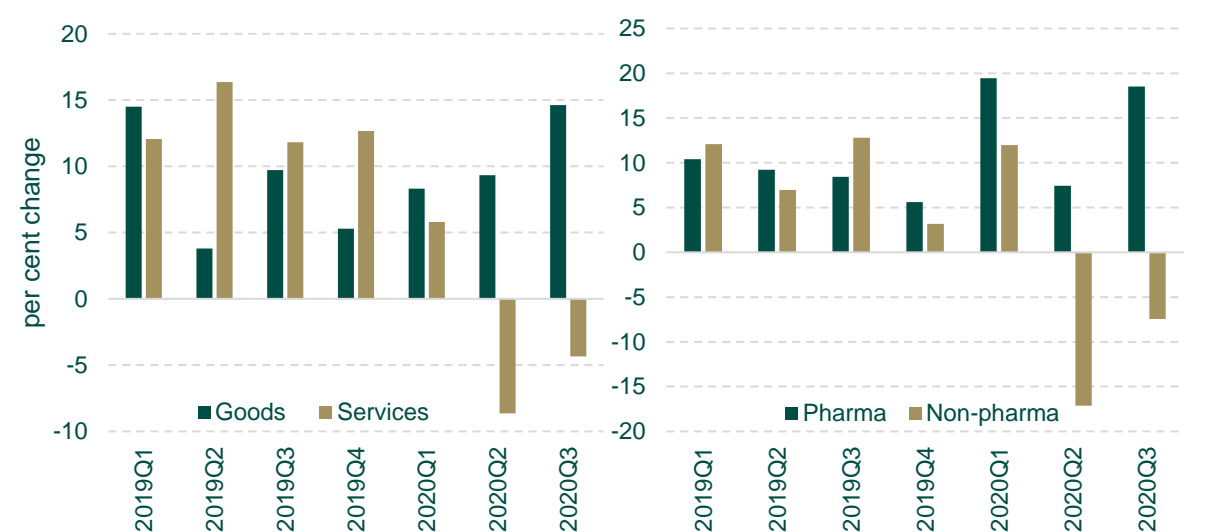
2.1 Introduction

The outbreak of the pandemic has had a detrimental effect on parts of the Irish economy while at the same time causing a sharp slow-down in world trade. However, Irish exports have remained remarkably resilient. The strong export performance has cushioned the impact of the pandemic on GDP growth and supported corporate profitability and corporation tax receipts. Over the first three quarters of 2020 modified net exports grew by 14 per cent, while modified domestic demand – a proxy for the domestic economy – fell by 6.3 percent.

2.2 Developments in trade in 2020

World trade volumes have been declining significantly in 2020, and world trade momentum (change in world trade volume since previous three months) fell consistently in the first half of 2020 reaching a trough of -12 per cent in June. There was a rebound in Q3 with world trade increasing by 13 per cent (quarter-on-quarter) and the world trade momentum increasing by 13 per cent in September¹¹. Irish exports on the other hand have performed well throughout 2020. In the first three quarters of the year goods exports increased by 11 per cent, whilst services decreased by 3 per cent.

Figure 9: growth in a) goods and services exports b) pharma and non-pharma goods exports



Note: National accounts data is in constant prices, which also includes contract manufacturing (lhs chart). Goods export data is from the external trade publications (rhs chart).

Source: CSO

On the goods side, the pharma sector in particular has seen continued strong export growth throughout the year, up 15 per cent over the first three quarters in value terms, and by 75 per cent in March alone,

¹⁰ This note was prepared by Martin Erskine, an economist in the Economics Division of the Department of Finance. The analysis and views set out are those of the author only and do not necessarily reflect the views of the Department of Finance or the Minister for Finance. The author would like to thank Ruth Lennon and the external trade section in the CSO for providing data and useful information. The author would also like to thank Cliona McDonnell and Brendan O'Connor for helpful comments. Any outstanding errors or omissions remain those of the author.

¹¹ CPB World trade monitor, available at: <https://www.cpb.nl/en/worldtrademonitor>

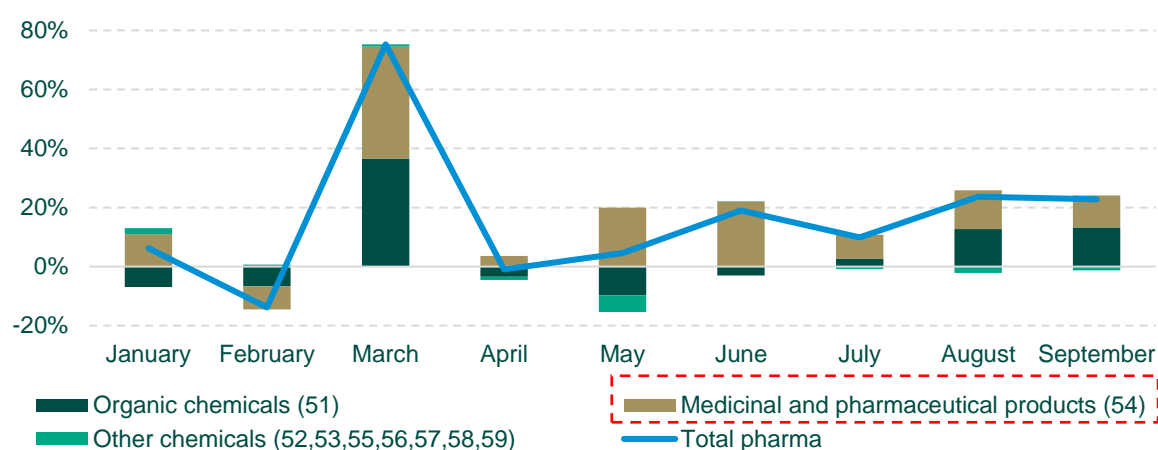
the single largest monthly figure on record. In October the value of exports decreased by 15 per cent, driven by a 16 per cent fall (year-on-year) in pharma exports, however as was seen in February and March 2020, monthly exports can be highly volatile. In year-to-date terms (January to October 2020), pharma export growth remains strong at 12 per cent.

The destination of these pharma exports is primarily the EU (46 per cent) and the US (38 per cent). Indeed pharma has been the main driver of Ireland's export performance, as other (non-pharma) goods exports have decreased by -4.5 per cent over the same period. Understanding what is behind this pharma growth is important to understand the sustainability of these exports, including whether Covid-19 related exports have been a factor.

2.3 Breakdown of pharmaceutical sector exports in 2020

The majority of the pharmaceutical export growth has come from the "Medicinal and pharmaceutical products" (SITC 54) commodity group, with this subsector increasing by 24 per cent. In 2019, this subsector, typically comprised of final products, represented just over half of all pharma-chem exports. Although there was a spike in organic chemicals (SITC 51), which are typically comprised of ingredients used as intermediate inputs, in March 2020, it has otherwise seen modest growth (compared to medicines) and is up just under 10 per cent in the first three quarters. Imports of these products, have also grown rapidly (83 per cent) in 2020 and contributed around 90 per cent of the nearly 25 per cent growth in overall pharma imports. However, the much larger level of pharma exports relative to pharma imports meant that significant value-added increases were seen in 2020 in the sector.

Figure 10: Contributions to total pharma exports



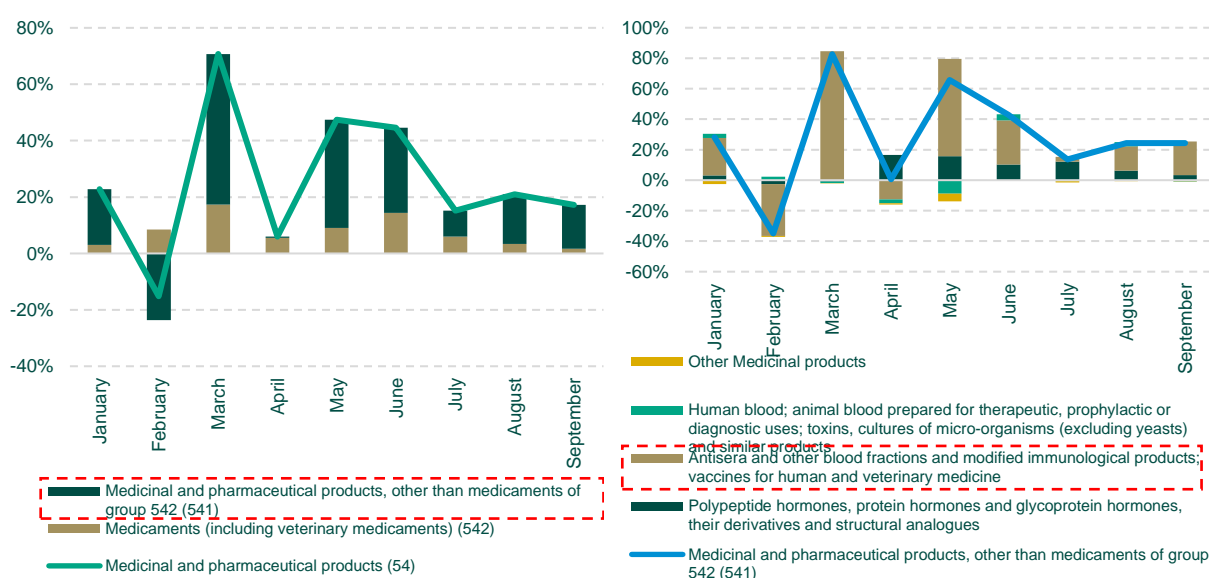
Source: CSO

Within the Medicines group (sector 54), Medicinal and Pharmaceutical Products Other than Medicaments of Group 542 - (SITC 541), contributed most of the growth (Figure 11a). This group accounted for almost 70 per cent of Medicines in 2019, with the main contributor being "Antisera and other blood fractions and modified immunological products; vaccines for human and veterinary medicine" (see figure 11b).

Antisera are blood serums which contains specific antibodies against an infective organism. During the pandemic, research and trials have been carried out in the US and EU using antibodies from recovered Covid-19 patients to treat critically ill patients (convalescent plasma therapy).¹²¹³

This subsector (SITC 541) alone contributed 40 per cent of the total pharma-chem growth in March, but it is noticeable that these exports fell sharply in February year-on-year. Part of the explanation for the growth in pharma-chem in March may thus have been a delay from February. There was also substantial growth in “Polypeptide hormones, protein hormones and glycoprotein hormones, their derivatives and structural analogues” post-March 2020, increasing by 210 per cent in the first three quarters. Insulin is an example of a peptide hormone.

Figure 11: Contributions to medicinal and pharmaceutical products a) 54 b) 541



Source: CSO

2.4 Covid-19 impact on pharmaceutical sector exports

A breakdown of pharma-chem exports into Covid related and non-Covid related products is examined using Eurostat data.¹⁴ Exports of Covid-19 related pharmaceutical products contributed around two-thirds of the pharma-chem export growth seen thus far in 2020. These exports have increased by approx. €5.1bn (18 per cent) in 2020 (first three quarters). It is worth noting that these products are not necessarily newly created specifically for Covid, and include existing products that can be used for Covid related purposes (e.g. treatment, sterilisations, testing, diagnosis).

In March, when Ireland's pharma exports spiked significantly, other pharma exports, i.e. non-Covid related products, contributed more to the growth than Covid-19 related pharma exports. This could be

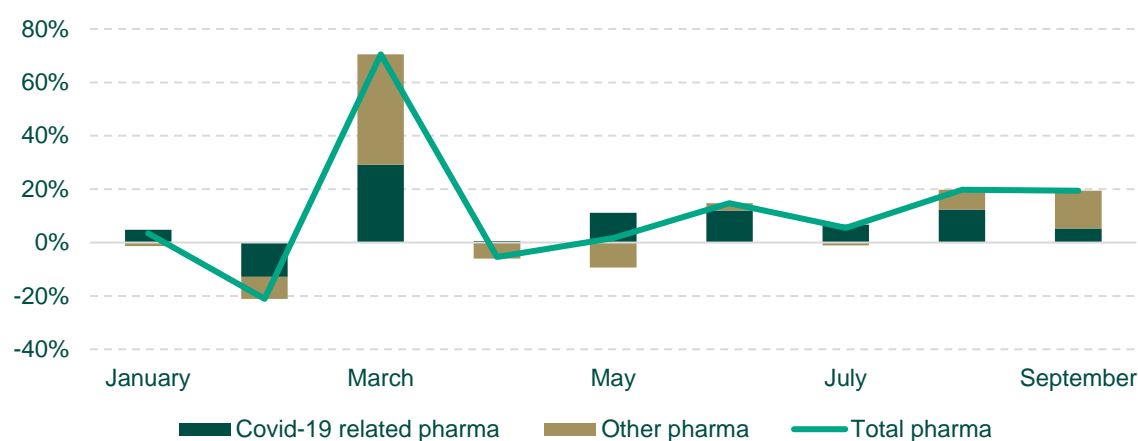
¹² https://ec.europa.eu/info/news/commission-supports-crucial-research-convalescent-plasma-treat-covid-19-2020-sep-11_en

¹³ <https://www.fda.gov/vaccines-blood-biologics/investigational-new-drug-ind-or-device-exemption-ide-process-cber/recommendations-investigational-covid-19-convalescent-plasma>

¹⁴ Eurostat have published a dataset called “EU trade since 2015 of COVID-19 medical supplies”. Within this dataset, we have identified the value of medical supplies exported that are in the Chemicals and related products (SITC 5) commodity group.

as a result of the stockpiling of general medications in fear of major supply chain disruptions, but it could also be due to large public demand for pharmaceutical products to prepare for any illness the pandemic might bring (uncertainty was particularly high at the outset of the pandemic). For the remainder of 2020, pharma export growth has largely been driven by Covid-19 related exports.

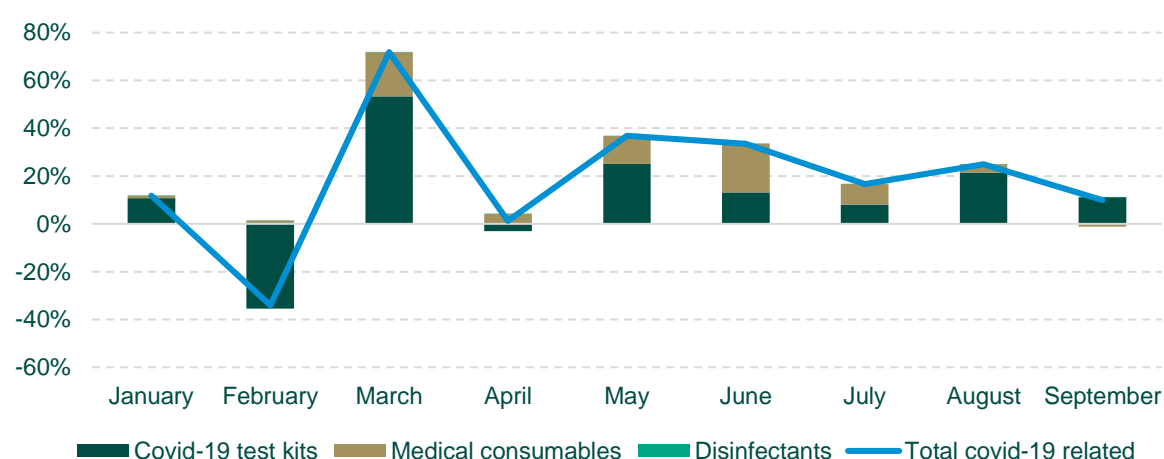
Figure 12: Covid-19 related and non-Covid-19 related contributions to total pharma exports



Source: Eurostat and Department of Finance calculations

The Covid related pharma exports can be divided into three categories: 'Medical consumables', 'Covid-19 testing kits/instruments and apparatus used in diagnostic testing', and 'Disinfectants and sterilization products'. Figure 13 shows that pharma-chem products related to Covid-19 testing kits have contributed the most to the total Covid-related pharma growth in 2020. Immunological products are the main contributors to this category, which corresponds back to the findings presented in Figure 11. Exports of 'Disinfectants and sterilization products' have increased by 72 per cent (€17m) in 2020, although its contribution to total pharma-growth in 2020 is negligible.

Figure 13: Contributions to Covid-19 related exports



Note: Adjustments were made to both medical consumables and Disinfectants and sterilization products as the two categories also contain non-pharma exports in the dataset. Exports of e.g. syringes had to be subtracted from medical consumables and a number of non-pharma related products were subtracted from the Disinfectants and sterilization products.

Source: Eurostat and Department of Finance calculations

2.5 Conclusion

Pharma-chem growth has outperformed all other goods exports in 2020 and cushioned the overall GDP impact, which masked a very sharp hit to the domestic economy. During the global pandemic, one might expect an increased demand for medical supplies. The data shows that the pandemic has indeed boosted exports of pharmaceutical and medicinal products, primarily driven by goods used in direct response to the Covid-19 pandemic, rather than medical products more generally. The Covid-19 related exports have grown somewhat consistently since March, and are likely to continue as the second wave of the pandemic has affected a large number of countries this winter, especially across Europe. However, the rapid growth in pharma-chem exports seen in 2020 may not be sustainable in the long-run due to this very large contribution of Covid-19 related pharma exports. Growth from Covid-19 products should level off at some point this year and an unwinding of the extraordinary export volumes a possibility as the pandemic subsides.

Chapter 3

Ireland's Unemployment Rate and COVID-19 Disruption¹⁵

3.1 Introduction

The impact of the COVID-19 pandemic on Ireland's labour market in 2020 has clearly been severe. Government will soon be required to make far-reaching decisions on medium-term economic strategy in order to drive recovery in employment and incomes and ensure that the public finances return to sustainability. Issues that hinder understanding of the existing situation make these decisions much more challenging. The number of people in Ireland who are at work as well as those who have lost a job as a result of the pandemic are key metrics that will determine the course of policy over the next several years.

However, the onset of the pandemic has created major challenges for Ireland's labour market statistics. Neither the official measure of unemployment nor the CSO COVID-adjusted unemployment series (7 and 17 per cent respectively in the third quarter of 2020) fully capture developments on the ground.¹⁶ It is vital to have a clear picture of the scale of the unemployment challenge currently facing the economy. This note uses alternative CSO data to piece together an alternative indicator for employment that better tallies with other labour market and broader macroeconomic indicators, as well as one for unemployment that sat roughly mid-way between the two published measures in Q3 2020.

3.2 Ireland's labour market and unemployment

The Labour Force Survey (LFS) is the official source of labour market statistics for Ireland, including the official measures of employment and unemployment. LFS results covering the pandemic show an annual fall in total employment of -3.4 per cent in the second quarter of 2020, and -1.4 per cent in the third quarter. The seasonally adjusted unemployment rate, as measured by the LFS, stood at 4.9 per cent in Q2 2020 – unchanged compared with the pre-pandemic situation – rising to 6.7 per cent in Q3. These figures contrast with the profile of total claimants for the Pandemic Unemployment Payment (PUP), which peaked at 602,000 in the first week of May 2020 before declining over the summer months to a low of 206,000 in early October. The standard headline measures of labour market performance clearly do not capture the situation 'on the ground' in Ireland's labour market.

The Central Statistics Office (CSO) has acknowledged the problems posed by the way that the existing measures capture what is occurring in the labour market during the pandemic.¹⁷ Respondents to the LFS are classified into three categories - employed, unemployed or economically inactive - based on International Labour Organisation (ILO) concepts and definitions, the internationally agreed standards. The ILO economic status of respondents to the LFS is determined by their specific responses to survey

¹⁵ This note was prepared by Kevin Threadgold, an economist in the Economics Division of the Department of Finance. The analysis and views set out are those of the author only and do not necessarily reflect the views of the Department of Finance or the Minister for Finance. The author would like to thank Mike Fahy and Brendan O'Connor for their input and guidance. The author would also like to thank Edel Flannery and Jim Dalton at the CSO for providing additional data and helpful feedback. Any outstanding errors or omissions remain those of the author.

¹⁶ As discussed below, these measures are considered to be lower and upper bounds respectively of the 'underlying' unemployment rate.

¹⁷ See releases, information and technical notes available at <https://www.cso.ie/en/releasesandpublications/ep/p-covid19/covid-19informationhub/labourmarket/>

questions asked in a prescribed pattern, and not by their own perception of their labour market situation (although this is reported under Principal Economic Status, a separate part of the LFS).

Respondents (aged 15 years and over) are classified as **employed** if they:

- worked for at least one hour for pay or profit in the week before the survey; or,
- were not at work in the week before the survey but had a job or business from which they were temporarily absent (i.e. they expect to return to their job within 3 months)
- were away from their job but continue to be paid at least 50 per cent of their salary by their employer.

Respondents are classified as **unemployed** if they are:

- aged 15 to 74
- not employed as defined above; and,
- available for work within the two weeks following the reference week; and,
- actively seeking work, i.e. had taken specific steps to seek work in the four-week period ending with the reference week; or,
- due to start a new job within three months of the reference week.

The **labour force** is the population who are either employed or unemployed. All persons who do not meet these criteria are classified as economically **inactive** (outside the labour force).

3.3 Impact of Covid-19 income support schemes

The extent of income and employment support schemes introduced by the Government in 2020 to combat the impact of the pandemic has been truly unprecedented. At peak in early May, there were around 1.1 million people reliant on the PUP,¹⁸ the Temporary Wage Subsidy Scheme (TWSS) or the traditional Live Register to support their income – close to half the labour force. Determining the ILO labour market status of persons on these schemes is not straightforward.

Persons in receipt of the **PUP** may be sorted into any of the three ILO categories, depending on the way in which they answer the questions posed by the LFS. In particular, PUP recipients who are away from a job that they expect to return to within three months are classified as 'employed'. It is likely that many people on the PUP at the start of the pandemic in the spring genuinely believed that they would return to their jobs relatively quickly. We now know that this was not necessarily the case.

Table 1 below illustrates how these issues played out in Q2 and Q3 2020. In the second quarter, only 5 per cent of LFS respondents who were in receipt of the PUP met the ILO definition of being unemployed, with 7 out of every 10 being classified as employed and ¼ as inactive. In other words, the vast majority of PUP recipients thought that they would return to work within 3 months while of the remainder, only a small proportion satisfied the tests to be classified as unemployed. In the context of a comparatively stringent lockdown, many of these would not have been actively seeking or available for work at that time and were hence treated as inactive.

¹⁸ CSO total excluding overlaps between income support schemes. Total including overlaps between the schemes peaked at just over 1.2 million.

By Q3 2020, while the proportion classified as inactive stayed at approximately ¼, the proportion counted as unemployed had risen to 15 per cent - a 10 percentage point increase - with a corresponding fall in those counted as employed. These increases were broadly mirrored in the Principal Economic Status (PES) measure, which is based on the respondent's self-reported economic status (though the absolute levels of unemployment were higher for the PES).

Those supported by the **TWSS** or its successor the Employment Wage Subsidy Scheme (EWSS) are overwhelmingly likely to be classified as employed, as they would be at work and/or receiving at least 50 per cent of their salary (through subsidy). However, there were still a small cohort of LFS respondents who were supported by wage subsidy schemes that were classed as either 'unemployed' or 'inactive'.

Table 1: Percentage of persons aged 15 years and over benefitting from the PUP and classified by ILO status and Principal Economic Status, LFS Q2 2020 and Q3 2020, per cent

	Q2 2020		Q3 2020	
	ILO	PES	ILO	PES
Employed/At work	69.7	58.9	58.8	44.1
Unemployed	4.8	18.8	15.3	28.1
Inactive	25.5	22.3	25.8	27.8
Total	100.0	100.0	100.0	100.0

Source: CSO Labour Market Insight Bulletins

3.4 COVID-adjusted series for employment and unemployment

In response to these developments with the official ILO measures, the CSO has published its own supplementary 'COVID-19 Adjusted' measures of total employment and of unemployment. The CSO emphasise that these are to be treated as lower and upper bounds respectively to what an 'underlying' measure that captures events on the ground for each might be. The COVID-adjusted measure of total employment is published alongside the quarterly LFS releases, and is calculated by subtracting the total number of PUP recipients at the end of a given month from the total employment figure in the quarterly LFS. Table 2 below illustrates how this measure is calculated.

Table 2: Total employment (LFS) Q3 2020 and CSO COVID-adjusted measures of total employment for September and October 2020

	September 2020	October 2020
Total employment (ILO) LFS Q3 2020	2,295,200	2,295,200
PUP recipients in reference week for month	217,100 (Week 39)	330,000 (Week 44)
COVID-adjusted employment	2,078,100	1,965,200

Figures rounded to nearest hundred.

Source: CSO, DSP

The COVID-adjusted measure of unemployment is published on a monthly basis, as part of the CSO's monthly unemployment releases. The CSO's COVID-adjusted measure of unemployment is calculated

by adding the total number of PUP recipients for a given month to the total number of unemployed persons for that month based on the CSO's standard methodology for the monthly unemployment rate.

The CSO's COVID-adjusted measures effectively assume that all PUP recipients are classified as employed under the standard ILO measure. This forms the basis for subtracting all PUP recipients from the quarterly ILO measure of employment to give the COVID-adjusted estimate for total employment, and for adding all PUP recipients onto the standard monthly unemployment volume to give the COVID-adjusted measure of monthly unemployment. PUP recipients are therefore assumed to move purely within the labour force, from one ILO category (employed in the standard measure) to the other (unemployed in the COVID-adjusted measure).

There are however several issues with the COVID-adjusted method, as acknowledged by the CSO¹⁹. As shown in Table 1 above, between 60 and 70 per cent of PUP recipients were classified as ILO 'employed' when measured by the LFS, with the remainder either included in the ILO measure of unemployment or measured as outside the labour force. The proportion measured as unemployed increased by over ten percentage points from Q2 to Q3 2020. This is reflected in the evolution of the 'standard' monthly unemployment volumes as estimated by the CSO for the September and October 2020 releases. The addition of all PUP recipients onto the standard unemployment volume means that some PUP recipients are being double-counted by the COVID-adjusted measure as they are already counted as ILO unemployed.

The non-uniform ILO status of PUP recipients also has implications for the denominator of the COVID-adjusted unemployment rate (the labour force). The labour force as measured by the standard monthly unemployment rate methodology excludes PUP recipients classified as ILO 'inactive', which is approximately a quarter of all PUP recipients in LFS estimates for Q2 and Q3 2020. This effectively means that all PUP recipients are included 'above the line' in the COVID-adjusted unemployment rate (with some included twice), but not all are included 'below the line'. This would serve to inflate the COVID-adjusted unemployment rate.

In addition, the CSO reported alongside the November 2020 monthly unemployment release that approximately 7 per cent of all PUP recipients self-certified as being registered as a full-time second- or third-level student for the current academic year. For PUP recipients aged 25 years and over this could be as low as 2 per cent, while it represents almost a quarter of PUP recipients aged under 25. The CSO emphasise that these individuals, being in full-time education, would not be included in the traditional unemployment rate measure and would not be eligible to receive standard Jobseeker payments. Again, this serves to over-state the COVID-adjusted measure relative to the underlying unemployment rate. Finally, changes made to the eligibility criteria for PUP mean that self-employed individuals can now earn up to €960 in an eight-week period and still receive a full weekly PUP payment, which further serves to push the COVID-adjusted unemployment measure upwards.

¹⁹ For instance, see text of Monthly Unemployment release for November 2020 for discussion of the employed/unemployed assumption and full-time students: <https://www.cso.ie/en/releasesandpublications/er/mue/monthlyunemploymentnovember2020/>

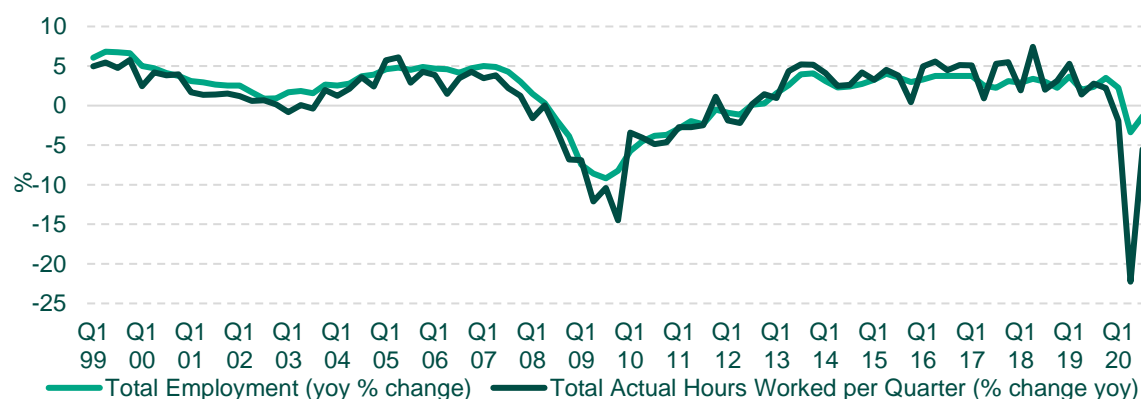
These issues mean the COVID-adjusted measures will overstate the impact of COVID-19 on the labour market. This trend will be exacerbated the more PUP recipients give LFS responses which lead them to be classified as ILO unemployed (increasing the 'double-count'). Meanwhile the standard ILO measures will understate the impact.

3.5 Additional measures and possible alternative indicator of unemployment

As part of the most recent LFS release, the CSO have expanded on alternative measures of labour market activity, which give welcome insight beyond the standard headline figures. Figure 14 below shows year-on-year growth rates in the LFS measures of total employment and of actual total hours worked. The closeness of changes in hours worked to changes in total employment over the period up to and including 2019 is clear. However, the relationship between the two seems to have broken down since Q1 2020 with the scale of the disruption to the labour market in Q2 and the recovery in Q3 evident in total hours but not total employment. The annual fall in hours worked of 22 per cent in the second quarter broadly aligns with the annual falls in consumption (-22 per cent), Modified Domestic Demand (-16 per cent), and domestic GVA (-19 per cent) at that time. In the third quarter the annual fall in hours worked of 5 ½ per cent is also similar to the Q3 annual fall in consumption (-6 per cent) though larger than the change in Modified Domestic Demand (-2 ½ per cent).²⁰

In addition, the CSO have made available data on the number of persons counted as ILO employed, but who reported being temporarily away from their job. This normally includes those who are away from work for various reasons (e.g. off-season), but during the pandemic it will also capture the large numbers of PUP recipients, as well as some wage subsidy scheme recipients, who are ILO employed but not actually at work. The employment series can be adjusted for the 'away from work' group by effectively treating the 'excess' away-from-work cohort in 2020 (i.e. the year-on-year level change relative to 2019) as unemployed rather than employed. The annual change in this adjusted measure of employment relative to total employment in 2019 was -21 per cent in Q2 2020, and -4.7 per cent in Q3, both in line with the annual falls in total actual hours worked (see Figure 15).

Figure 14: Total employment and total actual hours worked, y-on-y growth, 1999-2020



Source: CSO and Department of Finance calculations

²⁰ The year-on-year change in Modified Domestic Demand in the third quarter of 2020 was supported by a positive contribution from Government consumption as a result of the July Stimulus and other Covid-related expenditures.

Figure 15: Total employment and total actual hours worked (y-on-y growth), and employment adjusted for those temporarily away from work in 2020 (growth relative to 2019 employment)



Source: CSO and Department of Finance calculations

The CSO also publishes an indicator known as the Potential Additional Labour Force (PALF) that captures those outside the labour force but with a very close attachment to it (specifically those who are available for work but not seeking, and seeking work but not immediately available). The year-on-year level difference in the PALF is relatively close to the approximate numbers on the PUP who were recorded as ILO 'inactive' by the LFS.²¹ The 'excess' numbers of persons temporarily away from work, in addition to the change in the PALF can be used together to explore an alternative indicator of the unemployment rate. The rationale for using this data is that these cohorts are currently not at work, but are relatively close to being at work, meaning they are a reasonable proxy for unemployment.²²

This alternative unemployment indicator takes the year-on-year change in those temporarily away from work and treats this as an increase in unemployment. The year-on-year change in the PALF is also treated as a change in unemployment. As this PALF cohort are now considered unemployed, the labour force is also increased by that amount. The result is an alternative unemployment rate estimate in Q3 2020 of approximately 12 per cent, mid-way between the CSO COVID-adjusted and ILO measures of 17 and 7 per cent respectively (see Table 3).²³

It is important to note that this alternative indicator has issues of its own in trying to capture a better estimate of the pandemic impact on unemployment. For instance, the method aims to capture an

²¹ For both Q2 and Q3 2020, the year-on-year level difference in the PALF is within approximately 10,000 persons of the estimated number of PUP recipients in that quarter (using DSP PUP data) that were classified as ILO inactive by the LFS (using the shares from CSO Labour Market Insight Bulletin data shown in Table 1 above).

²² There are several sub-categories within the aggregate measure of 'away from work', including those away due to slack work, illness, maternity leave, holidays, etc. Comparatively large year-on-year increases were observed in Q3 2020 for the categories 'Slack work (temporary layoff/off season)' and 'Other reasons' (+110,300 in total), while a large decrease was observed for 'holidays' (-38,900). As a sensitivity test, if the combined increase in 'slack work' and 'other reasons' are used instead of the total change in 'away from work', the alternative unemployment rate would be approximately 1 percentage point higher (at 13.4 per cent in the third quarter). Similarly, the year-on-year change in the alternative employment indicator would also be about 1 percentage point higher.

²³ This alternative indicator of unemployment includes some persons in the 'away from work' and PALF cohorts who are aged 75+, in contrast to the official unemployment cohort, which is limited to ages 15-74. The impact of this on the indicator is minor, creating a difference of 0.1 in the alternative rate.

alternative unemployment rate as it stands in Q3 2020 using changes in data series relative to Q3 2019. This may not be as effective in future quarters where the year-on-year changes in those series could be very different. The indicator may also include wage subsidy scheme recipients who are in the 'away from work' cohort. In terms of the unemployment rate, it is ultimately the case that the longer people remain on the PUP, the more likely it is that the ILO measure of unemployment will converge upwards.

Table 3: Unemployment rate Q3 2020 – CSO and alternative indicator, per cent

	Unemployment rate Q3 2020
CSO COVID-adjusted monthly estimates ('upper bound')	16.8
Alternative method: y-on-y changes in 'away from work' and PALF	12.1
CSO standard methodology, not seasonally adjusted ('lower bound')	7.1

Source: CSO and Department of Finance calculations

3.6 Conclusion

The official ILO estimates of employment and unemployment currently published by the CSO do not adequately account for the impact of COVID-19. To account for these impacts, the CSO also publishes its own supplementary 'COVID-19 Adjusted' measures of employment and unemployment. These are regarded as upper bounds of the COVID impact, with the ILO measures representing lower bounds.

However, given the evolution of the PUP scheme and the situation of PUP recipients over time, the COVID-adjusted measures are based on assumptions, which are less likely to reflect the labour market status of PUP recipients the longer their spells on the PUP become. This affects the insight provided by the COVID-adjusted measures as a measure of the labour market impact once PUP recipients have been accounted for. With the COVID-adjusted upper bound unemployment rate estimated at 16.8 per cent for Q3 2020 and the standard lower bound unemployment rate estimated at 7.1 per cent, the 'true' underlying rate of unemployment in the Irish labour market remains unknown.

The CSO has also made available LFS data on total actual hours worked and persons in employment but temporarily away from work, which appear to show promise as alternative measures of the effects of COVID-19 on labour market activity in Ireland. These data can be used to construct an alternative indicator of total employment, adjusted for the 'excess' number of those temporarily away from work in 2020, that broadly aligns with other economic data for 2020. Data on those temporarily away from work and those in the Potential Additional Labour Force can also be used to create an alternative unemployment indicator, which suggests that the unemployment rate may have been in the region of 12 per cent in the third quarter of 2020, roughly mid-way between the upper and lower bound measures. From a policy perspective, finding a measure of unemployment that appropriately accounts for the impact of COVID-19 and can be used on an ongoing basis will be crucially important and further work in this area is needed.



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