

SSISI Public Policy Brief:
Understanding the Covid19 Pandemic and its Consequences

Measuring the Economic Impact of Covid-19 in Real Time

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1. INTRODUCTION

The COVID-19 pandemic is a one-in-a-hundred year event. The economic consequences are unlike anything we have seen in modern times, in terms of scale, speed and depth of the shock. Restrictions to prevent the spread of the virus, saw many sectors closed for extended periods since March 2020. Firms and workers providing face-to-face services such as non-essential retail, accommodation and food services, travel and tourism and, at various times, construction have been hit particularly hard. Private consumption in 2020 fell by 9 per cent compared to 2019, with modified domestic demand down by 5.4 per cent (CSO, 2021). At the peak, in early May 2020, over 1.2 million people were supported by the State for their incomes, almost half the labour force. In March 2021 that number stands at 953,000.²

Given the pace of developments, a key challenge for economic analysis of the pandemic, and designing policy to address the fallout from the shock, is getting a *timely* understanding of how workers, firms and the financial sector are affected. The Central Bank of Ireland collects, analyses and publishes a range of data that provides crucial information in each of these areas. This paper summarises this data, alongside the key insights and trends during pandemic in the following three areas: (i) spending patterns from card payments data; (ii) credit demand and credit standards, from the Central Credit Register; and (iii) labour demand, from the job postings on the *Indeed* website.

2. CONSUMER SPENDING – INSIGHTS FROM CARD DATA

The Central Bank publishes credit and debit card transactions data, with both monthly and, since the pandemic, daily series available.³ The data can be broken down by sector, online spending, spending outside Ireland, and data pertaining to the role of debit cards including card numbers.

Several recent publications highlight the usefulness of this data for understanding spending patterns during the pandemic. See Byrne et al. (2020) and Hopkins and Sherman (2020, 2021) for Ireland, Carvalho et al. (2020) for Spain, and Matthewson (2021) for the UK. In Ireland, the correlation between annual changes in card spending and consumer expenditure from the Quarterly National Accounts (QNA) is 0.94 (from Q1 2015 to Q4 2020). This suggests that timely card data – available at a daily frequency – is informative for understanding the impact of the pandemic on consumer behaviour in a close to real-time setting.

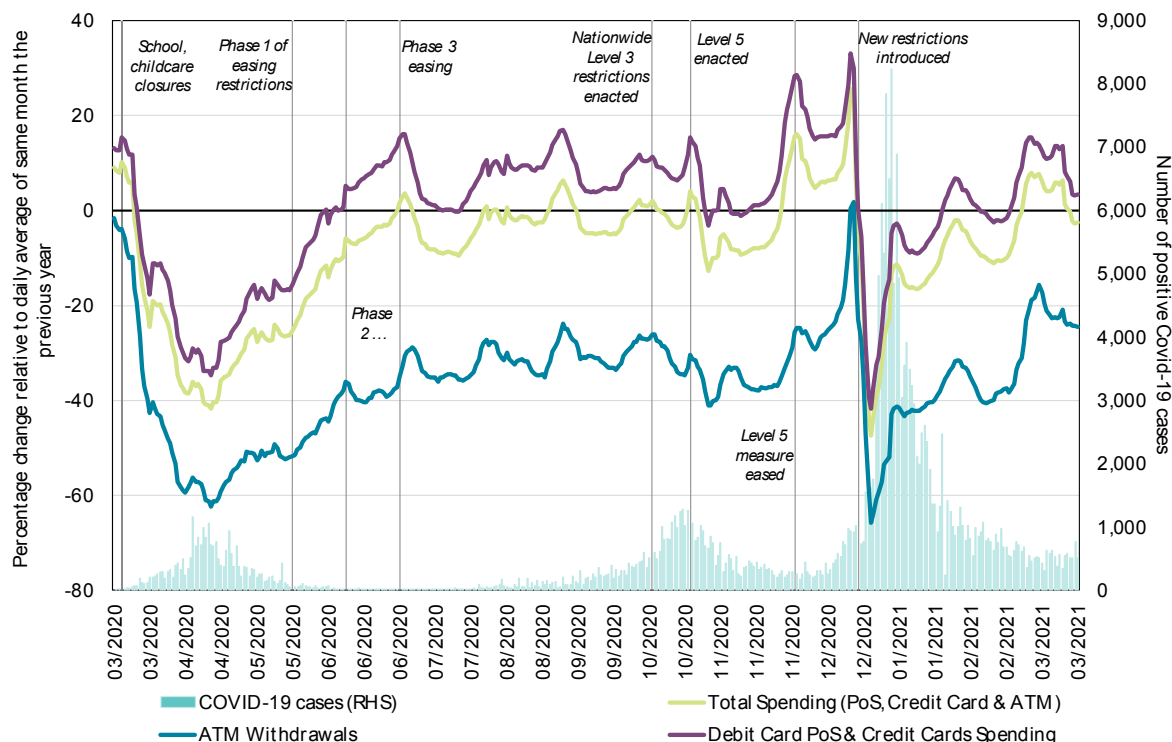
¹ This paper is based on material presented to the Society at the Symposium on 21st May, 2020. I have updated some of the data to reflect developments since then, notably about how spending patterns, credit demand and job postings evolved over the year. This gives a more complete picture of the economic impact of the pandemic in the year to March 2021. I thank Martina Sherman (Central Bank) and Pawel Adrjan (Indeed Hiring Lab) for both providing the data I use, and invaluable discussions on interpretation and analysis.

² The peak figure is the sum of individuals on the Live Register, in receipt of the Pandemic Unemployment Payment, or supported by the Temporary Wage Subsidy Scheme in early May 2020. Taken from CSO Live Register Tables.

³ See Table A.13 “Credit and Debit Card Statistics” on the Central Bank of Ireland [website](#).

Figure 1 shows the year on year change in daily card spending and cash withdrawals through to 22 March 2021. Hopkins and Sherman (2020) provide a full description of this data. In the early phase of tight restrictions, broadly Q2 2020, card spending – that is the sum of credit and debit point of sale transactions and ATM withdrawals – fell by 19 per cent. The QNA figure for Q2 2020 is -21 per cent, which suggests that the card data is picking up the main pandemic effects.

Figure 1. Daily card spending and cash withdrawals



Source: Central Bank of Ireland, Credit and Debit Card Statistics.

We highlight a number of other pandemic related effects in card spending data:

1. The pandemic prompted a step shift away from cash spending. In April, ATM withdrawals fell by over 60 per cent, before recovering somewhat as restrictions eased through the summer to remain 30 to 40 per cent below pre-pandemic levels. The exception is Christmas 2020, when ATM withdrawals very briefly jumped back to pre-pandemic levels. Speeding up the move away from cash for payments – a long-running pre-pandemic trend, as noted in Cronin (2021) – may be one of the long-lasting effects of COVID-19.
2. Overall, card spending during the pandemic tends to track the tightening and easing of restrictions, as the vertical lines in Figure 1 show. Byrne et al. (2020), show this more formally, including for different types of spending. This is an important observation because it suggests that there could be little ‘residual precautionary behaviour’ in spending once the spread of the virus is controlled by a successful vaccine rollout. Lydon and McIndoe-Calder (2021) partly base their case for a post-pandemic spending boost – both out of ‘excess pandemic savings’ and via a lower savings rate – on this observation.
3. Sector breakdowns of the card spending data analysed in Byrne et al. (2020) highlights the sector-specific nature of the shock. Spending in face-to-face services such as accommodation, food and travel collapsed, as Table 1 shows; whilst spending in other sectors – including grocery – has increased sharply. The latter partly reflects substitution effects from consuming *outside* to *inside* the home. As Byrne et al. (2020) highlight, whilst the trends in card spending are informative for trends in overall consumer spending, we should be cautious about mapping *value* of spending at the sector level *directly* to National Accounts measures of consumer spending. This is because the share of share of card spending by sector can differ dramatically from National Account shares. For example, *Retail* card spending accounts for 48 per cent of card spending, but just 22 per cent of consumer spending in the National Accounts. Conversely, card spending on services (25 per cent) is *under-represented* relative to National Accounts (50 per cent).

4. The final pandemic-related shift that is clearly evident in the card spending data is the shift towards online as opposed to in-store spend, in particular when restrictions are tighter. By February 2021, online spending had increased by 23 per cent, versus the same month in 2019. In fact, the shift to online card spending has been so marked that it now accounts for more than half of total card spending, at 54 per cent. Clearly, trends in these types of spending patterns, and the extent to which they are reversed will be informative when it comes to thinking about the prospects for some services and retail after the pandemic.

Table 1. Annual change in card spending by sector (Feb 2021)

	Annual change (Feb 2021)
Total retail	17
Groceries/Perishables	33
Clothing	-13
Electrical Goods	53
Hardware	20
Total Services	-36
Transport	-80
Accommodation	-81
Education	18
Health	19
Utilities	-14
Professional Services	-5
Total Social	-31
Restaurants/Dining	-47
Entertainment	1

Source: Central Bank of Ireland (2021)

3. DEMAND FOR CREDIT

Understanding how credit demand is responding to the pandemic is important for a number of reasons. Firstly, it can give an indication of how firms and households are coping. Secondly, it is important to monitor how the accommodative monetary policy stance in response to the crisis is being passed through to credit and credit conditions, as outlined in Holton et al. (2020).

Daily data from the Central Credit Register (CCR) provides an insight into credit demand during the pandemic. The CCR was established, and is managed by, the Central Bank of Ireland as part of the wide-ranging post-banking crisis reforms. Since 2017, its coverage has expanded in terms of both lender and loan categories. This mandatory national database supports credit decisions by lenders, as well as contributing to the Central Bank's strategic functions of financial stability, regulatory oversight and consumer protection. Further details are provided in McElligott et al. (2020).

Whilst enquiries can provide timely insights into the profile of new loan demand as the pandemic evolves, the data also has some limitations when it comes to capturing overall credit demand. The most obvious one is that it misses discouraged borrowers or immediate application rejection by lenders.

Figure 2 shows rolling weekly sum of credit inquiries for loans to *individuals*, through to March 29 2021. For the two larger categories of loans – personal loans and mortgages (shown on the right-hand axis) – credit enquiries fell during the initial stages of the crisis, before recovering in the second half of the year. In fact, by end-March 2021, mortgage credit enquiries were almost 9 per cent above pre-pandemic (7- 13 Feb) levels. Personal loans still have some way to go to return to pre-pandemic levels, and were almost 22 per cent below the level of enquiries in February 2020. Hire Purchase (HP), Personal Contract Plans (PCP) – both of which are for vehicle purchases in the main – and credit cards are all also below pre-pandemic levels, at -24 per cent. This, in part, reflects the fall in new car sales with in early-2021.⁴

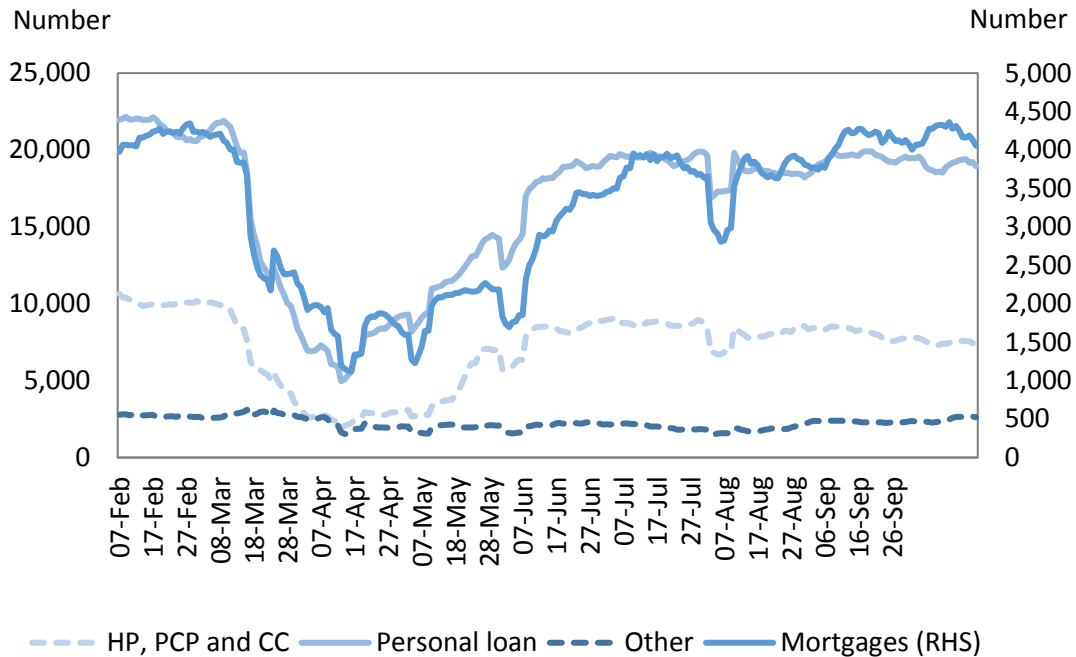
As outlined in Holton et al. (2020), monetary policy responded swiftly to the pandemic both to preserve the flow of financing and stabilise credit conditions. Notwithstanding, lenders responding to the Central Bank's *Bank*

⁴ See “New car sales fall 26.5% on back of latest lockdown”, [Irish Times, 11 January 2021](#).

Lending Survey early-on in the crisis still expected credit conditions to *tighten* as a result of the pandemic. Crucially, and as outlined in Byrne et al. (2020), the expected tightening was attributed to a perceived increase in the riskiness of lending, as opposed to a change in credit standards due to a deterioration in lender balance sheets or in the cost of funds.

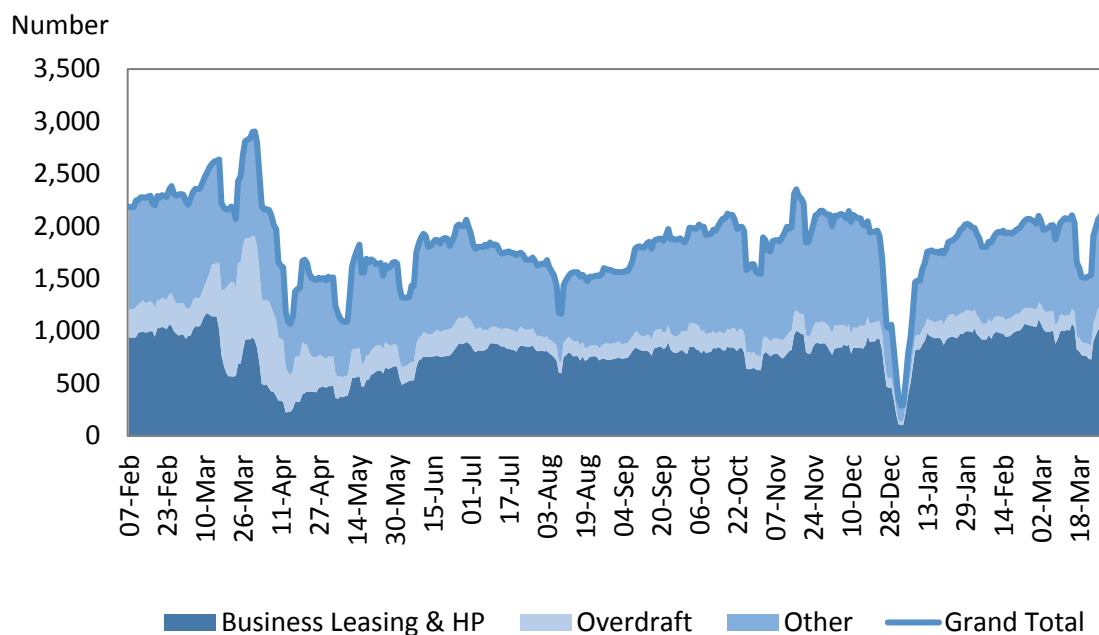
Credit enquiries for companies fell sharply in April 2020 and, at one point were over 40 per cent below February levels. Since then, and coinciding in particular with the easing of restrictions from September onwards, enquiries recovered somewhat. By the last week of March 2021, enquiries were just over 11 per cent below February 2020 levels.

Figure 2. Number of credit enquiries in the Central Credit Register for loans to individuals



Source: Central Credit Register, Central Bank of Ireland

Figure 3. Number of credit enquiries in the Central Credit Register for loans to companies



Source: Central Credit Register, Central Bank of Ireland

4. LABOUR DEMAND – INSIGHTS FROM JOB POSTINGS

As highlighted in the introduction, the closure of many sectors to prevent the spread of the virus has been detrimental for the labour market.⁵ Job postings are informative about labour demand, and firms’ expectations of future demand. Adrjan and Lydon (2019) show that job postings in Ireland are a strong forward looking indicator of both employment growth by occupation/skill and the wages of new hires.

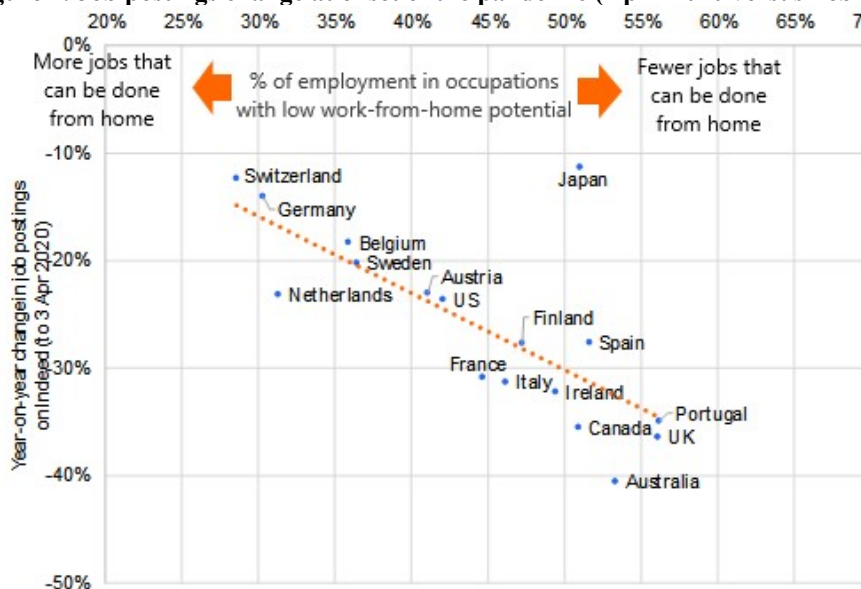
Drawing on the analysis in Adrjan and Lydon (2020), and using cross-country data from the jobs website *Indeed*, we find that, at the onset of the pandemic, Ireland had one of the largest declines in job postings across a sample of countries. Within the space of just two months – from February to April 2020 – postings had fallen by over a third. This was similar to declines in the likes of Canada, the UK, Portugal and Australia.

One candidate explanation for the larger fall in job postings in Ireland and other countries is that fewer jobs can be done from home. We know that the pandemic has resulted in large shift towards working from home. Therefore, if at a country level, fewer jobs can be done from home, this could contribute to a larger contraction in labour demand and postings.

To test this, Adrjan and Lydon (2020) follow the methodology in Dingel and Neiman (2020) to estimate the proportion of jobs with ‘low’ work from home potential at the country level. This uses task-based measures of job content at the two-digit occupation level to understand how much face-to-face or physical interaction an occupation typically involves. In Ireland, more than half of employment is in jobs with low work-from-home potential.⁶ This contrasts with the likes of Switzerland, Germany, Belgium, Sweden and the Netherlands, where more jobs tend to be able to be done from home. The negative correlation of this work-from-home measure with the decline in job postings is very strong, as Figure 4 shows.

The analysis in Adrjan and Lydon (2020) is to April 2020 – that is, the early phase of the pandemic. For most countries, including Ireland, postings continued to decline, albeit at a slower rate, through to June 2020. For Ireland, the decline bottoms-out at around -55% (relative to February 2020). The cross-country ordering of declines is almost identical to those in Figure 2. From July onwards, we see a slow, but steady, recovery in job postings. There are short periods when the pace of growth speeds up or slows down with the easing or tightening of restrictions on certain types of activity, and face-to-face services in particular. By March 2021, Job postings in Ireland were still around 23 per cent below pre-pandemic levels (Figure 5).

Figure 4. Job postings change at onset of the pandemic (April 2020 versus Feb 2020)



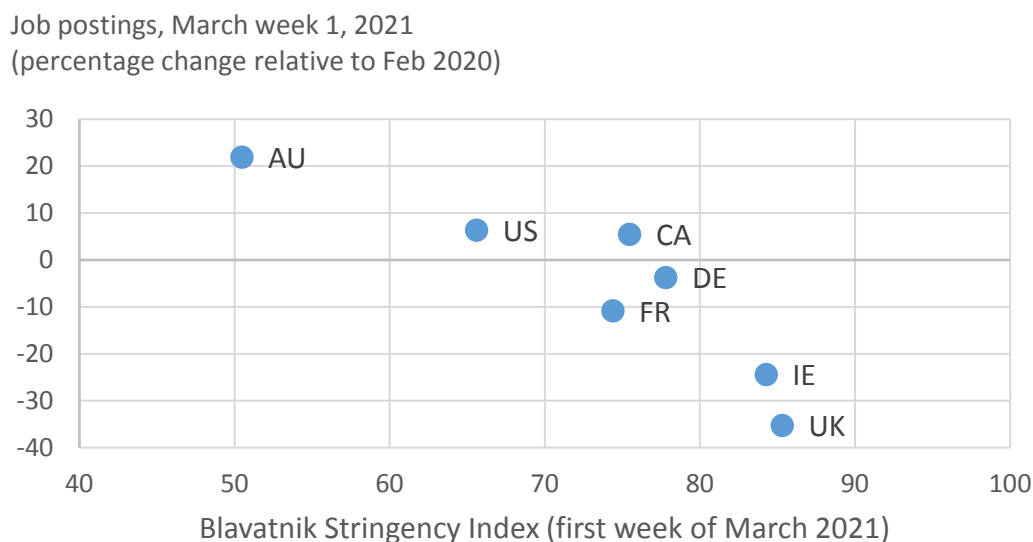
Source: Adrjan and Lydon (2020).

⁵ Much has been written about the labour market effects of COVID-19. See, for example, Byrne et al. (2020), Keenan and Lydon (2020), Lydon and McGrath (2020) and Adrjan and Lydon (2020) and, on income/earnings effects, Cahill and Lydon (2021) and Lydon and McIndoe-Calder (2021).

⁶ The CSO has also published a ‘proximity index’ at the four-digit occupation level for Ireland which is similar in spirit to the Dingel and Neiman (2020) approach, measuring the extent to which occupations require close proximity interactions with other people, either co-workers or customers/clients. See CSO (2020) for details. Lydon (2020) shows that, at the county-level in Ireland, there is a strong positive correlation between the share of workers losing jobs because of COVID and the share of workers in high proximity jobs.

Looking at more recent trends, growth in job postings has tended to reflect the different pace of reopening across countries, as Figure 5 shows. Countries that have made more progress with vaccine rollout and are further ahead in terms of easing of restrictions – like Australia, Canada and the US, for example – have seen a stronger growth in job postings in more recent times.

Figure 5. Job postings in March 2021 (compared to Feb 2020) and stringency of restrictions



Source: Job postings from Indeed [GitHub](#). Blavatnik Stringency Index from Hale et al. (2021).

4.1 Regional labour market impact of the pandemic

One of the key metrics for understanding the state of the labour market is how many unemployed persons there are per job vacancy or posting. This measure of ‘tightness’ is central to search and matching models of the labour market in that it influences both the rate of job finding and worker bargaining power, and therefore wages.⁷ Since the start of the crisis, the CSO has published two unemployment rates: the standard ILO measure of unemployment and a COVID-adjusted ‘upper bound’ measure, which also includes all Pandemic Unemployment Payment recipients who might be out of work, but also not seeking work, so not captured by ILO measures of unemployment. Further details are available in CSO (2020b).

Figure 4 shows the number of unemployed persons per job posting pre-pandemic (February 2020), using the ILO measure of unemployment (Q4 2020 LFS) and the COVID-adjusted upper bound (March 2021). Job postings for the latter two metrics are for 1st to 12th March 2021.

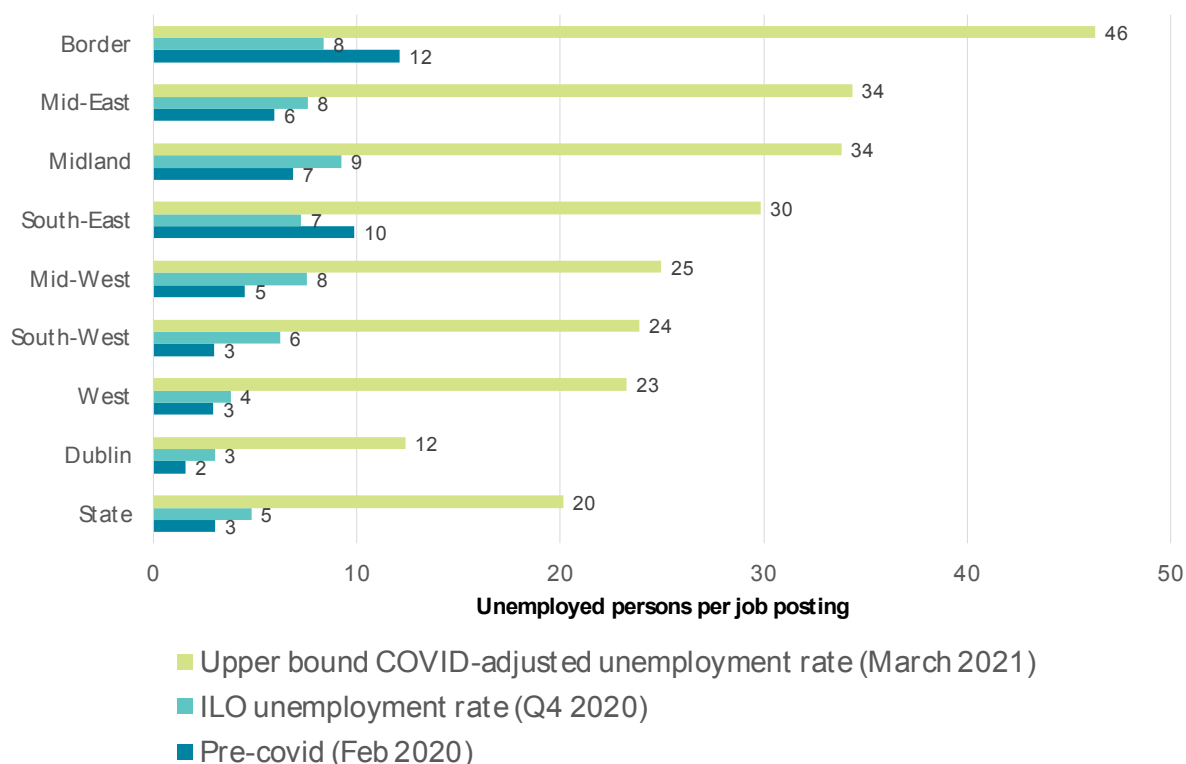
Nationally, pre-COVID, there were three unemployed people per job posting. Using the ILO unemployment measure, this stood at around 5 persons per job posting in the latest data. Relative to the national picture, the degree of slack by this measure is lower in Dublin and the Western region, but higher in all other regions, in particular the Midlands, Mid-East and Border regions, where there are up to 9 ILO unemployed persons per job posting.

The top-end of the range results from including all PUP recipients as ‘unemployed’. This could overstate the degree of slack: according to CSO survey data (CSO, 2020c) in April 2020, more than nine of ten of those whose employment situation was affected by Covid-19 expect to return to the same job, although this fell steadily through the year. Nationally, including PUP recipients, there are 20 people out of work for each job posting in March 2021. It is notable that this figure is almost half the peak observed during the financial crisis, which was 38 unemployed persons per job posting. This largely reflects the fact that postings have declined by far less as of March 2021 (-23 per cent), compared with the financial crisis decline, when job vacancies as recorded by the CSO (Table EHQ16) fell by 72 per cent between 2008 and 2009, and took almost a decade to return to pre-financial crisis levels.

⁷ See Chapter 9 in Cahuc et al. (2014) for a derivation of a wage curve linking wages and labour market tightness through the wage bargaining process. Applications for the Irish labour market include Lydon & Lozej (2018), for new hires, Stauton & Lydon (2018), for job switchers, and Adrjan & Lydon (2019) for wages in job postings.

The regional variation in the green bars (unemployed per job posting including PUP) is driven both by differences in the number on PUP by region and differences in the decline in job postings. The sector and occupation make-up of the labour force can explain some of the regional differences observed in the take-up of the Covid-19 support schemes. That said, even the ‘least’ impacted regions, in terms of unemployed per job posting, still experience a very negative shock. For example, in Dublin, and including PUP recipients, there were 12 persons per job posting, compared to just two pre-pandemic. In Border region, and including PUP, there were 46 persons per job posting in March 2021.

Figure 6. Unemployed persons per job posting



Source: Lydon (2020). Analysis of Indeed for February 2020 and June 2020. Unemployed by region pre-COVID is taken from the Q1 2020 LFS. For the June data we adjust the Q1 LFS unemployed numbers by region in line with Live Register changes by region, calibrating it to the overall monthly unemployment rate published by the CSO.

5. CONCLUSIONS

The economic effects of the pandemic have, at times, been both large and very fast movements. This puts a premium on timely data and analysis to understand how firms, workers and the financial sector has been affected. In this context, this paper outlines a range of data collected and published by the Central Bank.

Data on spending from card payments shows how spending tends to track the tightening and easing of restrictions to prevent the spread of the virus. The same data also shows a high degree of substitution in two dimensions which could have longer-lasting effects after the pandemic. The first is away from consuming outside of the home – once those activities were restricted – and towards consuming inside the home. Grocery spending has been the main beneficiary here. The second change of note is move towards more online spending. To the extent some part of this is a permanent shift, this could have implications for high-street, shopping centre or ‘bricks-and-mortar’ retail more generally.

Despite suffering a large fall at the onset of the pandemic, consumer credit demand has recovered, up to a point. The demand for mortgage credit – as measured by credit enquiries on the Central Credit Register – has recovered particularly strongly, which suggests that the pandemic has, so far, done little to dent the demand for housing. Consumer credit for hire purchase and PCP – usually linked to vehicle purchases – remains down by over a fifth, reflecting ongoing restrictions that limit opportunities for purchase. Whether demand is permanently lower as result will only become clear after restrictions are fully, and permanently lifted, and even then, only after a time.

Finally, we showed how job postings in Ireland have, by March 2021, recovered some, but not all, of the lost ground from early-on in the pandemic. Job postings in Ireland are still 23 per cent lower than pre-pandemic levels. This is a weaker performance than some other European countries – such as Germany and France – but stronger than the UK. In countries where restrictions have been eased significantly, such as Australia and the US, we have seen a strong recovery in labour demand. The medium term prospects for the labour market will only become clear after the post-pandemic recovery is well underway. Crucially, this will also depend on health developments, including the speed and effectiveness of vaccine rollout.

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