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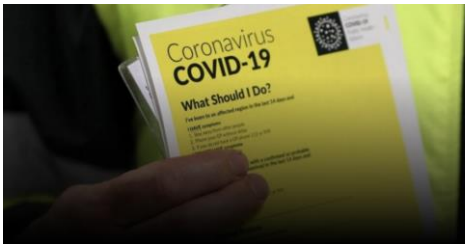

Secretariat Covid-19 Working Paper Series

Understanding Covid-19 and Sectoral Risk—Economic Activity and Sectoral Differentiation

May 2020

Dr Cathal FitzGerald

NOTE: The NESC Secretariat Covid-19 Working Paper Series is to provide timely, concise analysis for policy-makers and other stakeholders. This research work, in normal circumstances, would be used to produce NESC reports, which would be published following detailed deliberation by the Council. The Council has members appointed by the Taoiseach, comprising representatives of business and employers' organisations, trade unions, agricultural and farming organisations, community and voluntary organisations, and environmental organisations; as well as heads of Government departments and independent experts. By putting it in the public domain earlier, it is hoped this research can help those now working on Ireland's response to Covid-19. It will also inform Ireland's discussion of its recovery from the Covid-19 crisis. These papers are un-refereed material and are a work-in-progress by members of the Secretariat. The authors are solely responsible for the content and any views expressed therein, and welcome any comment on these papers (email info@nesc.ie). Working papers may be downloaded for personal use only. Given the nature of the crisis, these working papers are likely to be updated on a regular basis. This will be done in as timely as manner as possible.

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Introduction

Ireland's approach to transition from the Covid-19 pandemic will inevitably involve work directly at sector-level with business and workers in the development of plans detailing safe measures designed to restart sectors and make them more resilient. This could include an examination of existing macro data and classifications to help identify different levels of exposure to risk and thus opportunities for restarting activity. This includes, for example, data on economic performance by contact intensity, high contact-intensity occupations, activities that require less physical proximity to others, Covid-19 risk by occupation, and the proportion of workers who could/do work from home.

This working paper sets out how an improved understanding of this type of data can help explain why sectors are impacted differently and can also inform which sectors could restart earlier or later in the recovery process in Ireland. This is linked to understanding differences between sectors in terms of how they have been impacted by the pandemic and why.

The Differentiated Sectoral Impact of Covid-19

The ESRI and Central Bank of Ireland have assumed a 7 to 8 per cent decline in activity for 2020 based on a twelve-week shutdown and a 25 per cent (or more) fall in activity. The economy as a whole has suffered a significant shock and this is evident, for example, from labour market data. The unemployment rate for February was 4.8 per cent. The Central Statistics Office's new COVID-19 adjusted measure of unemployment indicates a jump to 16.5 per cent in March, if all claimants of the Pandemic Unemployment Payment were classified as unemployed. Employment levels are projected to fall significantly from 2.32 million at the end of 2019 to 2.1 million this year (down 9.25 per cent and a loss of 220,000 jobs). This implies an annual average unemployment rate of 13.9 per cent for 2020.[1] However, different sectors and cohorts are being impacted differently by the crisis.

The Government has issued sectoral guidance as to what constitutes an essential service where workers cannot work from home and have no option but to travel to work. Other (non-essential) sectors, especially those where activity necessitates higher levels of face-to-face or close physical interaction are more likely to be

[1] Department of Finance, Draft SPU, April 2020.

negatively impacted, as the need for social distancing reduces consumer demand and the ability to safely carry out the work.

Sectors such as food/accommodation, tourism, parts of retail, and personal services are most affected by the restrictions (restrictions on movement; social distancing) which impact both workers and customers. Outside of public services such as health and education, the tourism and hospitality/entertainment sectors have been the most immediately and seriously impacted. Travel restrictions and social distancing have seen these sectors suffer an almost 100 per cent demand shock and essentially close. As of May 6th 2020 there were 598,000 people in receipt of a State Pandemic Unemployment Payment, with people in accommodation and food services (128,500) and the wholesale/retail trade (90,300) most prevalent.

Even though food retail is an essential sector and has remained open, it has been impacted by a slowdown in transportation and by disrupted supply chains. SMEs in the retail sector may have few alternative mechanisms of delivery and sale, such as online, unlike larger operations. Manufacturing sectors are suffering from restrictions which impact workers, and from negative impacts on supply chains. Some services sectors are less impacted by the restrictions as they are more amenable to remote delivery and working. This has meant that the ICT, finance/insurance, and parts of the manufacturing sectors have seen less negative impact. Of course, some sectors will see increased demand and activity in the crisis. In the ICT sector, there will be strong demand for remote/cloud infrastructure services, data and automation services, business continuity and security services, related software, and telecoms equipment and services, as firms and education providers are encouraged to maximise online and remote activity and delivery.

One apparent feature of the pandemic is that sectors with the greatest negative impact are associated with higher employment share as opposed to higher value-added. Personal consumer spending is expected to fall sharply in 2020, due to several factors including a loss of income due to changed employment, and widespread retail closures. Sectors that are expected to be highly impacted include non-food retail, accommodation, and food services, which are expected to see an almost complete suspension of activity for the duration of the second quarter of this year. The recovery in these sectors is expected to be very gradual as behavioural changes will continue to impact on social consumption until a vaccination is available.[2]

[2] Department of Finance, Draft SPU, April 2020

SMEs may be more negatively impacted than larger firms in the crisis given the prevalence of micro, small and medium-sized business in the accommodation and food services, and wholesale and retail sectors. Further, females and younger people may be more negatively impacted as retail and hospitality sectors may employ a greater proportion of women and youth. Of the 598,000 people in receipt of a State Pandemic Unemployment Payment on May 6th 2020, 260,200 or 43 per cent were under 35 years of age. Some 122,500 or 20 per cent of all recipients were under 25 years of age.

Different households will also be impacted differently. It has been estimated that the unemployment shock will result in 'higher income families seeing larger proportionate falls in their incomes than lower income families. Families in the lower two-fifths of the income distribution are, on average, insulated from income losses. This is due to the cushioning performed by the pre-existing tax-benefit system and the new policy measures, as well as the fact that low income families are less likely to contain someone in work'.[3] Households containing people who are continuing to work (essential workers and remote workers) may not experience income loss. Many of those laid-off or whose business has closed are worse off. So overall there is variation and nuance here, making it all the more important to analyse with care and to consider absolute and relative changes, and the impact of uncertainty.

The Impact of Contact-Intensity

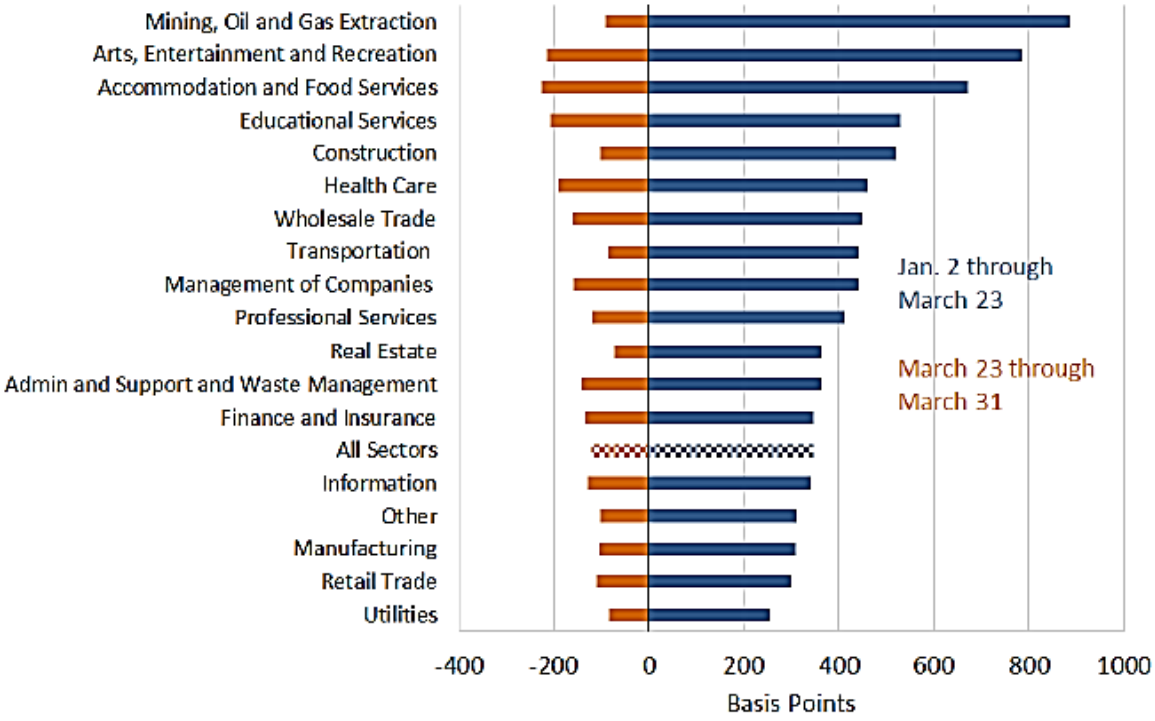
Measuring differentiated cause and effect in real-time is difficult for policy-makers. One approach internationally has been to look at financial data such as corporate bond spreads alongside contact-intensity data (see Figure 1). This illustrates that, in the US at least, sectors such as the accommodation and food services sectors and arts, entertainment and recreation activities are most directly impacted by the restrictions, while manufacturing, financial services, utilities and ICT sectors have been much less affected by the shock.

Understanding this differentiated impact further requires examination of *occupational* rather than *sectoral* data. This allows consideration of a sector's contact-intensity. High contact-intensity sectors such as health/personal care, hospitality and some retail services are most directly affected by social distancing measures and are therefore be more impacted by the Covid-19 crisis.

[3] ESRI, 2020: 13

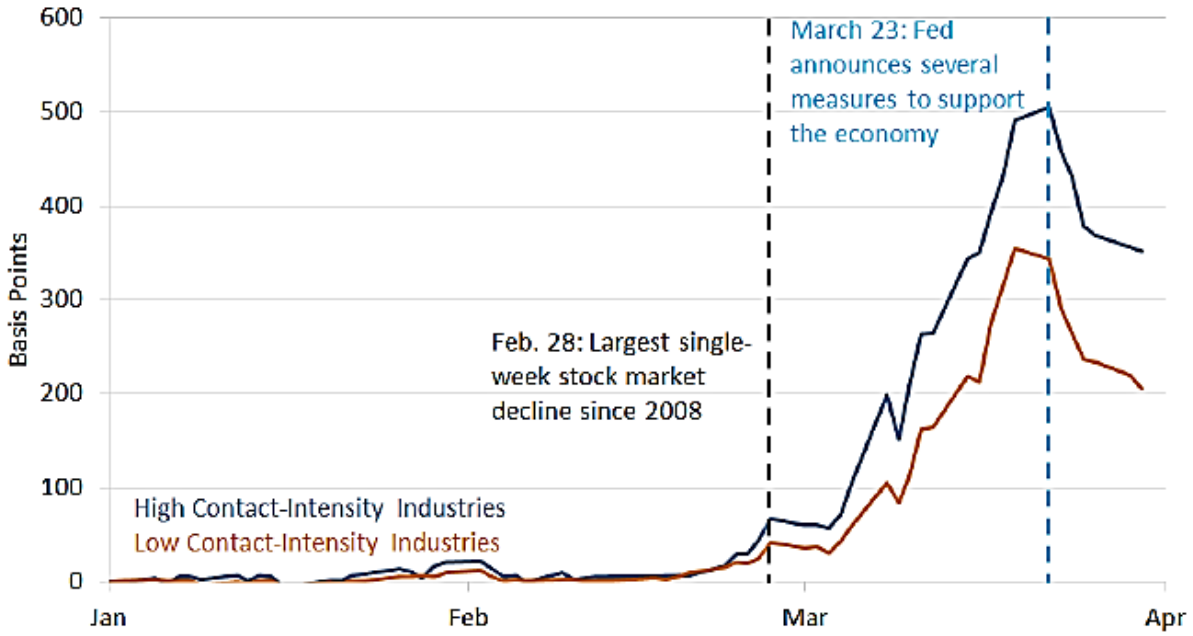
For example, dividing the sectors into two groups—high contact-intensity sectors and low contact-intensity sectors—reveals that the credit spread for high contact-intensity sectors increased to a greater extent and more quickly than low-contact sectors (see Figure 2).

Figure 1: US Corporate Bond Spreads by Sector[4]



[4] Kozlowski, Faria-e-Castro, and Ebsim, *Corporate Bond Spreads and the Pandemic II: Heterogeneity across Sectors*, April 2020. Note that while the most affected sector (under this measure) is Mining, Quarrying, and Oil and Gas Extraction, it is not directly exposed to the pandemic shock per se, it has been affected by other factors such as the recent drop in oil prices and expectations of lower global demand for oil due to the pandemic shock.

Figure 2: Median Spread of US Corporate Bond by Contact-Intensity and by Sector[5]



Sectors with Lower Risk of Infection

The gradual, differentiated risk approach states that, in principle, risk of infection should be one (of four) criteria to be taken into account for restarting activity.[6] The IFO's paper states that sectors with a high risk of infection should remain closed for the time being, especially events with a large number of spectators. As stated above, giving consideration to the contact-intensity of sectors can reveal the extent and speed of impact (see Figure 2). However, getting a sense of risk of infection within a sector in Ireland is a complex task. One potentially fruitful approach is to look at international data on occupations.[7]

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[5] Kozlowski, Faria-e-Castro, and Ebsim, *Corporate Bond Spreads and the Pandemic II: Heterogeneity across Sectors*, April 2020.

[6] The other criteria are risk of severe COVID-19 disease; relevance of the respective area of the economy and social life; and possibility of imposing and maintaining safeguard measures.

[7] Another consideration, not explored here, is what lessons can be drawn from infection-incidence data by occupation. For example, there are reported clustered outbreaks of Covid-19 at meat processing facilities in Ireland, Spain, Australia, Germany, Brazil, Canada and the UK. See The Guardian, May 11th 2020 - https://www.theguardian.com/environment/2020/may/11/chaotic-and-crazy-meat-plants-around-the-world-struggle-with-virus-outbreaks.

In the US, workers in a large number of occupations covering the entire economy are asked by O*NET[8] to answer questions that best describe their jobs. This includes rating the extent to which the job requires the worker to perform job tasks in close physical proximity to other people. The answers are given scores, which are aggregated to compute a contact-intensity index.[9] The possible answers and corresponding scores are:

- I don't work near other people (beyond 100 ft.): 0
- I work with others but not closely (e.g. private office): 25
- Slightly close (e.g. shared office): 50
- Moderately close (at arm's length): 75
- Very close (near touching): 100

This allows occupations to be classified into low, medium and high contact-intensity categories according to index scores of 0 to 50, 50 to 75, and 75 and above, respectively. As the table below shows, workers in the healthcare, personal care, teaching, and hospitality sectors perform job tasks in very close physical proximity to other people. Although the occupational categories are not identical to those in the US, the number of people working in similar occupations across sectors in Ireland is around 864,000 or 37 per cent of all workers.[10]

[8] O*NET is the US Occupational Information Network developed under the sponsorship of the U.S. Department of Labor/Employment and Training Administration.

[9] Leibovici, Santacreu, and Famiglietti, 2020

[10] NESC Secretariat calculations using CSO Occupational Data, Q4 2019. Includes workers in the following occupations: Caring, leisure and other services; Caring personal service occupations; Teaching and educational professionals; Health professionals; Caring personal services; Nursing and midwifery professionals; Food preparation and hospitality trades; Hairdressers and related services; Managers and proprietors in hospitality and leisure services; Health and social care associate professionals; and Leisure and travel services.

Table 1: High Contact-Intensity Occupations[11]

Occupation	Proximity index
Barbers, Hairstylists, and Cosmetologists	92.17
Occupational Therapy and Physical Therapist Assistants and Aides	90.50
Home Health and Personal Care Aides; and Nursing Assistants, Orderlies, and Psychiatric Aides	90.25
Therapists, Veterinarians, Nurses, Midwives, Audiologists	88.09
Supervisors of Food Preparation and Serving Workers	88.00
Healthcare Diagnosing or Treating Practitioners	86.19
Supervisors of Personal Care and Service Workers	84.50
Health Technologists and Technicians	82.73
Pilots, air traffic controllers, and flight attendants	81.60
Other Healthcare Support Occupations	80.20
Preschool, Elementary, Middle, Secondary, and Special Education Teachers	79.54
Other Teachers and Instructors	79.00
Motor Vehicle Operators	75.56
Other Personal Care and Service Workers	75.50
Food and Beverage Serving Workers	75.17

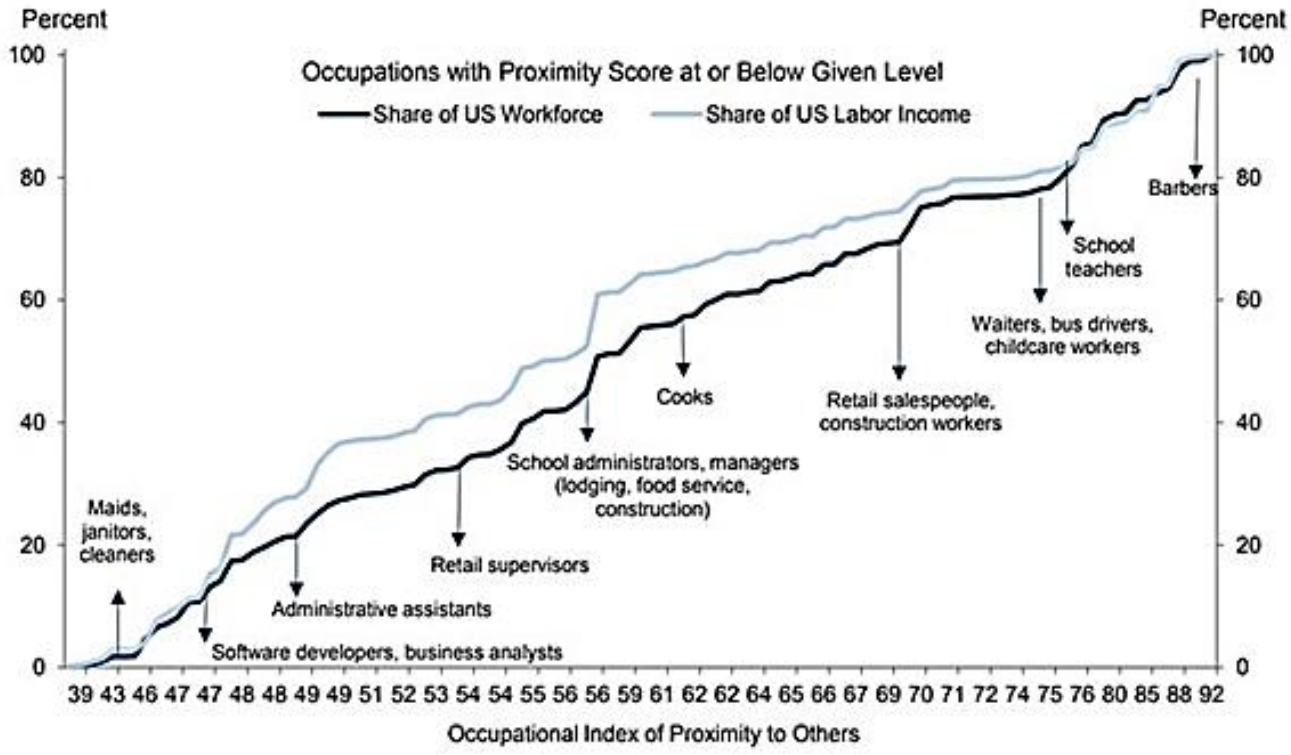
While all of these activities share high levels of contact, they are impacted by Covid-19 very differently. For example, healthcare workers are the most active and at the frontline in tackling the virus, while those in the hospitality and personal care sectors have seen demand for their work disappear.

In contrast, it may be that sectors where jobs require less physical proximity to others can have a greater opportunity to restart sooner than others. Using the same data utilised above, it is possible to identify occupations (rather than sectors) that have lower levels of contact (e.g. do not work near other people, have a private or shared office).

[11] Leibovici, Santacreu, and Famiglietti, *Social Distancing and Contact-Intensive Occupations*, March 2020

Occupations with a proximity score of 50 or less include: Engineers, General and Operations Managers, Chief Executives, Administrative Assistants, Legal Assistants, Surveyors/Architects, Graphic Designers, Investment Fund Managers, Regulatory Affairs Managers, Computer User Support Specialists, Housekeeping/Janitors/Cleaners, Public Relations/Fundraising/Sales/Marketing Managers, Environmental/Materials Scientists, Training/Development/Human Resources Managers, Statisticians, Geographers, Planners, Economists, and many more.

Figure 3: Jobs and Activities That Require Less Physical Proximity to Others/Share of US Workforce and Labour Income[12]



Again, although the categorisation is not identical to the US, the number of people working in these types of occupations across sectors in Ireland is around 565,000 or 24 per cent of all workers.[13]

[12] Federal Reserve Bank of St. Louis/Goldman Sachs Global Investment Research.

[13] NESC Secretariat calculations using CSO Occupational Data, Q4 2019. Includes workers in the following occupations: Science, research, engineering and technology professionals; Corporate managers and directors; Information technology and telecommunications professionals; Sales, marketing and related associate professionals; Business, finance and related associate

Going further, this information can be used to estimate which occupations face the lowest or highest risk of exposure to COVID-19.[14] This involves evaluating the data on three physical job attributes covered in the occupational database:

i) Contact With Others: How much does this job require the worker to be in contact with others in order to perform it?

ii) Physical Proximity: To what extent does this job require the worker to perform tasks in close physical proximity to others?

iii) Exposure to Disease and Infection: How often does this job require exposure to hazardous conditions?[15]

The researchers here assigned each attribute an equal weight, and then aggregate them to arrive at a final COVID-19 Risk Score between 0 and 100, with 100 representing the highest possible risk. The occupations with the highest Covid-19 risk are unsurprising (healthcare workers such as Respiratory Therapy Technicians (score 95); Patient Care Assistants (score 90.2)). For the purposes of this paper it is perhaps more instructional to look at those occupations with the lowest risk scores (see Table 2, and the Appendix for full list).

professionals; Secretarial and related occupations; Engineering professionals; Information technology technicians; Legal professionals; Architects, town planners and surveyors; Financial institution managers and directors; Quality and regulatory professionals; Design occupations; and Chief Executives and senior officials.

[14] Lu, 2020

[15] Jobs with a risk score below 0.5 were excluded from further analysis. To narrow down the list, researchers removed most occupations held by fewer than 20,000 people. From the remaining pool, researchers selected 100 well-known occupations, and included the average annual income and number of workers associated with each.

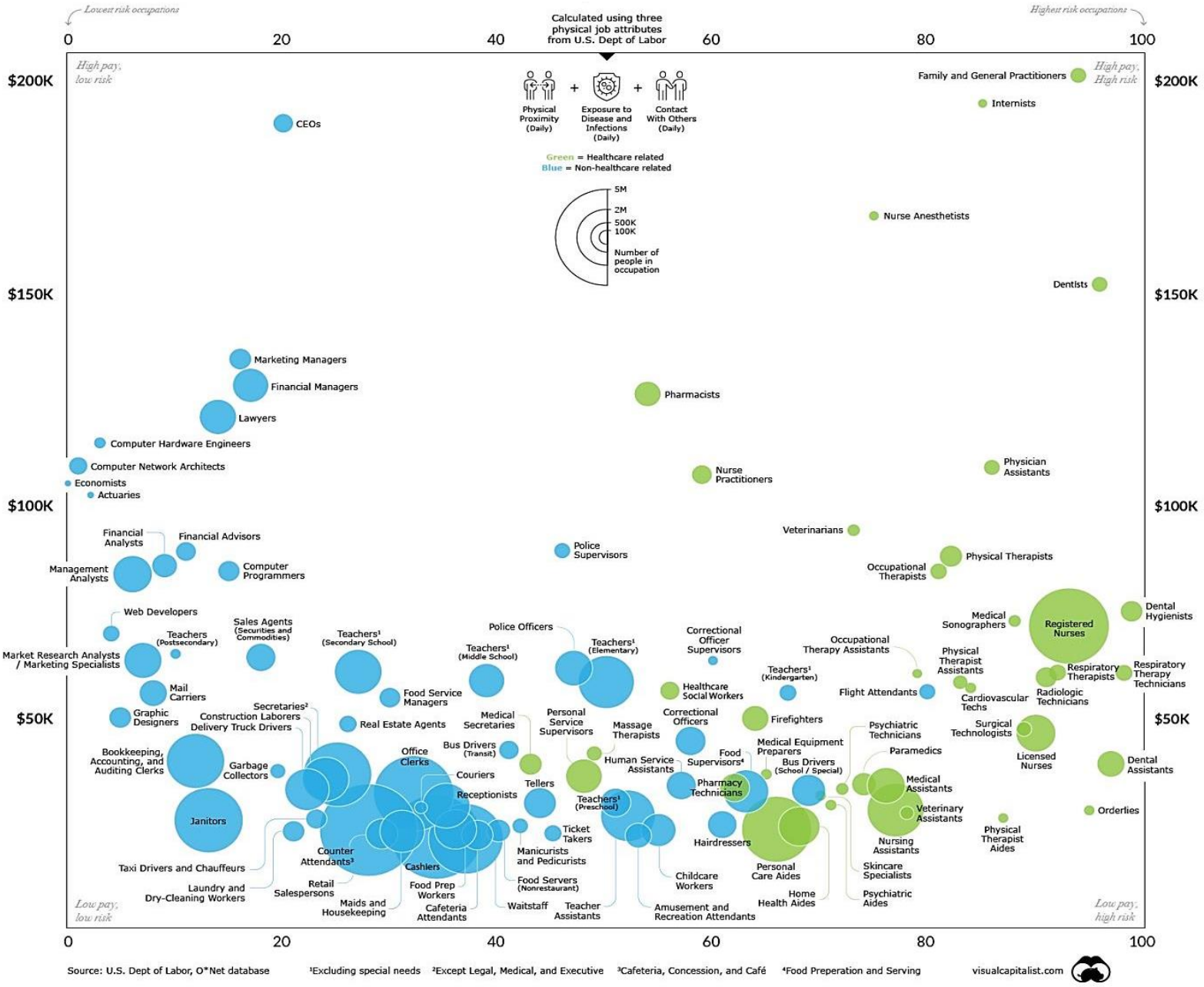
Table 2: The Twenty Occupations with the Lowest Covid-19 Risk[16]

Occupation	Covid-19 Risk Score
Economists	1.4
Computer Network Architects	4.7
Actuaries	5.2
Computer Hardware Engineers	6
Web Developers	12.5
Graphic Designers	12.8
Management Analysts	14.1
Market Research Analysts and Marketing Specialists	14.4
Postal Service Mail Carriers	16
Financial Analysts	19.3
Education Teachers, Postsecondary	19.6
Personal Financial Advisors	20.2
Bookkeeping, Accounting, and Auditing Clerks	22
Janitors and Cleaners, Except Maids and Housekeeping Cleaners	22.7
Lawyers	23
Computer Programmers	23.4
Marketing Managers	23.7
Financial Managers, Branch or Department	23.8
Sales Agents, Securities and Commodities	24.7
Refuse and Recyclable Material Collectors	32.3
Chief Executives	33.4

This estimate of Covid-19 risk can be combined with income and workforce data to reveal those cohorts of workers with low pay and high risk etc. (see visualisation below). Overall, this information on activities with a lower risk of infection should be considered alongside analysis on sectoral complementarity, and data on sectors where home office and digital technologies can be used well (or otherwise), to help inform a gradual, managed risk approach to restarting the economy.

[16] Lu, *The Front Line: Visualizing the Occupations with the Highest COVID-19 Risk*, April 2020.

Figure 4: Covid-19 and Occupational Risk



Sectors Where Remote Working Can Be Used Well

Understanding what sectors have the greatest potential for remote working can also help inform a managed restart process. As recent research states: 'Evaluating the economic impact of social distancing measures taken to arrest the spread of Covid-19 raises a fundamental question about the modern economy: How many jobs can be performed at home?' and that study suggests that 37 per cent of (U.S.) jobs can plausibly be performed at home.[17]

Here, the Government has stated that people should work from home where it is possible to do so during the Covid-19 pandemic. According to the latest Census, 95,000 workers work at or mainly from home,[18] though many multiples of that number work at home for some part of their working week. Not surprisingly, workers in the agriculture sector make up the largest proportion of those working mainly at home (40 per cent), with those working in professional, retail, and ICT services accounting for a further 22 per cent. Data from the US provides some understanding of those sectors where there is the greatest potential for remote working.

Table 3: Proportion of Workers Who Could/Did Work from Home by Sector, 2017-2018 (US)[19]

Sector	% who could	% who did
Financial activities	57.4	46.7
Professional and business services	53.4	47.4
Information	53.3	45.1
Manufacturing	30.3	25.7
Public administration	29.8	21.8
Other services	27.7	22.6
Education and health services	25.9	23.7
Construction	17.2	14.4
Wholesale and retail	16.5	13.9
Transportation and utilities	14	12.5
Agriculture	11.1	10.4
Leisure and hospitality	8.8	6.8

[17] Dingle and Neiman, 2020

[18] CSO, 2017

[19] US Bureau of Labour Statistics. Data for workers at their main jobs. Self-employed workers excluded. See https://www.bls.gov/news.release/flex2.t01.htm

Drawing firm conclusions from this data is unwise, but some insight is possible. For example, broadly speaking those sectors where remote working and digital technology can be used well may be best-placed to restart earlier than others (e.g. financial services, professional and business services, ICT sector, and parts of manufacturing). Those occupations could account for 945,000 workers across sectors in Ireland.[20] In these sectors, interventions should be made to narrow the gap between the proportion that can work at home, and those that do (7.5 percentage point gap, on average based on US data).

More detailed work should focus on what is required to restart those sectors where digital/working from home is more difficult (e.g. education and health services, construction, wholesale and retail, transportation and utilities, agriculture, leisure and hospitality). Those occupations could account for 1.15m workers across sectors here.[21] There is a smaller gap between the proportion that can work at home in these sectors and those that do (2 percentage point gap, on average based on US data).

Some care must be taken when examining remote working options as research finds that having the option to work from home is largely a matter of education, which in turn suggests there may be income challenges.[22] Looking at data from The Netherlands, the total share of employees who work from home at least two hours a day has doubled in the crisis, driven mainly by high-skilled workers (76 per cent).

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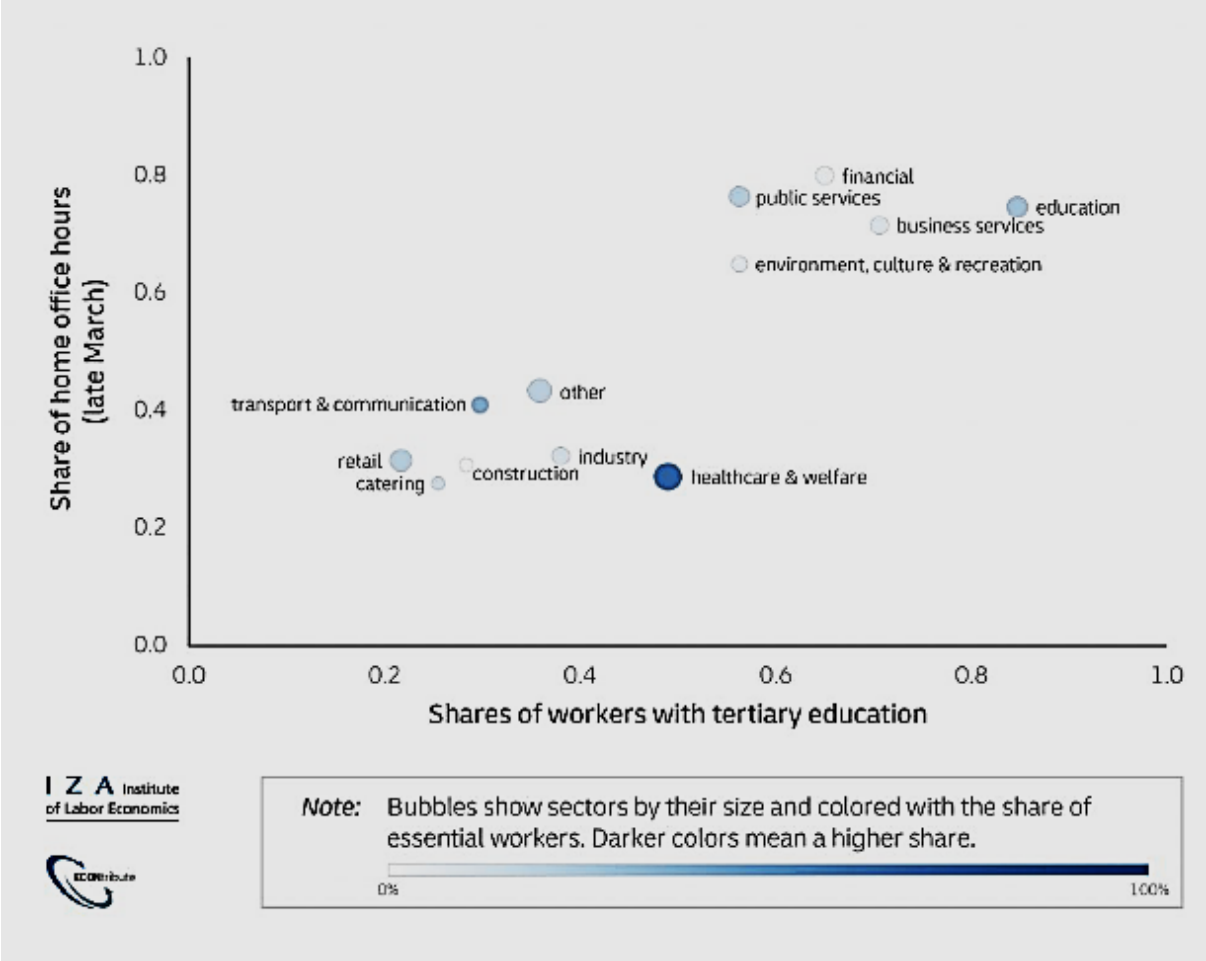
[20] NESC Secretariat calculations using CSO Occupational Data, Q4 2019. Includes workers in the following occupations: Managers, directors and senior officials; Business and public service associate professionals; Business, media and public service professionals; Corporate managers and directors; Business, research and administrative professionals; Other managers and proprietors; Information technology and telecommunications professionals; Business, finance and related associate professionals; Administrative occupations: Government and related organisations; Legal professionals; Architects, town planners and surveyors; Financial institution managers and directors; Quality and regulatory professionals; and Chief Executives and senior officials.

[21] NESC Secretariat calculations using CSO Occupational Data, Q4 2019. Includes workers in the following occupations: Caring, leisure and other services; Caring personal service occupations; Health professionals; Transport and mobile machine drivers and operatives; Agricultural and related trades; Skilled agricultural and related trades; Skilled construction and building trades; Caring personal services; Construction and building trades; Childcare and related personal services; Health professionals; Managers and directors in retail and wholesale; Managers and proprietors in hospitality and leisure services; Health and social care associate professionals; Elementary agricultural occupations; Mobile machine drivers and operatives; Health associate professionals; Construction operatives; Other drivers and transport operatives; and Managers and proprietors in agriculture related services.

[22] IZA, 2020.

Only 31 per cent of low-skilled workers report at least two home office hours per week since the beginning of the crisis. Among the lower-educated, switching to remote working is more difficult, so instead they experience a larger drop in total hours. Contributing factors may include the employer's perspective and support, ICT and equipment, home working environment – space to work, other family/household members at home, childcare, home schooling, etc.

Figure 5: Changes in Total Hours by Sectoral Shares of Workers with Tertiary Education, late March 2020[23]



[23] IZA, 2020.

The Dutch research found that the main reason may be that less qualified workers are more often in occupations where remote work is impossible, such as transport, retail, or food—this makes them 'more prone to job loss or substantial working hour reductions. At the same time, they are less likely to have savings or assets to compensate for income loss, which makes them particularly vulnerable to the crisis and more in need of government support. Lower educated workers are also found in essential occupations, such as nursing care or grocery retailing. While their jobs are currently safe, they are at higher risk of infection'.[24] In contrast, remote workers are protected against both infection and loss of income.

Conclusions

Public health is and must remain the primary concern as governments respond to the Covid-19 emergency. A secondary, important concern is economic impact. The pandemic is hitting economies hard but the impact is uneven. Understanding why sectors are impacted differently can inform which sectors could restart earlier or later in the recovery process. The gradual, differentiated risk approach states that, in principle, risk of infection is an important consideration for restarting activity.

A first step is to look at economic data alongside contact-intensity data. This involves access to solid and comprehensive occupational rather than sectoral data. The ability to divide sectors into high contact-intensity and low contact-intensity categories can help explain the extent and speed of the impact of Covid-19 in a sector. Policy-makers have access to international data that allows occupations to be placed into low, medium and high contact-intensity categories. Initial calculations reported here suggest 864,000 or 37 per cent of all workers in Ireland perform job tasks in very close physical proximity to other people, while around 565,000 or 24 per cent of all workers have lower levels of contact. It may be that sectors where jobs require less physical proximity to others can have a greater opportunity to restart sooner than others can. Going further, this paper shows that it should be then possible to estimate which occupations face the lowest or highest risk of exposure to Covid-19.

This information should then be considered alongside analysis on sectoral complementarity, and data on sectors where remote working can be used well. Broadly speaking those sectors where remote working and digital technology can be used well may be best-placed to restart earlier than others (e.g. financial services, professional and business services, ICT sector, and parts of manufacturing). Those occupations could account for 945,000 workers across sectors in Ireland.

[24] IZA, 2020: 3

More detailed work should focus on what is required to restart those sectors where digital/working from home is more difficult (e.g. education and health services, construction, wholesale and retail, transportation and utilities, agriculture, leisure and hospitality). Those occupations could account for 1.15m workers across sectors here. Some care must be taken when examining remote working options as research finds that having the option to work from home is largely a matter of education, which in turn suggests there may be income challenges.

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Appendix: Covid-19 Occupational Risk Scores[25]

	Occupation	COVID-19 Risk Score
1	Dental Hygienists	99.7
2	Respiratory Therapy Technicians	95
3	Dental Assistants	92.5
4	Dentists, General	92.1
5	Orderlies (Patient Care Assistants)	90.2
6	Family and General Practitioners	90.1
7	Registered Nurses	86.1
8	Respiratory Therapists	84.2
9	Radiologic Technicians	84.1
10	Licensed Practical and Licensed Vocational Nurses	82.1
11	Surgical Technologists	80.6
12	Diagnostic Medical Sonographers	80.4
13	Physical Therapist Aides	80.3
14	Physician Assistants	80
15	Internists, General (Internal Medicine)	79.8
16	Cardiovascular Technologists and Technicians	79.3
17	Physical Therapist Assistants	79.3
18	Physical Therapists	78.6
19	Occupational Therapists	77.7
20	Flight Attendants	75.6
21	Occupational Therapy Assistants	75
22	Veterinary Assistants and Laboratory Animal Caretakers	74.9
23	Nursing Assistants	72.5
24	Medical Assistants	72.2
25	Nurse Anaesthetists	70.8
26	Emergency Medical Technicians and Paramedics	70.7
27	Veterinarians	70
28	Psychiatric Technicians	69.81
29	Psychiatric Aides	69
30	Skincare Specialists	68

[25] https://www.visualcapitalist.com/the-front-line-visualizing-the-occupations-with-the-highest-covid-19-risk/

31	Bus Drivers, School or Special Client	67.3
32	Home Health Aides	66.3
33	Kindergarten Teachers, Except Special Education	65.8
34	Personal Care Aides	64
35	Medical Equipment Preparers	63.9
36	Municipal Firefighters	63.2
37	First-Line Supervisors of Food Preparation and Serving Workers	62.8
38	Pharmacy Technicians	62.5
39	Hairdressers, Hairstylists, and Cosmetologists	62.1
40	First-Line Supervisors of Correctional Officers	61
41	Nurse Practitioners	60.9
42	Correctional Officers and Jailers	60.4
43	Social and Human Service Assistants	60.3
44	Healthcare Social Workers	58.1
45	Childcare Workers	57.9
46	Pharmacists	56.8
47	Amusement and Recreation Attendants	56
48	Teacher Assistants	55.7
49	Preschool Teachers, Except Special Education	55.1
50	Elementary School Teachers, Except Special Education	53.8
51	Massage Therapists	52.8
52	Medical Secretaries	52.1
53	Police Patrol Officers	51.8
54	First-Line Supervisors of Police and Detectives	51.8
55	Ushers, Lobby Attendants, and Ticket Takers	51.1
56	Tellers	50.9
57	First-Line Supervisors of Personal Service Workers	50.2
58	Manicurists and Pedicurists	49.4
59	Bus Drivers, Transit and Intercity	47.8
60	Food Servers, Non-restaurant	47.6
61	Middle School Teachers, Except Special and Career/Technical Education	46.6
62	Dining Room and Cafeteria Attendants and Bartender Helpers	45.5
63	Waiters and Waitresses	43.6
64	Food Preparation Workers	42.7
65	Receptionists and Information Clerks	42.6
66	Cashiers	41.6
67	Couriers and Messengers	41

68	Office Clerks, General	40.5
69	Maids and Housekeeping Cleaners	40.4
70	Food Service Managers	40
71	Counter Attendants, Cafeteria, Food Concession, and Coffee Shop	39.5
72	Retail Salespersons	38.7
73	Secondary School Teachers, Except Special and Career/Technical Education	37.3
74	Real Estate Sales Agents	36.9
75	Secretaries and Administrative Assistants, Except Legal, Medical, and Executive	36.5
76	Construction Laborers	36.2
77	Taxi Drivers and Chauffeurs	35.2
78	Light Truck or Delivery Services Drivers	33.8
79	Laundry and Dry-Cleaning Workers	33.5
80	Chief Executives	33.4
81	Refuse and Recyclable Material Collectors	32.3
82	Sales Agents, Securities and Commodities	24.7
83	Financial Managers, Branch or Department	23.8
84	Marketing Managers	23.7
85	Computer Programmers	23.43
86	Lawyers	23
87	Janitors and Cleaners, Except Maids and Housekeeping Cleaners	22.7
88	Bookkeeping, Accounting, and Auditing Clerks	22
89	Personal Financial Advisors	20.2
90	Education Teachers, Postsecondary	19.6
91	Financial Analysts	19.3
92	Postal Service Mail Carriers	16
93	Market Research Analysts and Marketing Specialists	14.4
94	Management Analysts	14.1
95	Graphic Designers	12.8
96	Web Developers	12.5
97	Computer Hardware Engineers	6
98	Actuaries	5.2
99	Computer Network Architects	4.7
100	Economists	1.4