The Economic Impact of the COVID-19 Pandemic on Ceredigion Businesses and Self-employed

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Executive Summary

This study aims to investigate and understand the economic impact of the COVID-19 pandemic on businesses and the self-employed within Ceredigion. Ceredigion is a rural County with key industry sectors such as agriculture, hospitality, tourism, retail, construction, manufacturing, civil service, health and social care, creative arts/ entertainment, transport, telecommunication, and education (including higher education). In addition, non-governmental organisations and charities have a major presence in the county. One of the main differentiating characteristics of Ceredigion is its large share of self-employed businesses (13.5% in 2022) and small and micro enterprises (91.8% in 2022).

On the 23rd of March 2020, the United Kingdom government introduced various restrictions in order to contain the spread of the COVID-19 virus. These restrictions included the closure of places of work and worship, shops, businesses, leisure centres, sports events, hotels and restaurants, pubs, nightclubs, libraries, museums, schools, and universities. Non-essential activities (see Appendix 1), non-essential travel, and tourist activities were temporarily suspended. The containment measures, restrictions and subsequent lockdowns had a negative impact on the economy which resulted in direct costs to businesses and the self-employed, affecting revenue and profitability, supply chains and operations, and human capital¹. The impacts on business operations included: the closure of business premises, reduced working hours due to employees working around childcare or other caring responsibilities or the necessity of employees working from home during the lockdowns (ONS, 2020a). At the start of the closures and lockdowns, the future of the economy looked pessimistic and the economic situation in the country was expected to worsen (ONS, 2020a).

In this study, we specifically investigated the economic impact of the COVID-19 pandemic on businesses and the self-employed within Ceredigion. With lockdowns shutting down most economic activities across the world and the UK, there is no doubt that these measures had a negative impact on businesses. The adverse impact of business closures and lockdowns was more pronounced in rural economies such as Ceredigion (Mahmud and Riley, 2021, Walmsley et al., 2020). This motivated a local level study to evaluate the impact of the pandemic, highlighting multi-level business vulnerabilities resulting from the interplay of local factors such as the local economy's sectoral composition, transmission patterns, and business types.

The main objective of this research project is to examine the evidence and understand the economic impact of the COVID-19 pandemic and the lockdowns on businesses and the self-employed in Ceredigion. The study seeks to identify both the negative and positive developments that occurred and how these might help inform future policymaking. The insights from this research will be useful to policymakers to provide appropriate measures to support the recovery of businesses. It is expected that this report will be of value to the businesses and the self-employed that operate within the county and other similar counties across the UK.

This study is based on the survey of businesses and the self-employed in Ceredigion and informed by a review of related academic literature and other studies carried out by government agencies and non-governmental organisations on the impact of the COVID-19 pandemic in the United Kingdom and other countries in the world.

This research project explores how Ceredigion businesses and the self-employed coped during the COVID-19 pandemic. Ceredigion businesses and the self-employed have reported on their level of profitability and revenue, supply chain and operational issues, human

1. Human capital includes knowledge, skills and experience that people accumulated throughout their working life.

capital, government support schemes, digital connectivity issues, and confidence in the future. These responses are explored in the main body of the report.

We received a total of forty responses from businesses and thirty-seven self-employed businesses located in Ceredigion². The responses came through the online version of the survey, which was hosted on both the Ceredigion County Council and Aberystwyth University websites and other social media outlets. During the pandemic, the online platform was the quickest and safest way of reaching businesses and the self-employed hence our decision to conduct an online survey.

A summary of the range of businesses surveyed shows that: 10.5% of the businesses had only been operational in the year prior to the March 2020 lockdown, 60.5% of businesses had been operational since 2000, and 39.5% of businesses had been established prior to the year 2000. 47% of the business respondents were limited liability companies. 62% of businesses surveyed were run as sole proprietorships. The respondents were from a wide range of industrial sectors. The largest proportion was 32% in hospitality, tourism, and the leisure sector, followed by 17% in retail, 12% in building and construction, 7% in manufacturing and transportation, 5% in childcare, 5% in IT, 3% each in financial services, education and agriculture, and 2% each in healthcare, legal, and the media industry.

Our findings show significant changes in business revenue, levels of external debt, changes in demand and customer numbers and disruptions to supply chains since the onset of the COVID-19 pandemic. Changing operations to comply with government restrictions e.g., social distancing, increased sanitisation and cleaning and staff with caring responsibilities working from home considerably changed the business environment. In addition, the necessity to operate online led to a marked increase in businesses having to provide computing devices, internet connectivity and digital accessibility for their operations.

The impact of COVID-19 on the revenue of businesses surveyed was negative for over twothirds of the sample. 69% saw a fall in revenue compared to 10.5% which saw a rise during the pandemic. The level of external debt rose in 33% of businesses with 54% of businesses reporting that finances fluctuated during the pandemic. 92% of businesses reported that they had experienced difficulties in various areas of their business. The difficulties were: supply chain disruptions, a reduction in the number of customers, a decline in cash flow, an increase in the number of business debtors, staffing issues, family circumstances, access to local markets, and accessibility problems due to safe zones in towns.

Focusing on the self-employed respondents to the survey, 46% reported that business customers had declined due to COVID-19 restrictions and 43% of self-employed businesses reported that business revenue had declined due to reduced demand for the products and services they supplied, compared to 8% that reported a rise in business revenue due to increased demand for their products and services.

The outbreak of COVID-19 led to significant disruptions to the supply chain of businesses in Ceredigion. 45% of businesses surveyed reported varying degrees of disruptions to their supply chains. 5% of the self-employed respondents were directly affected by shortages of supplies needed to run their businesses. The impact on supply chains and temporary closures of businesses meant that many businesses had to adopt new ways of working and adapt to the needs of customers in a very short period of time.

Among the businesses surveyed, 76% had to change the way they operated due to the introduction of new health and safety measures. These included operating at reduced capacity to allow for social distancing, frequent disinfecting and cleaning of customer areas, adapting the business to provide a takeaway service only, moving the business online, altering shift patterns for workers, and moving meetings online as some employees continued to work from home. 47% of businesses surveyed reported issues with digital access and connectivity which included slow broadband speed, poor mobile signal, lack of digital skills and the cost of digital access. Moving whole or part of the business online relies on good infrastructure and digital connectivity.

^{2.} The self-employed businesses were surveyed in the socio-economic impact of the COVID-19 pandemic on Ceredigion households survey, their responses are included in this report only.

3% of the businesses surveyed were impacted by COVID-19 and had to close their business permanently and 69% had to close their business temporarily. After the initial shutdown and closure of businesses the majority were able to function in some capacity. 95% of businesses in Ceredigion did not close permanently. 3% of self-employed closed permanently while 35% closed temporarily. The self-employed that closed temporarily included those in hospitality, creative arts, photo artist, retail, business services, shopkeeping, photography, hairdressing, general therapy, and property maintenance.

The pandemic had an adverse effect on human capital which led to redundancies, reduced working hours and changes in work patterns. 13% of businesses reported laying off staff due to the pandemic. 41% of businesses reduced their employees' working hours, and 32% had staff working from home. 34% of employees across all businesses surveyed were caring for children during the pandemic. Employees were also self-isolating or on sick leave and in receipt of company paid sick leave or Statutory Sick Pay because of the pandemic. These redundancies, changes to work patterns and staff shortages due to illness or self-isolation had an indirect negative impact on the businesses surveyed.

The government introduced a range of support schemes in order to help businesses and the self-employed. Among all the government support schemes, the Coronavirus Job Retention Scheme (Furlough) to help retain employees during the pandemic and the Self-Employed Income Support Scheme (SEISS) to support the self-employed were the most utilised. From the responses, other schemes applied for included: Welsh government grants, Recovery loans, Business rates grants scheme, Business support grants, Non-domestic rates business grant, Local Authority discretionary grants, Small business grant, Start-up business COVID grant, Coronavirus Business Interruption Loan Scheme (CBILS), Bounce Back Loan Scheme (BBLS), Government backed loans and the Economic Resilience Fund.

In Ceredigion, 59% of businesses surveyed registered for the government Furlough. Sole traders and self-employed businesses were not eligible for the scheme. Also, those businesses that did not have any employees or had not been trading long enough were not eligible. Some businesses continued trading throughout the pandemic and maintained their pre-pandemic staffing levels without the support of Furlough. These included businesses which had staff working from home and those where sales continued, albeit lower than in previous years or saw sales increase due to the introduction of new business lines.

Unlike the Furlough Scheme which was implemented more expediently, the SEISS scheme was implemented two months later. The delay in setting up the scheme contributed to the financial hardship for small businesses and the eligibility criteria left out several categories of the self-employed. 27% of self-employed businesses applied for the Government's SEISS. 22% of the self-employed surveyed were eligible and successful in their application for any government self-employment business support schemes. 76% of the self-employed respondents reported that they were not eligible for any of the government's self-employment business support schemes. These figures suggest that the eligibility criteria³ ruled out some of the self-employed from participating in these schemes.

The containment measures put in place were successful in reducing the spread of the COVID-19 virus and lessened the burden on the NHS. Also, the government business support schemes helped to alleviate some of the adverse effects of the pandemic. However, businesses and the self-employed suffered because of the containment measures despite the government's support. For example, the shutting down of economic activities during the pandemic meant that revenues and profits were negatively affected by reduced demand and the closure of businesses. Some businesses had to take on additional debt in order to survive. Also, lockdowns and other COVID-19 containment measures had a direct negative impact on business operations and supply chains. Staff were made redundant, some worked from home, self-isolated due to infection, took paid or unpaid sick leave, undertook homeschooling or other caring responsibilities. All these impacted negatively on businesses through changes in working hours, work patterns and employee responsibilities. The Furlough

^{3.} See Appendix 2 for more information regarding SEISS eligibility criteria.

Scheme and Self-Employed Income Support Scheme helped to retain staff and to support the self-employed. However, there were delays in the implementation of the SEISS and several categories of the self-employed were excluded from the scheme based on eligibility criteria.

Finally, as with any survey-based data collection method, caution needs to be exercised in reading and interpreting the results of this study. Businesses and the self-employed that were impacted most by the pandemic might have been preoccupied with their predicament and were not motivated to participate in the survey. That means that some of the worst impacts of the pandemic on the businesses in Ceredigion may not have been reflected in our results. Using alternative data collection methods such as focus groups was not possible due to COVID-19 pandemic restrictions.

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Introduction

The primary purpose of this study is to assess the economic impact of the pandemic and the multi-level increase in vulnerability on businesses and the self-employed in Ceredigion. Businesses and the self-employed in Ceredigion faced varying degrees of economic challenges and uncertainties since the COVID-19 outbreak in March 2020. Both the pandemic and containment measures and the restrictions that followed had significant effects on businesses around the world. Within the United Kingdom, businesses and the self-employed located in different counties were affected differently. This depended on the local economy's sectoral composition, transmission patterns, business types, and skill sets. The containment measures, restrictions and subsequent lockdowns that reduced economic activities had a negative impact on the economy and resulted in direct costs to businesses and the self-employed, affecting revenue and profitability, supply chains and operations, and human capital. As a result, there was a multi-level increase in vulnerability for the majority of businesses.

The survey questions were organised around related themes established from evidence in existing literature and studies conducted elsewhere in the United Kingdom during the COVID-19 pandemic. We received 40 responses from Ceredigion businesses and 37 from the self-employed. Originally, the self-employed questionnaire was included in the Household Survey, but their responses were combined with the responses from businesses for analysis⁴.

This report consists of four key parts. The first part provides a brief background to the study and reviews of closely related literature. Additionally, it examines the current understanding of the impact of the COVID-19 pandemic in the United Kingdom. The second part discusses the study method which includes questionnaire design and sampling procedure. The analysis of our findings follows in part three, and the discussion sections are organised around the major themes of the study. The conclusions derived from the analysis of the responses and future policy suggestions for central and local governments form the final part of the report. A copy of the survey questionnaire is included in Appendix 3.

Background

The coronavirus (SARS-CoV-2) otherwise known as COVID-19, was first reported in Wuhan, China, in December 2019. By February 2020, the disease had spread across the globe, including European countries and the United Kingdom. Subsequently, as the disease continued to spread globally, the World Health Organisation (WHO) designated the outbreak of SARS-CoV-2 a worldwide pandemic on 11 March 2020 (WHO, 2020). However, it was not until Monday, 23 March 2020, when the United Kingdom government passed a stay-athome directive to all businesses and people in the country that was intended to help curb the spread of the virus across the UK.

Following the implementation of the stay-athome measures, UK businesses were worried about the effect COVID-19 would have on their profitability as a result of reduced opening hours, workplace closures and the work-from-home directive. Other concerns included disruption to operations, redundancies, working around childcare or other caring responsibilities. The self-employed were worried about not being able to continue trading due to a fall in demand for their services and hence declining revenues (ONS, 2020a).

The impact of the COVID-19 pandemic and the stay-at-home directive was felt across various sectors and areas of the economy. The supply chain of goods and services is one area in which the adverse effects of the pandemic were strongly felt (Aday and Aday, 2020). Businesses changed the ways they operated, for example, moving their business online or implementing strict COVID-19 measures to allow for social distancing. Many businesses and the self-employed turned to the government for support in order to remain operational.

4. See the report titled "The Socio-economic Impacts of the COVID-19 Pandemic on Ceredigion Households" for more information.

Enterprises	Ceredigion (numbers)	Ceredigion (%)	Wales (numbers)	Wales (%)
Micro	3650	92.1	94600	89.4
Small	290	7.3	9460	8.9
Medium	25	0.6	1470	1.4
Large	5	0.1	335	0.3
Total	3965	100	105855	100
Local Units				
Micro	3985	88.5	107040	83.3
Small	460	10.2	17715	13.8
Medium	55	1.2	3300	2.6
Large	5	0.1	515	0.4
Total	4505	100	128570	100

 Table 1: The Breakdown of Enterprises and Local Units by Size (2020)

Source: United Kingdom Business Counts (ONS, 2020c).

Ceredigion has a higher share of micro enterprises and local units than the Welsh average.

Before looking at the impacts of the COVID-19 pandemic on Ceredigion businesses, the next subsection looks at the background of Ceredigion businesses in more detail.

Ceredigion businesses' background

Ceredigion economy is dominated by SMEs. Only 55 out of roughly 4500 total local units of businesses in the county (1.2%) fall in the "medium" category of having between 50 and 249 employees. Small enterprises employing 10 to 49 people comprise 10.5% of the total with the rest (88%) being "micro"-sized businesses employing 0 to 9 people⁵. As can be seen from Table 1, SMEs form a higher share of the economy in Ceredigion than in Wales on average.

During the last decade, Ceredigion experienced negative growth in the number of enterprises and local units; their numbers declined every year except between 2014 and 2017 (Figure 1). This is in sharp contrast to the figures for Wales and Great Britain where the number of enterprises increased every year between 2011-2021. It should be noted that growth was positive in Ceredigion in 2021-2022.

One of the key differentiating factors of Ceredigion County is its high share of self-

5. An enterprise can have several local units such as branches of a department store.



Figure 1: The percentage change in total local units in Ceredigion, Wales and Great Britain (2011-2022)

Source: United Kingdom Business Counts (ONS, 2020c).

Between 2010 and 2022, the annual percentage change in the number of local units in Ceredigion was negative for most of the years. There was a sharp increase between 2014 and 2016, an increase between 2016 and 2017 and from 2021 to early 2022. The Ceredigion trend follows the Welsh and Great Britain trends, albeit at lower levels but the trend reversed between 2021 and 2022. The Great Britain data includes Wales.



Figure 2: Percent share of self-employment in total employment for Ceredigion, Wales and Great Britain for the years 2004-2021

Source: ONS Annual Population Survey (2022)..

The percentage share of self-employed businesses in Ceredigion is higher than the Wales and Great Britain average. There is instability in the share of self-employed businesses in Ceredigion between 2004 and 2021 with a decrease after the pandemic began.

employed businesses. Figure 2 shows the percentage share of self-employed businesses in Ceredigion compared to Wales and the United Kingdom between years 2004 and 2021.

The decrease in the number of self-employed in the local economy during the pandemic coincides with an increase in the number of employees (ONS, 2022). The ONS data and commentary suggest that a number of the self-employed moved to more 'stable' jobs and became employees in other businesses or reclassified themselves as employees in order to take advantage of the Furlough Scheme (ONS, 2022).

Revenue and Profitability

The pandemic resulted in falling sales, revenue and profit for many firms. Data from the European Investment Bank Investment Survey (EIBIS, 2021) revealed the shock felt by EU firms due to the pandemic, with 49% of EU firms suffering a drop in sales, compared to 21% which experienced increased sales. Low (pre-crisis) productivity was a strong predictor of lost sales, and more digitally advanced firms proved to be slightly more resilient during the pandemic. The EIBIS (2021) noted the divide between faster digitalising firms and those progressing more slowly, with clear asymmetry emerging. EU firms that had already implemented advanced digital technologies were more likely to digitalise further due to the pandemic, which made it even harder for slow adopters (sleepwalking firms) to catch up. Nearly half of the firms surveyed by the EIBIS that had already implemented advanced digital technologies said they increased their digitalisation as a response to the pandemic, only a third of less digitally advanced firms said the same. Firms that are not advancing on digitalisation tend to be less transformative, innovative and productive and did not use the pandemic as a reason to develop their product portfolio and maintain or increase sales revenue (EIBIS, 2021).

The ONS (2020b) noted that there was an 87% increase in profit warnings in 2020 with over three quarters of these citing COVID-19 as the reason, reflecting those businesses that were affected the most by the impact of social distancing on their demand and operations. Private non-financial corporations reduced their payment of dividends by £51.7 billion in 2020 and total annual dividend payments reached an eight-year low. The fall in dividend payments in 2020 was more immediate and substantial than the economic downturn in 2008. The Bank of England (2020) financial stability report estimated a cash-flow deficit in the financial year ending 2021 of up to £180 billion, primarily reflecting the shocks to turnover over this period. The ONS (2020b) survey data suggested that some industries were worst hit, particularly those in the accommodation and food services, and the arts, entertainment and recreation sectors. However, the nominal fall in corporate profits was not as large as the fall in 2020 national income. This is due to the financial support that was provided by the government to businesses.

Using data from 1.5 million German companies, Dorr, Licht and Murmann (2022) show that it was mainly smaller firms that experienced strong financial distress and would have gone bankrupt without the government's policy assistance. Small firms suffered a significant loss of sales (by at least 25%) more often than medium-sized and large firms. They were three times more likely to see this loss in the manufacturing sector. Small and micro firms across sectors were also twice as likely to enter insolvency. Faced with declining sales, 23% of firms revised future investment plans downward, with only 3% planning to invest more. The greater the loss of sales in 2020, the less likely firms were to plan to invest more in the coming year than in the last. This finding is supported by the ONS (2020b) survey data which reports a fall in capital expenditure over 2020, reflecting the adverse impact of COVID-19 restrictions on sales revenues and cash positions, as well as the effects of increased uncertainty around whether the changes in the level and composition of demand would persist.

Reuschke et al (2020) found an immediate and severe impact of the lockdown on the selfemployed. Approximately, one-half of the selfemployed lost more than 50% of their income. Blundell, Machin and Ventura (2021) conducted repeated surveys of the self-employed and reported that the hours worked and incomes of the self-employed decreased during the course of the pandemic. According to the authors in January 2021, 57% of surveyed self-employed workers were earning less than £1,000 per month. This was an increase from 31% in January 2020 and from 46% in August 2020.



Figure 3: Expected impact of COVID-19 on sales, employment, hours worked, investment and costs in UK businesses

Source: Bank of England (2020b) Impact of Covid-19 on UK businesses – evidence from the Decision Maker Panel in 2020 Q4 | Bank of England.

Small and medium-sized enterprises (SMEs) account for 50 per cent of the total revenue generated by UK businesses and 44 per cent of the country's labour force (McKinsey, 2020). The COVID-19 pandemic affected the economy and the livelihoods of the people behind the SMEs. McKinsey (2020) found that although 80% of the SMEs surveyed reported stable or increasing revenue prior to the pandemic, 80% found their revenues declined as a result of the pandemic. Concerns were raised regarding defaulting on loan repayments, retaining employees, and sustainable supply chains and the need to postpone growth projects. McKinsey (2020) found that industries in the UK were affected differently with logistics, construction and agriculture being the most negatively affected. Sectors such as finance, scientific research, insurance and education were the least affected. McKinsey (2020) predicted that a drop in SME revenue would have a disproportionate impact on SME survival with the survey results showing that a drop in revenue by 10 to 30 per cent would result in insolvency.

Figure 3 above is taken from the Bank of England (2020b) survey evidence from the decision maker's panel⁶ in quarter 4 of 2020

and looks at a summary of the results of the impact of COVID-19 on UK businesses, up until November 2020. As highlighted in the graph, COVID-19 had a large impact on UK businesses conditions with continued expectations that COVID-19 would impact sales, employment, hours worked, investment and costs over the next year. In the first two guarters of 2020, sales, investment and total hours worked all saw a dramatic fall. Sales were approximately 30% lower relative to pre-COVID-19 in 2020 guarter 2 and 17% lower than they otherwise would have been in 2020 guarter 3. Employment was 8% lower and investment 24% lower. To add to declining business conditions, there was an increase in unit costs of around 7% in guarter 2 of 2020. This increase persisted throughout the period examined, with no expectation that these costs would substantially decline as other business conditions improved. Further improvements were expected in the first half of 2021, such that sales were only expected to be around 2% lower by 2021 Q2. Investment was also expected to recover, but more slowly and by less than sales (Bank of England, 2020b).

^{6.} The Decision Maker Panel (DMP) is a survey of Chief Financial Officers from small, medium and large UK businesses.

Supply Chain and Operational Issues

As lock downs came into effect, consumers started to stock up on essential items resulting in systemic demand shocks. Examples include products such as toilet paper, hand sanitiser and hand wash. It was feared that supply chains would not be able to withstand the peaks in demand. Whilst some supply chains were forced to ramp up others were forced to shut down because they could not cope with the demand shock (Seifert and Markoff, 2020).

The COVID-19 pandemic highlighted the need for companies to react and adapt quickly to crisis and strengthen resilience in their operations. Managing supply chains was a key part of this risk management activity. During the COVID-19 pandemic and subsequent lockdowns, companies were faced with substantial disruptions that included managing reduced supplies and customer expectations.

Today's supply chains are complex and making changes involves considering contractual obligations, tax and employment implications, potential relocation costs, visa issues for staff and entry requirements and force majeure implications (Hedwall, 2020). Dolgui and Ivanov (2021) studied the ripple effect concept in supply chain disruptions and a stress factor in supply chain resilience⁷. The COVID-19 pandemic has caused ripple effects in the supply chains and supply chain structural dynamics that follow these effects led to impacts such as lower revenues, delays in delivery of goods and services, loss of market share and reputation and adverse effects on the profitability of firms (Dolgui and Ivanov, 2021).

The over reliance on China as a low-cost producer of goods and services caused supply chain disruptions for companies, especially at the start of the pandemic when China shut down in early 2020 (Wright and Lee, 2020). This increased public awareness of the geographical diversification of supply chains. There were disruptions to the availability of goods sourced from China; both finished goods for sale and inputs used in factories in developed markets.

The agricultural and food supply chains were some of the most disrupted by the COVID-19 pandemic. Aday and Aday (2020) document that the COVID-19 pandemic had a negative impact on the entire agriculture and food supply chain from the farms to the consumers. The authors observed that the pandemic adversely affected various aspects of the supply chain, such as food production, processing, distribution, and, ultimately, demand. They argue that this is due to the restrictions and measures introduced by governments around the world to control the spread of the COVID-19 virus. The authors recommend that the supply chains be made flexible enough to lessen the disruptions and challenges the sector faces. Sharma et al. (2020), studying agricultural supply chains, identify a number of agricultural supply chain risks due to disruptions of the COVID-19 pandemic. The authors' findings reveal that demand and supply risks, management and operational risks, financial and logistics risks, policy and regulatory risks, and environmental risks have contributed to various levels of disruptions depending on the scope and scale of the organisation. Also, the authors observed that adopting strategies such as industry 4.0 technologies⁸, supply chain collaborations, and shared responsibility are helpful to lessen supply chain disruptions caused by the COVID-19 pandemic.

Magableh (2021) looked at the disruptions to the global supply chain caused by the COVID-19 pandemic. The author analyses the various supply chain stages and phases to determine the consequences, opportunities, and developments due to the pandemic. The author argues that the COVID-19 pandemic has caused a significant negative impact on global supply chain activities, especially in the medical and food global supply chains and that these impacts have compromised both the integrity and the stability of the global supply chain. Furthermore, the paper suggests a COVID-19 supply chain framework to help address any major future disruptions to the global supply chain⁹.

^{7.} The authors state that the ripple effect occurs when disruption is not localised in the supply chain but rather cascades down the chain and impacts the performance of the entire supply chain.

^{8.} Industry 4.0 technologies include, but are not limited to, additive manufacturing, artificial intelligence, big data and analytics, blockchain, cloud, industrial internet of things, and simulation (Dalenogare et al., 2018; Bai et al., 2020).

^{9.} For more details on the framework, please see https://onlinelibrary.wiley.com/doi/full/10.1111/emre.12449.

Payne-Gifford et al (2022) explore the disruptive impact of the COVID-19 pandemic on British beef and sheep meat supply chains. The study is based on the triangulation of farming and industry news reports, submissions to government COVID-19 enquiry and interviews with industry experts. The authors find that livestock farming and farm services were not as severely affected by the pandemic as other downstream activities such as processing, retailing, food service or consumer delivery channels. However, the sudden closure of hospitality and catering and the redirection of supplies to the retail sector had a dramatic effect on the primary and secondary processors of red meat. From the authors' assessment, there is an inherent resilience in the British beef and sheep meat industry supply chains as a result of the traditional production cycles. The 12-36-month production cycle operated by this industry makes it resilient to an indirect disruption such as the COVID-19 pandemic.

Another industry supply chain that suffered as a result of the COVID-19 pandemic was housebuilding and construction in general. In their study, Tyfu Tai Cymru (part of Chartered Institute of Housing (CIH) Cymru, 2021) reported that 90% of respondent organisations suffered from supply chain disruptions with their housebuilding, maintenance or retrofitting programmes. The study finds that access to timber for building and construction saw the highest drop during the pandemic. Also, the authors find that prices increased by 30% to 40% for materials such as timber, steel, concrete, and fencing. The respondents to the study believe that price increases occurred mainly in the six months leading up to August 2021.

The automobile industry did not escape the adverse impact of the COVID-19 pandemic on its supply chain. In March 2020, Volkswagen suspended production across Europe, including plants in Spain, Portugal and Slovakia (Volkswagen, 2020). Factories in Italy suspended production, and work stopped in Germany and its other European plants for several weeks. Volkswagen joined other automakers in Europe in closing plants as a result of the pandemic. Fiat Chrysler, Peugeot Group and Renault announced the closure of 35 manufacturing facilities in total across Europe as regional and national authorities imposed severe restrictions on travel and public life (CNN, 2020).

Hedwall (2020) stated that "Over the past decades, the discussion around optimizing supply chains has focused primarily on cost efficiency and commercial best outcomes". However, as the COVID-19 pandemic has shown, "future supply chains will need to begin factoring resilience and adaptability into their calculations¹⁰".

Human Capital

Human Capital has been defined as the stock of skills and knowledge that directly impact the production process (OECD, 2021). Human capital is lost with the time spent away from employment, education and training. During the COVID-19 pandemic, schools and childcare facilities were closed for extended periods and many parents had to home-school their children. Home-schooling and online schooling lasted for many months in the UK, which disrupted the process of knowledge and skill acquisition for all age groups negatively affecting future human capital available for economic activity.

The loss of knowledge and skills while people are not employed, or when these skills are underutilised due to underemployment or inactivity, is much higher than when being at work (OECD, 2020). Labour underutilisation increased in 2020 in all OECD countries, compared to 2019, resulting in a loss of human capital. Labour underutilisation was more pronounced in households with caring responsibilities and those with children that required home-schooling.

The literature identifies negative effects of the pandemic on human capital through the following channels: mortality as a result of the infection, morbidity, separation from work because of increased caregiving, increased unemployment, underemployment, dropping out of the labour force and disruption to schooling (OECD, 2021). The mortality effect can be measured through 'potential years of life lost' a measure of premature mortality that attaches more weight to deaths at younger ages. There was a significant loss of potential years of life as a result of deaths in all age groups in the pandemic. Pifarré i Arolas et al (2021) calculated

10. https://www.weforum.org/agenda/2020/06/ongoing-impact-covid-19-global-supply-chains

that 20.5 million years of life had been lost due to COVID-19 by January 2021 in 81 countries for which the mortality data was available. The loss of the years of life deprived economies and societies of human capital that would have otherwise been used productively. In addition, the effects of the so-called "long Covid" on long-term health have negatively affected the sufferer's ability to work which resulted in deterioration of human capital.

As a consequence of the pandemic and stay at home orders, many businesses had staff working from home with reduced working hours. Within each occupation, there is considerable variation in workers' ability to work from home. This led to changes in working patterns and behaviour. Having to work from home has accelerated the existing tendency towards flexible work arrangements.

Reasons for reduced working hours varied from staff hours cut due to a reduction in business revenue and a reduction in customers. Additionally, staff working hours were reduced as a result of staff being off sick, shielding or as a result of staff self-isolating due to symptoms of COVID-19 within the household. OECD (2020) points out that the rise in labour underutilisation from 2019 to 2020, for 32 OECD countries on average, was almost five times higher than the rise in unemployment over the same period. This is because of a large increase in the share of underemployed and marginally attached workers as a result of the pandemic. The large increase in labour market underutilisation underscores that the loss of knowledge and skills stemming from the COVID-19 pandemic affected more people than those who are conventionally counted as unemployed.

Many businesses, in particular the hospitality and tourism industry, saw a spike in customers during the summer months of 2020, once restrictions were eased, and many had issues recruiting enough staff. Across the UK other businesses also saw a shortfall in staff recruitment, in particular in agriculture and the transport sectors, and had issues recruiting staff members to carry out essential roles such as milking, fruit and vegetable harvesting and the recruitment of delivery drivers to deliver goods and services across the UK. While these sectors relied on short term and seasonal migration from the EU, many European workers having returned home to Europe were not coming back to the UK (Paul, 2020).

Issues with staff recruitment and staff shortages were exacerbated by older more vulnerable staff members shielding or retiring during the pandemic reducing the stock of human capital specific to firms.

Government Business Support Schemes

To keep the economy from collapsing during the COVID-19 pandemic government business support schemes were introduced to counter business closures and to retain jobs throughout the lockdown and beyond. The government implemented the Coronavirus Job Retention Scheme, which involved putting staff on Furlough if they were unable to continue working during the pandemic. Businesses could put staff on Furlough and claim for employees who were taxed by pay-as-you-earn (PAYE). Employees could be on any type of employment contract, including full-time, part-time, with an agency, flexible or zero-hours contracts. It was the responsibility of the employer to apply for the Furlough scheme on behalf of its employees as they could not apply for this scheme themselves. The Coronavirus Job Retention Scheme came to an end on 30 September 2021.

McKinsey (2020) found that by April/May 2020, 50% of SMEs in the United Kingdom either already had or were planning to take advantage of the government's Furlough Scheme. This increased to more than 75% for enterprises with more than ten employees.

Also, businesses were able to apply for other types of government support schemes, such as business rate relief, deferral of tax payments, loans, and requested protection from eviction from business premises. Government support was crucial to the survival of businesses. Calabrese et al (2022) find that two of the government's COVID-19 financing support schemes - the Coronavirus Business Interruption Loan Scheme (CBILS) and the Bounce Back Loan Scheme (BBLS) were the most utilised in supporting the financing of UK businesses. The authors find that 92.1% of all debt financing during this period was backed by the UK government compared to less than 5% in pre-COVID-19 times. Also, the paper finds that the government's share of SME lending increased from quarter 2 to quarter 3 of 2020 and micro and small business had the highest demand for loans.

Unlike the Furlough scheme that was implemented more expediently, the SEISS scheme was implemented later. The delay in setting up the scheme contributed to financial hardship of small businesses. The SEISS was announced by the government on 26 March 2020 and the first grant opened for claims on 13 May 2020. A self-employed business was assessed as either eligible or ineligible for the scheme based on specific criteria. Businesses were assessed using information provided in their 2018 to 2019 self-assessment tax returns for the first three grants, and their 2019 to 2020 returns for the fourth and fifth grants. Thus, for the first three rounds, those who became self-employed from April 2019 were excluded from the scheme - 0.2 million self-employed fell within this category (National Audit Office, 2020). Around 5.0 million individuals reported self-employment income for the 2019/2020 tax year. The scheme excluded those with annual profits of over £50,000 which amounted to some 0.2 million self-employed according to the 2020 National Audit Report. 0.5 million self-employed

individuals were ineligible because they were making a loss or were company owner-managers (directors of limited companies). 1.4 million were ineligible because their trading profit was less than their non-trading income (National Audit Office, 2020).

Figure 4 shows the value of SEISS claims across different sectors of the economy. By far, the highest number of claims were made by the construction industry. This is because the building and construction sector has a high share of self-employed and these were unable to work from home during the lockdowns. A number of sectors such as real estate, information and communication had a very low claim rate because the work in these sectors could largely be carried out from home.

The average value for the first claim was £2,900, the average value for the second claim was £2,500 and the third, fourth and fifth round of grants had an average value of £2,800 each. HMRC (2021) reported that for the fourth SEISS round, approximately two-thirds of the potentially eligible population were males (2.3m). The average claim for females was lower at £2,200 compared to the average claim for



Figure 4: Proportion of total value of claims in 5 rounds of SEISS by industry sector

Source: HMRC, 2021.

The construction sector recorded the highest monetary value of SEISS claims amongst industry sectors in the United Kingdom.



Figure 5: Self-employment Income Support Scheme take-up in Wales

Source: HMRC, 2021.

The data shows the take-up of the fifth round of SEISS in various Welsh local authorities (the lowest to highest). There was a low takeup of SEISS in Ceredigion and the surrounding counties compared to other local authorities in Wales.

males of £3,100 (HMRC, 2021). It is clear from the disparity between the claims of males and females that the self-employed businesses owned by females were in sectors earning lower profits or in smaller businesses (females are under-represented in the construction industry which had highest value claims by sector). This indicates that the self-employed females on average received grants of lower value than their male counterparts and faced higher financial vulnerability during the pandemic.

Figure 5 shows the uptake of the various rounds of SEISS across Wales and its counties. The figure indicates that SEISS 1 take-up was the highest compared to the subsequent rounds.

Evidence suggests that the government support schemes were crucial for businesses and the self-employed, although the question of future sustainability remains (Lambert and Van Reenen, 2021). The authors suggested that although there were no substantial net business deaths in 2020 there was likely to be a build-up of at-risk businesses that have been able to survive during the pandemic and avoid closure by reliance on government support schemes. A steep decline in bankruptcies (including non-viable firms that might have gone bankrupt without government support) may jeopardise future productivity (Fareed and Overvest, 2021).

Revoltella, Delanote, and Bending (2021) argue that even with substantial policy support, the impact of the COVID-19 pandemic on the European economy was severe. This led to questions at the time such as whether the support measures enabled firms to adjust to the emerging 'new normal' or whether they have merely delayed problems, by keeping resources tied up in what might otherwise be 'zombie' firms. Revoltella and Strauch (2021) stressed the importance that viable and new firms needed to have access to additional financing (other than debt financing) to facilitate recovery post pandemic. Incentives for the recapitalisation of companies and access to equity or equity-type finance became increasingly important. One of the challenges for investors in the recovery was to distinguish between viable and non-viable firms. The number of undercapitalised viable firms might increase significantly post-crisis. As profits slumped, internal finance was constrained, and firms depended on access to credit if they wanted to invest. The resulting potential higher leverage was a risk for investment during the recovery period.

Agresti et al (2022) tracked business dynamism during the COVID-19 pandemic looking at data from 17 countries. The results show that firm entry declined substantially in the first months of the COVID-19 pandemic, as few new firms were established. At its trough (which was April 2020 for most countries), the number of new entrants per month had declined by 15%-80% compared to the same month in 2019. However, starting in June 2020, entry generally improved. Countries such as Australia, Belgium, France, Norway, Singapore, the UK, and the US experienced a 'V-type' rapid recovery, yet the strength of the recovery displayed a substantial degree of heterogeneity across these countries. The rebound was sufficiently strong to offset the losses in new firms entering the market since the beginning of 2020. In some countries, total entry rose significantly in 2020 compared to the previous year (e.g., in the UK and the US). In most of these countries, entry continued to rise significantly in 2021 compared to 2019.

Firm entry and exit dynamics in Wales

Business demography data indicates that there has not been a significant net loss of firms in Wales since the start of the pandemic. Firm exits in Wales were below or on par with new firms entering the market up to the second quarter of 2021. This indicates positive net new firm formation throughout this period; however, firm exits outpaced firm entries from the second quarter of 2021 (see Figure 6). This may reflect withdrawal of the Furlough Scheme and the SEISS prompting exits of non-viable businesses (Lambert and Van Reenen, 2021). In addition, in Wales there have been more firms' entries and more firm exits as compared to the prepandemic period indicating a greater churn in productive resources in the economy.

Unlike in Wales as a whole, more firms have been closing in Ceredigion than new firms opening at least from early 2017 when the data became available (except for a brief period of quarter four of 2019 recording a drop in firm exits). Similar to the Wales figures, there was a higher churn of firms during the pandemic with more firm exits than entries (see Figure 7).

Digital Connectivity and E-commerce

Non-essential businesses¹¹ were closed during the COVID-19 pandemic, and this resulted in an increased expansion of e-commerce firms. This led to new product lines and a growing customer base. This trend suggests a long-term shift of e-commerce transactions from luxury goods and services to everyday necessities (OECD, 2020). The OECD figures show that the COVID-19 pandemic has resulted in a dramatic increase in the share of e-commerce when looking at total retail sales.

The European Investment Bank Investment Survey (EIBIS, 2021) data revealed the shock felt by EU firms due to the pandemic and found that more digitally advanced firms proved to be slightly more resilient during the pandemic. According to the EIBIS, 30% of European manufacturing and service-sector SMEs said they used the crisis as an opportunity to accelerate planned transformation. 46% of EU firms said that they had become more digital, and 34% of less digitally advanced firms took the crisis as an opportunity to start their digitalisation journey.

In the UK the share of e-commerce in retail rose from 17.3% to 20.3% between the first guarter of 2018 and the first quarter of 2020, and then rose significantly to 31.3% between the first and second guarters of 2020 (OECD, 2020). Those businesses that could take advantage of this shift and rise in e-commerce, provided their customers with access to products from the safety and convenience of their own homes. Traditionally certain consumers (e.g., the elderly) did not shop online, but the COVID-19 pandemic has necessitated a change in their shopping behaviour to complete a greater share of their shopping online. This led to the expansion in the scope of e-commerce. As a result, companies that embraced e-commerce continued to trade despite lockdowns and restrictive measures such as social distancing. Some of these changes in shopping behaviour may be long-lasting as customers get used to new spending habits and businesses take advantage of the changing economic landscape (OECD, 2020).

Using data from three OECD countries (Australia, New Zealand and the United Kingdom), Andrews, Charlton and Moore (2021) find that firms that

^{11.} Non-essential retail refers to businesses that provide goods or services that are not considered essential to the general public. https://www.eposnow.com/uk/resources/what-is-non-essential-retail. See Appendix 1 for more detail.



Figure 6: Count of Business entries and exits in Wales during the COVID-19 pandemic

Source: ONS Business Demography 2022 quarterly experimental statistics (ONS, 2020c).

There was a positive net new firm formation in Wales prior to the pandemic. However, exits were higher than entries during the pandemic.



Figure 7: Count of Business entries and exits in Ceredigion County during the COVID-19 pandemic Source: ONS Business Demography 2022 quarterly experimental statistics (ONS, 2020c).

The negative net new firm formation has been exacerbated during the COVID-19 pandemic with firm exits by far exceeding firm entries.

intensively use e-commerce or apps were more resilient. The implication is that app usage by customers may reflect a budding organisational and technological capability, which helped them to capitalise on new growth opportunities induced by the pandemic. Thus, there is a strong argument for technology adoption for enhanced resilience (digitalisation of firms).

Established and more online diversified companies had advantage over and above smaller companies with less online presence prior to the COVID-19 pandemic. Capriolo (2020) looked at the number of Amazon businesses that survived the COVID-19 pandemic, highlighting how the crisis might have involved a shift in demand from small and specialised sellers to larger and diversified sellers. By April 2020 around 36% of merchants were inactive, an increase from around 28% in February. Particularly affected were sellers with less than 1,500 product listings (ASINs), while sellers with over 3,000 listings saw positive upswings.

Not all companies were able to participate in e-commerce activities and not all e-commerce companies and products benefitted from the growth noted above. The sales of personal protective equipment (PPE), IT equipment, and groceries increased but demand dropped for products related to travel, weddings, parties, formal wear etc. Evidence shows that despite the shift to e-commerce, a significant number of e-commerce retailers were facing the same financial repercussions of COVID-19 as traditional high street retailers due to reduced spending by consumers on non-essential items (OECD, 2020).

Study Method

This study aims to investigate and understand the economic impact of the COVID-19 pandemic on businesses within Ceredigion County. The research project covers firms in various industrial sectors represented in the county such as agriculture, tourism, hospitality, retail, manufacturing, health and social care, charity organisations, creative arts/entertainment, transport, telecommunication, education, and the public sector.

With most of the businesses either shut or operating minimally during the lockdowns

between March 2020 and August 2021, collecting research data from them to assess the impact of the pandemic was always going to be a challenge. Most businesses were likely to have access to the internet and were able to complete the survey so an online survey was the most accessible to businesses, had a broad reach, and was the most feasible option to collect data under the prevailing circumstances. We needed the most practical data collection method to reach as many businesses as possible, including those that might have shut down permanently. A number of data collection methods were considered including interviewing business owners and senior management. However, the online survey method was chosen to broaden the coverage and reach of business respondents. The questionnaire intended to capture the characteristics of businesses in a rural county impacted by the COVID-19 pandemic, the subsequent lockdown, and restrictions. The survey questionnaire was informed by emerging literature on the topic and the themes investigated were drawn from it. Government restrictions and lockdowns affected businesses causing some businesses to struggle with their supply chains and operations management, profitability, access to loans and other forms of credit, labour availability, and human capital. To reflect the above, the questionnaire had a set of questions to gather evidence about business financing, supply chain and operations management, self-employment, human capital, performance and profitability, and moving forwards towards recovery.

Questionnaire design

Below, we describe the design and development of the questionnaire, data collection and the response rate. The questionnaire consists of six parts:

 In part one, we asked respondents questions about their business. This part collects information about the industry sector, the age of the business, type of business, whether the business is in a rural or urban location, difficulties experienced during the pandemic, risk of bankruptcy and whether the business suffered temporary or permanent closures. The information collected in this part is crucial to our research as it provides evidence about the diversity of businesses operating in Ceredigion. Also, it highlights the needs of different businesses in order to help them to recover from the effects of the pandemic.

- 2. Part two gathers information about employment and human resource issues. We asked the respondents to provide information regarding staffing levels during the pandemic, the government's work-from-home directive and its impact on businesses, redundancies due to declining business activities, access to the government's Furlough Scheme, employees selfisolating, changes in work patterns, and issues of managing employee stress levels and well-being.
- 3. Part three analyses data regarding changes in the business supply chain and its impact on operations management. We asked the respondents how the government's directive on containing the COVID-19 virus was affecting the way they operated. Specifically, we were interested in the changes in the type of business, changes with the production lines, suspension of production of certain products, moving the business or part of the business to online platforms, opening pop-up shops in vacant business units, disruptions in business supply chains, changes in the cost of raw materials or inputs, and business diversification.
- 4. Part four focuses on business performance and changes in profitability. Respondents were asked about changes in business revenue, measures implemented by businesses to improve customer confidence, and access to government's support schemes. Respondents were invited to suggest recommendations as to how the business sector could be stimulated, as well as suggestions regarding policy support that the government could put in place to help businesses recover.
- 5. Part five collects information about business financing. We asked respondents to provide us with information regarding their main sources of financing, how often they took bank loans and other forms of credit facilities, whether they had applied for bank loans successfully during the pandemic, changes in the level of their firms' external debt during the pandemic, whether their business had sought loan repayment holidays due to the impact of the COVID-19 pandemic on their revenue, the stability of their business revenue during the pandemic, eligibility for any of the government's funding schemes, and whether

they were successful in securing these.

6. And finally, part six asks for additional information not covered under the specific topics in the first five parts. In this part, we asked businesses about digital and internet connectivity issues they encountered during the pandemic, whether they felt confident that the economy would recover and whether life would return to normal.

Data Collection

The survey was conducted through online channels including the Ceredigion County Council website, the Aberystwyth University website, and other social media outlets of the two organisations. Also, there was the option for respondents to request paper copies of the questionnaire. The survey was accompanied by additional information explaining the rationale behind the survey and the main objectives to encourage businesses to participate. Additionally, we embarked on publicity campaigns using media, print, internet, and electronic media channels to do this. Ceredigion County Council facilitated the distribution of the questionnaires and obtained data from respondents on our behalf. The survey was made available to all businesses and self-employed in Ceredigion. The Survey period ran from April to June 2021. The area covered by the survey included both large towns and villages such as Aberystwyth, Aberaeron, Borth, Cardigan, Lampeter, Llanarth, Llandddewi Brefi, Llandysul, Llanilar, Llanrhystud, Llanon, New Quay, and Tregaron.

Sampling demography

The business survey was completed by 40 businesses in Ceredigion. Another set of responses from 37 self-employed businesses was added from the Household survey. 47% of businesses who responded to this survey were limited liability companies, and 64% of businesses surveyed were run as sole proprietorships. Whilst one business had been established as early as 1902, 10.5% of the businesses surveyed had only been up and running in the year prior to the March 2020 lockdown. Twenty-three (60.5%) businesses had been up and running since 2000, whilst fifteen (39.5%) businesses had been established prior to the year 2000 (Figure 8). Businesses and the self-employed who responded to this survey originated from a wide range of industries. The largest proportion of 32% worked in the hospitality, tourism and the leisure sector, whilst 17% worked in retail, and 12% worked in the building and construction industry. 7% worked in either manufacturing or in transportation, 5% in childcare, 5% in IT, 3% worked in either the financial services sector, education, or agriculture, and 2% worked in either healthcare, the legal sector, or the media (Figure 9).



Figure 8: Year business was established

Our sample data contains businesses that were established across various years. A large proportion of the businesses were established since the 2000s.



Figure 9: The distribution of industry sectors of the businesses surveyed

Results

This section presents the results of our survey and is split into eight sections. **Section 1** focuses on business revenue and profitability. **Section 2** focuses on business supply chains and operational issues, **Section 3** looks at human capital, **Section 4** addresses the self-employed, **Section 5** focuses on government support schemes, **Section 6** deals with access to the internet and digital connectivity, **Section 7** considers business vulnerabilities and **Section 8** looks at the future and moving forward. Results from our survey are highlighted and discussed.

Section 1: Revenue and Profitability

In the early stages of the pandemic and in the first lockdown, all non-essential businesses were shut down in Ceredigion. This included hospitality and tourism businesses, the building industry, arts and media, and the transport sector. A wide range of businesses and services in Ceredigion were suspended temporarily due to the pandemic. All indoor businesses and activities including bars, cafes and restaurants, boat trips, retail sales, media industry, massage therapy, coach hire, photography services, swimming lessons, workshops and concerts, wedding venues and large events, were suspended. Businesses that provided essential services that included agriculture and food supply remained operational. Also, businesses that were able to adapt to providing online services continued to operate online. Those that were not able to work online or were not classified as essential had to temporarily close their businesses. Many local food businesses were able to adapt and provide online ordering for customers, including take-away and food delivery.

The impact of the closure of many non-essential services had a substantial impact on the revenue and income of businesses, including those located in Ceredigion. According to this survey 69% of Ceredigion businesses saw a fall in business revenue during the pandemic. This decrease was seen across a range of businesses, but the biggest local impact was seen in hospitality, tourism and leisure, and retail. Other sectors which saw a decline in revenue included transport, manufacturing, construction, property maintenance, software development, photography, mass media, motor industry, childcare and insurance. Of the 69% of businesses which reported a decrease in their business revenue, the percentage decrease ranged both within and across sectors. A 10% decrease in business revenue was seen in the insurance sector. A 25% decrease was seen in software development and the percentage decrease in business revenue ranged from 25% to 70% in the retail sector. A 30% decrease was seen in manufacturing and the motor trade, and the tourism sector saw a decrease ranging from 30% to 75%. A 40% reduction in revenue was seen by childcare providers and the construction sector. Private healthcare and beauticians experienced a 50% decrease and in hospitality businesses there was a decrease ranging from 50% to 90%. In transport, including minibus/coach hire, there was a 70% decrease and taxi companies saw a 100% decrease as they were unable to operate. Businesses working in mass media (filming and recording) experienced a 75% decrease, cafés and leisure reported an 80% decrease and a 95% reduction in revenue was seen by photography businesses.

The level of external business debt rose for 33% of the businesses. The impact of rising external debt was seen in the hospitality and tourism sectors, manufacturing and retail, minibus hire, photography and the legal sector. As a result of the pandemic, 15% of businesses had to apply for a loan repayment holiday.

Business finances were also reported as fluctuating in 54% of businesses during the pandemic. The hospitality and tourism sector, retail, minibus and taxi hire, photography and media, software development, childcare,construction and property maintenance, and private healthcare all saw volatility in their finances. A small number of Ceredigion businesses (10.5%) saw rising revenue during the pandemic. These included businesses in manufacturing, agriculture and the building trade. An increase of up to 10% was seen in agriculture and manufacturing while an increase of up to 30% was seen in construction. These increases in sales revenue in the building industry could be attributed to the escalating costs of raw materials, increasing the value of sales but not necessarily increasing sales volumes. 18% of businesses saw their revenue unchanged. These included businesses working in the following sectors: legal, retail, hospitality, childcare, construction and the building trade. 44% of local businesses reported that their finances had remained stable during the pandemic, including those that worked in the hospitality, leisure and tourism sectors, manufacturing and retail, the building trade, agriculture, legal and insurance, transport, and childcare. These businesses continued to operate during the pandemic and/or made use of government support schemes.

Despite the initial closures and impacts on many businesses, no businesses surveyed in Ceredigion had applied for bankruptcy as a result of the pandemic at the time of this survey. This could be due to the business government support schemes which have kept them afloat during this period. Long-term survival of these businesses without government financial support will depend on the prevailing macroeconomic conditions and market forces.

Businesses surveyed were asked what their main sources of finances were. They reported that their finances had come from several sources including bank loans, sales revenue, personal finances and pensions, rent and marketing revenue. While 62% of businesses surveyed did not usually use bank loans or credit facilities, 36% used these facilities prior to the pandemic. When asked if they had been able to apply for a bank loan successfully during the pandemic, 34% answered in the affirmative while 51% were unsuccessful. Out of the respondents who usually apply for bank loans 16% were unsuccessful in getting a loan during the



Figure 10: Types of problems faced by Ceredigion businesses

The most prevalent difficulties included the fall in customer numbers, negative impacts resulting from the COVID-19 restrictions that were put in place to control the spread of the virus, declining cash flow, an increase in business debtors and disruptions to supply chains.

pandemic¹². These included businesses in the following sectors: agriculture, manufacturing, transport, hospitality, and retail. Whilst 16% of businesses that do not usually apply for bank loans were successful and included those working in tourism, leisure, retail, and hospitality.

Businesses surveyed were also asked if they had experienced any difficulties because of the pandemic. Of the businesses surveyed 92% faced difficulties and the following responses were noted as having the most impact during the pandemic (Figure 10).

• 82% saw a reduction in the number of customers due to the pandemic

- 74% experienced difficulties due to the COVID-19 restrictions
- 63% saw a fall in cash flow
- 29% had issues relating to supply chains
- 11% saw an increase in the number of business debtors
- 5% had issues with staffing
- 3% had issues with access to markets
- 3% had access problems due to safe zones in towns
- 3% had issues due to family circumstances.

Section 2: Supply chain and operational issues

Disruptions to business supply chains, as a result of the outbreak of COVID-19, were experienced by 45% of businesses surveyed in Ceredigion. These disruptions were felt by businesses operating in retail with items taking a long time to arrive, significant supplier delays, and shortages of materials being experienced by many businesses. The manufacturing sector also experienced difficulties obtaining products and parts, whilst building and construction saw delays to building projects due to building material supply disruptions. The hospitality and tourism sectors were unable to get essential goods which were required for their business to operate normally. Impacts were also seen locally in the motor and transport sectors, as well as in the arts and media industry.

45% of the businesses reported difficulties in getting parts and products. Suppliers were working at reduced production capacity which directly affected the running of local businesses and their ability to get supplies. Retail businesses noted that despite increase in demand for products, it had not been possible to meet the demand or maintain pre-pandemic service and supply levels. Delivery companies had to reduce their delivery personnel because of two-meter distancing rules and staff shortages. Supply chains were also impacted during the pandemic due to travel restrictions when travel was only allowed for essential purposes. One example of this was the art sector as artists were unable to pick up or drop off their work.

As well as businesses in Ceredigion seeing delays to the supply of materials, businesses working in hospitality and tourism, retail, and building and construction also saw an increase in the cost of raw materials. 69% of businesses in our survey reported seeing an increase in the cost of materials. Businesses in building and construction saw the cost of materials go up in some cases by 30%, as well as increased delivery costs. These costs continued to be impacted by shortages of delivery drivers across the UK. Increased demand for building and construction materials and services arose during the pandemic due to home and garden improvements.

Reasons behind increased costs along the supply chain during this period are complex, as there were other factors besides the pandemic affecting costs including increased demand, material shortages, international competition for supplies, and the impact of Brexit. Further impacts on businesses were felt as a direct result of staff shortages. These shortages were due to staff illness, staff self-isolating, staff working from home and because of social distancing measures which reduced the number of workers

12. Banks introduce stringent credit eligibility criteria during periods of economic and financial crises.



Figure 11: Supply chain difficulties faced by businesses during the COVID-19 pandemic shown as the percentage of businesses in Ceredigion

that could share office, factory or delivery spaces. All these human factors directly and adversely impacted supply chains (Figure 11).

With the impact on supply chains, and because of temporary closures of businesses, some adapted to new ways of operating and to the needs of customers in a very short period. In this survey businesses were asked if any changes to the line of the business had been implemented, due to the pandemic. 42% of businesses saw no change and continued with their line of business. 13% of businesses said it was not possible to change the line of business. This lack of flexibility had negative impacts on businesses. 8% of businesses had moved to online platforms which included developing their websites and providing delivery services. 31% of businesses had reported moving part or all their business online. 10% of businesses considered moving their business online, and 80% had not considered it which included those that were already operating online or their business model would not support online platforms. New business lines were created by approximately 20% of the businesses in Ceredigion because of the pandemic. These new business lines in the hospitality sector included introducing an online delivery service, increased takeaway packaging sales, the creation of outdoor seating areas for bars, cafes and restaurants and provision of accommodation for essential workers. The retail sector introduced

the sale of face masks and PPE, with one business creating and manufacturing a 'special' item to raise funds for NHS charities during the pandemic. There was increased demand for services that support working from home such as broadband installations, repairs and maintenance and generator installations and repairs. When asked to consider future actions, 5% of businesses considered 'pop-up' shops in vacant units, and 18% considered diversifying into other areas. Pop-up shops are used to give small and new entrepreneurs the opportunity to rent high street spaces and reach retail customers for a short period of time. This also fills vacant shops in the high street and encourages customers to shop in town centres.

Operational issues

Under COVID-19 restrictions businesses faced operational issues while struggling to ensure they continued trading and that both their staff and customers were safe. Many businesses went above and beyond what was required, working hard to help others in the community, keeping staff employed, whilst putting in place measures to improve customer confidence. Many people had become wary of shopping in high streets or attending busy areas reducing customer footfall.

The introduction of new public health measures and COVID-19 restrictions on businesses such

as "social distancing" meant that businesses had to change the way they operated. To comply with government regulations and to encourage customers to return to retail outlets, businesses had to put in place a range of safety measures. These included increased hygiene measures such as supplying hand sanitisers, using face masks indoors, deep cleaning sites and leaving periods of no occupancy between guests, and ensuring adequate ventilation was in place. Other measures included the use of transparent screens, signage for one-way systems and social distancing measures to prevent the spread of the virus. Some businesses moved meetings online. Communication with customers moved online via email and social media. Phoning customers and providing newsletter updates increased and businesses reported using more online marketing. Others provided options for remote contactless check-ins, which removed the need for human contact as well as providing facilities for remote bookings and payments and online refunds were issued for cancelled holidays. All the above-mentioned measures added extra operational costs to the businesses, as well as the additional resources required to meet the COVID-19 safety regulations.

From the survey responses, 76% of local businesses had to change the way they operated due to the new public health measures that were introduced. When respondents were asked what impact the new health measures had on dayto-day running of their business the following responses were recorded (Figure 12).

One of the biggest impacts felt by businesses had been the reduced capacity of customers on their premises, due to the social distancing measures that were put in place. Reduction in customers, due to social distancing, was seen by 52% of businesses. This led them to change the way they operated. One-way zones had been put in place, signage and safety zones were also implemented. There was less seating capacity in cafes, taxis, and boats, and "fewer people could be accommodated in the studio", all of which had a negative impact on business revenue.

As well as social distancing measures, which had been put in place, 28% of businesses reported that premises and working areas were being "thoroughly cleaned and disinfected between customers and passengers", "hand sanitizers and face coverings were provided for staff and customers". "Temperature checks for staff and customers" were implemented, and screen shields were used between customers and staff. In some cases, "windows remained wide open to allow for fresh air to circulate, even during cold winter months" and "extra time between clients to allow for cleaning and airing the room" was



Figure 12: Negative impacts on businesses due to new public health measures

taken. Many of these measures required extra staff time, which further reduced the efficiency of the business operation and in turn affected revenue.

28% of businesses had to adapt in a variety of different ways including "providing a takeaway service only", and "moving sales online", as a result of the social distancing measures. For example, businesses saw increased online sales on their existing platforms and others set up new online platforms. Further adaptations by businesses included "altering shift patterns" and having "less face-to-face meetings" and "a move to increased remote working". For example, one business "had to move property during the pandemic to cope with the change" and to allow space to continue operating. A media business reported that "when filming and recording we had to keep group(s) far away from each other and from the interviewee / actors, making operating very difficult under the circumstances".

21% of businesses reported that they had not been able to operate as normal or had not been able to operate at all. A business selling postcards ceased trading, as "postcard display stands had been removed from most shops" and one business that relied on in-person activities such as workshops and talks could no longer operate this business model. Another business stated that they were in "total lockdown due to the vulnerability of staff", the taxi trade had "difficulties socially isolating or distancing in a taxi" and therefore could not operate at their full capacity. For some trades work was put on hold as customers were reluctant for tradesmen to enter their property. A media company struggled with "fewer commissions from broadcasters" and the media company's "failure to deliver programs in the normal way".

For many of these businesses implementing the new public health measures such as constant sanitisation and social distancing measures had negative impacts on their operations and business revenue.

Section 3: Human Capital

Human capital could be eroded through reduced work hours, absence due to staff illness, shielding, self-isolating, retirement, loss of lives and business closure. In Ceredigion 69% of businesses in this survey had to close their business temporarily because of the COVID-19 pandemic, while only 26% of those surveyed did not have to close and continued trading. Businesses that were able to continue trading included those in agriculture, manufacturing, software development, legal services, retail, childcare, plumbing and heating. After the initial shutdown and closure, most businesses were able to function in some capacity and 95% of businesses surveyed did not close permanently. However, 3% of businesses were impacted by COVID-19 and closed permanently. These closures had an impact on employees working in these businesses and their human capital.

Although many businesses managed to maintain the majority of their staff, working hours were adversely impacted in some Ceredigion businesses surveyed. 54% of local businesses managed to maintain their staff normal working hours. However, 41% of businesses had to reduce the working hours of employees. The reasons for reducing working hours varied from reducing staff hours due to a reduction in business revenue, a reduction in customers, and to accommodate many working parents who were working from home and looking after children. Others noted a reduction in staff working hours due to staff being off sick, staff shielding or staff self-isolating due to COVID-19 symptoms within the household.

Due to the pandemic UK residents were asked to work from home where possible, and of the Ceredigion businesses that responded to this survey, 32% had staff working from home. The businesses that did not have staff working from home, included those which did not lend themselves to home working, as well as some which were sole proprietors and therefore did not have employees. Businesses which reported that they did not have employees working from home included businesses working in hospitality and tourism, retail, taxi and minibus hire, building and construction, agriculture, photography, motor trade, childcare, and private healthcare. The majority of these businesses had to suspend work for a period but were able to continue to work in some capacity after the initial lockdown.

32% of surveyed Ceredigion businesses were able to operate with employees working from home. Of these, 23% had one employee working from home, 5% had two employees working from home and 3% had 5 employees working from home. The businesses who reported having employees working from home, operated in the following sectors: manufacturing, hospitality, software development, legal, online retail, mass media, plumbing and heating, insurance, and tourism.

During the COVID-19 pandemic, schools and childcare facilities were closed for extended periods and many parents had to home-school their children. Some parents and guardians were also working from home during this time. The survey showed that 34% of employees across all businesses were caring for children during the pandemic. Some employees with children were able to continue working full-time from home, whilst others had to cut working hours and work part-time, if they were not put on Furlough. 29% of the businesses that employed staff with children had registered for the Furlough Scheme, and all had been successful with their application to furlough staff. 16% of businesses employing staff with children had reduced staff working hours.

When businesses were asked if they had to permanently lay off staff or make staff redundant during the pandemic, 13% of businesses reported having to lay off staff as a result of the COVID-19 pandemic. These included businesses in hospitality and the legal sector. 5% of businesses reported having employees on company paid leave and employees from 18% of businesses had to use some of their annual leave allowance during the pandemic. 8% of businesses reported having employees who were either self-isolating or on company-paid sick leave, and these businesses also had staff off on statutory sick pay. 8% had staff self-isolating or on sick leave without any sick pay, which included selfemployed businesses. Employees were also off sick due to stress during the pandemic, without any sick pay. One business noted that lack of a staff member meant they were unable to operate part of the business; "nobody to run part of (the) business", as some members of staff had been off shielding or were unable to work.

Section 4: Self-employment

Section 4 discusses the responses of 37 selfemployed businesses who were asked about the impacts of COVID-19 on their business in the household survey. The following responses were recorded as impacts on the self-employed (Figure 13):

- 46% of self-employed reported that their customers had declined due to COVID-19 restrictions. Those reporting a fall in customers included businesses in candle making, event management, hospitality, retail, hairdressing, chemical supplies, business services, project management, shopkeeping, photography, mass media production, general therapy, and property maintenance.
- 43% reported that business revenues had declined due to reduced demand for products and services they were supplying.

The self-employed that reported a decline in revenue included those in tourism, research consultancy, event management, hospitality, arts, retail, business services, software development, project management, shopkeeping, photography, hairdressing, general therapy, and property maintenance.

- 35% closed temporarily due to the pandemic and included those in hospitality, arts, photo artist, retail, business services, shopkeeping, photography, hairdressing, general therapy, and property maintenance.
- 8% reported a rise in business revenue due to increased demand for their products and services which included businesses in candle making, media consulting, and project management.



Figure 13: Effects of COVID-19 on self-employed businesses

- 5% needed access to work hubs away from home due to problems working from home.
 - 3% closed the business permanently because me. of the COVID-19 pandemic.
- 5% were directly affected by shortages of supplies needed to run the business.

Section 5: Government Support Schemes

In Ceredigion 59% of businesses surveyed registered for the government Furlough Scheme. Our survey results indicate that most of the businesses that were not eligible to apply for the Furlough Scheme were self-employed or sole traders although some had applied for alternative schemes including the selfemployment schemes. In some businesses staff continued to work even though their businesses faced other challenges such as a fall in sales and customers. These included businesses in the tourism sector which had staff working from home, agriculture which remained operational throughout the pandemic and software development whose sales continued, albeit lower than in previous years.

Some businesses that continued to operate during the pandemic may not have fully utilised

the Furlough Scheme. They may have furloughed some staff but not all if the business remained operational. Essential staff to the operations throughout the pandemic continued to work, whilst other staff were furloughed. In Universities, academic staff remained working from home, providing lectures and support to students, while some administration staff were put on furlough.

In addition to the Furlough Scheme a number of other government funding schemes were made available to businesses in Wales. Surveyed businesses in Ceredigion that were eligible to apply for the government funding schemes applied to the following schemes: the Self-Employment Income Support Scheme (SEISS) to support and provide grants to the self-employed, the Recovery Loans Scheme to support access to finance as businesses recovered from the



Figure 14: Percentage of Ceredigion Businesses that secured government funding schemes



Figure 15: The amount of government funds received by businesses in Ceredigion

impacts of COVID-19, the Business Rates Grants Scheme to cover or reduce business rates. Businesses in the survey also applied to the Coronavirus Business Interruption Loan Scheme (CBILS) and the Economic Resilience Fund. The CBILS was designed to provide financial support to smaller businesses across the UK that were losing revenue and had their cashflow disrupted. The Economic Resilience Fund provided financial assistance to businesses that faced operational and financial challenges as a result of the pandemic. Ceredigion businesses were successful in securing government funding schemes. Every eligible business received one or more support grant they applied for (Figure 14):

- 66% of eligible businesses received business grants from the Welsh Government.
- 59% of eligible businesses placed their employees on the Coronavirus Job retention scheme (Furlough).
- 41% of eligible businesses took out Government-backed accredited loans or finance agreements.
- 38% were granted business rates holidays
- 38% of self-employed received SEISS funding
- 17% successfully deferred their VAT payments
- 7% participated in the HMRC Time to Pay Scheme

From the respondents that secured government funding, the amount of funds received ranged from between $\pounds400$ and $\pounds50,000$ (Figure 15). The average amount of funds received by the respondents was $\pounds18,111$.

Although 27% of the self-employed applied for the government's self-employment business support schemes, 22% met the eligibility criteria and were successful in their application. The support schemes that were applied to included:

- SEISS (providing grants to self-employed individuals)
- Small Business grants (providing support to small and medium businesses)
- Small Business Capital grant (providing support for new and existing small businesses with their growth and/or recovery plans by providing financial contributions towards capital expenditure)
- Local Authority discretionary grants (providing support for small and micro businesses that were not eligible for the Small Business Grant Fund or the Retail, Leisure and Hospitality Fund¹³)

- Non-Domestic Rates grants (designed to help businesses with immediate cashflow problems following lockdown
- Universal Credit for the self-employed

5% of self-employed businesses were successful in securing all eligible grants they applied for from the Welsh government. 8% were successful in obtaining a Small Business grant, 8% were awarded the Economic Resilience fund and 13% reported getting the SEISS fund.

^{13.} In response to COVID-19, the government provided support for small businesses and businesses in the retail, hospitality and leisure sectors. This support took the form of two grant funding schemes in the Financial Year 2020- 2021, the Small Business Grant Fund and the Retail, Hospitality and Leisure Grant Fund. For more information on these grants, see: Small Business Grant Fund (SBGF) and Retail, Hospitality and Leisure Grant Fund (RHLGF): guidance for local authorities (Version 6) (publishing.service.gov.uk).

Section 6: Access to the Internet and Digital Technology

Internet connectivity and lack of digital skills were seen as key issues faced by rural businesses in Ceredigion. Many employers and their employees had to cope with poor broadband availability, while working from home, running businesses or attending online meetings. This often occurred alongside children having to access learning content online. In a world where businesses are heavily reliant on connecting online, ranging from marketing products to purchasing materials, online banking, and online business or work meetings, the effect of poor internet provision had a major negative impact on the successful running of many local businesses.

When asked if Ceredigion businesses had experienced any digital connectivity issues during the pandemic, 47% of businesses reported issues with digital connectivity and digital access (Figure 16). The issues faced by local businesses included:

- a lack of reliable broadband or mobile options (37%)
- slow broadband speed (29%)
- poor mobile signal (26%)
- lack of digital skills or access to training schemes to improve digital knowledge (16%)
- the cost of access (13%)

Businesses in rural locations reported issues with slow broadband speed or a lack of reliable broadband signal. Businesses had problems with staff working from home in rural locations with poor connectivity and a lack of digital skills and would have fared better if they had good internet connectivity, had access to a decent infrastructure and were more digitally aware prior to the pandemic.



Figure 16: Digital connectivity issues experienced by businesses in Ceredigion

Section 7: Business Vulnerability

Business vulnerability can be linked to the impacts of the pandemic and lockdowns which included issues related to public health and safety measures, supply chains and operations, decline in customer numbers, fall in business cash flows and revenues, access to finance and credit facilities, and employment and human resource problems. Business operations were restricted due to public health measures adopted during the pandemic. Smaller businesses were at greater risk of not being able to operate when staff members had COVID-19 or had to self-isolate. Our survey responses underscored the need for financial support to be made available for the self-employed especially those who had family members shielding and had to self-isolate. Moreover, the SEISS scheme was introduced in May 2020, some two months after the lockdown was announced. The Welsh Government Economic Resilience Fund, COVID-19 Non-domestic Rate Grant and Wales Business Loan Scheme were introduced in April 2020 (Economic Intelligence Wales, 2022). As detailed in the Household Report¹⁴, there was a significant increase in Universal Credit and other welfare scheme recipients in the county and in the UK in the first quarter of 2020. After May 2020, the welfare recipient numbers stabilised when the SEISS was introduced indicating that some of the COVID-19 new Universal Credit recipients were self-employed who switched to SEISS after the scheme became available. The SEISS scheme was criticised because it left out a number of categories of the self-employed such as the very recent self-employed businesses (those who started trading from 2019 onwards) and heads of businesses who paid themselves out of dividends but did not take salaries. Around 30% of SEISS claimants were women but their claims were on average lower than those of men (£2200 vs £3100 for the UK). Although we recognise that women are underrepresented in the construction sector which had both a high number of claims and claims of a high value, more research is needed to understand what other factors were responsible for a lower value of claims overall by women. Government policy efforts should be directed at encouraging

women to set up businesses in sectors with high profitability. There is a need to provide extra support to female self-employed businesses post the COVID-19 pandemic. Also, we query whether using the profitability of a business as the benchmark criterion for qualifying claims was adequate, inclusive and equitable.

The outbreak of COVID-19 led to significant disruptions to the supply chain of businesses in Ceredigion - disruptions were experienced by 45% of businesses surveyed. 5% of the selfemployed respondents were directly affected by shortages of supplies needed to run the business. Supply chain disruption such as transport bottlenecks as well as increased input costs rendered businesses unviable and led to business closures. This was further exacerbated by the delays at various points in the supply chain such as shipping ports not working at full capacity because of the impacts of the pandemic. Deliveries of inventories and finished goods were delayed and this had knock-on effects on business customers and revenues. Some of the indirect impacts of supply chain disruption were that struggling businesses prior to the pandemic were at a higher risk of going bankrupt.

Furthermore, on the demand side there was a decline in the purchasing capacity of customers due to lower incomes of a substantial share of the population during the pandemic. This led to customers buying less of their pre-COVID-19 regular goods and focusing more on purchasing essential items. Customers also changed their shopping habits, purchasing more online. This resulted in a fall in revenue for some businesses, especially the high street shops. Some have now closed as a result.

Capacity restrictions due to public health measures also put businesses at risk of declining customer numbers, customer satisfaction and business revenue. Many businesses could only provide service to a smaller number of customers because of social distancing and the others implemented safety measures such as glass screens and one-way movement systems.

14. The Household Report on the impact of the COVID-19 pandemic on the households in Ceredigion County is entitled "The Socioeconomic impact of the COVID-19 Pandemic on Households in Ceredigion County".
The survey responses indicated that several businesses wanted to increase capacity. For example, a bus company applied to carry more passengers so it could remain sustainable.

As a result of lockdowns, social distancing, capacity restrictions and other public health measures, most businesses that responded to the survey (82%) saw a reduction in the number of customers, and more than half (63%) saw a fall in cash flow. In addition to this, 11% saw an increase in the number of business debtors (i.e., they were owed money by their customers). With sales revenues declining many businesses applied for bank loans to finance their operations. The level of external debt rose in 33% of businesses. Of the survey respondents who applied for bank loans, only 50% were successful. The other sources of financial support were the Furlough Scheme, SEISS and other pandemic-related support grants. While many businesses resorted to Furlough and other support schemes, as one respondent business noted, "the grants have been used but the customers haven't returned". Together, these issues raise the question of medium and long-term viability/sustainability of SMEs in Ceredigion and in the wider economy.

It is expected that business vulnerabilities will be some of the medium-long term impacts of the COVID-19 pandemic. Therefore, organisations, governments and government agencies must be proactive to put in place appropriate policy frameworks to tackle the impacts of the COVID-19 pandemic in the months and years ahead. Businesses may need to become more innovative and change the way they do business to survive and grow.

The recovery was hampered by labour shortages particularly in the sectors that have shrunk during the pandemic such as travel and hospitality (Pizzinelli and Shibata, 2022). These labour shortages existed alongside mismatch unemployment when workers do not target jobs in the sectors that were declining during the pandemic. Job mismatches generate frictional unemployment that hampers recovery. The recovery took a longer time in high contact sectors such as retail (ONS, 2022) and a high number of Ceredigion businesses fall within this category. Given that some of these businesses have gone bankrupt and new ones have sprung up, efforts need to be made to support the new and existing businesses, so they remain viable. In this vein, a more longer-term policy should be put in place to support the recovery of the local economy. This suggests that there is 'business long-COVID' that needs to be recognised and addressed. The long-term effects of the pandemic on businesses and the economy are far-reaching and businesses should be consulted in devising policy responses considering sector and location specificities.

Our survey captured 5% of the businesses that closed permanently due to the pandemic. It is likely that the survey did not reach closed businesses to the extent that would be representative as they had less incentive to complete the survey.

Section 8: Moving Forward

Confidence in the recovery of the economy after the pandemic varied widely with 31% of businesses feeling confident and 6% feeling very confident that the economy would recover. Businesses that felt confident included those in hospitality, tourism, the building trade, manufacturing, childcare, agriculture, and transport. In contrast 28% did not feel confident in the future recovery of the economy. This included businesses in hospitality and leisure, retail, manufacturing, the building trade, photography and media, and legal services. 36% were neutral or unsure about the economic recovery (Figure 17a).

Similarly, 31% of businesses felt confident or very confident about life returning to normal, 28% were not confident and 31% felt neutral about a return to normal in the near future. This showed a great deal of uncertainty with the ongoing situation and the future of the local as well as the global economy (Figure 17b).

Respondents were asked if there were any new schemes they would recommend to help their business to recover following the pandemic. A number of suggestions were noted including further support/grants to cover business rates, reduction in business rates, manufacturing support, financial assistance to aid recruitment, and 'bounce-back' loans for businesses that restarted trading when restrictions allowed. It was noted that additional support was needed for the hospitality and events sector as the grants received were insufficient to remain viable and competitive. Additional financial support was needed for the retail sector as customers were slow to return. There were problems accessing high street shops faced by customers and delivery vehicles. Respondents called for a more comprehensive policy approach in designing access, taking into account the need to get customers to return to the high street and to facilitate the delivery of supplies.

Further support for the self-employed was suggested especially for those who had selfisolated or had family members who shielded. Also, a review of Universal Credit for the selfemployed was called for given that they were at a greater risk of reduced income during the lockdowns. Businesses that had developed the digital side of their business called for further support to expand and sustain their digital capabilities.

Some respondents noted their dissatisfaction with the withdrawal of the Job Retention Bonus, which was a £1,000 one-off taxable payment to the employer for each eligible employee that was furloughed and kept continuously employed until 31 January 2021. The Job Retention Bonus was withdrawn after the extension of the Furlough Scheme to March 2021 was announced by the government on 5 November 2020^{15} .

15. https://www.gov.uk/guidance/check-if-you-can-claim-the-job-retention-bonus-from-15-february-2021#:~:text=This%20 guidance%20was%20withdrawn%20on,Retention%20Bonus%20has%20been%20withdrawn.



Figure 17a: Confidence in future recovery of the economy



Figure 17b: Confidence that life will return to normal in the future

Conclusions

This report has highlighted the economic impact of the COVID-19 pandemic on businesses and the self-employed within Ceredigion. It has identified the developments that occurred due to the pandemic and this section outlines how the lessons learned could help inform policymaking to support the recovery of businesses. Ceredigion businesses and the selfemployed reported on their level of revenue and profitability, supply chain and operational issues, human capital, government support schemes, digital connectivity issues, moving forward and confidence in the future.

From our findings, 69% of businesses surveyed reported a fall in revenue, 33% saw levels of external debts increase and 54% of businesses reported fluctuating finances. 3% of businesses had to close their business permanently and 69% had to close their business temporarily due to COVID-19. 3% of the self-employed had to close permanently and 35% closed temporarily due to the pandemic.

Difficulties faced by businesses included falling customer numbers, decreasing demand, staffing challenges, changing operations to comply with government restrictions, disruptions of supply chains, declining cash flow, access problems due to safe zones in towns and moving business operations online.

13% of businesses reported having to lay off staff. From the survey results, 41% of businesses had to reduce employee working hours. 45% of the businesses surveyed reported problems with their supply chain, with some of the selfemployed businesses affected mostly by lack of supplies. 76% of the businesses had to change the way they operated due to new health and safety measures that were introduced. Changes to operations included reducing capacity to allow for social distancing, frequent disinfecting and cleaning of customer areas, and adapting the business to allow employees to work from home.

The ability to move the business or part of the business online required good infrastructure and digital connectivity. 47% of businesses in the survey reported issues with digital connectivity and access, which included low broadband speed, poor mobile signal, lack of digital skills and cost of accessing digital infrastructure.

The government introduced a range of support schemes in order to help businesses and the self-employed, the most utilised of which was the Furlough Scheme to help retain employees during the pandemic and the SEISS to support the self-employed. 59% of businesses surveyed had registered for the Furlough Scheme and 27% of the self-employed surveyed had applied for the SEISS.

The outcome of this study shows that although the support schemes put in place by the government helped to alleviate some of the adverse effects of the pandemic, Ceredigion businesses and the self-employed have suffered as a result of the public health containment measures. The vulnerability section above highlighted the business vulnerabilities that could potentially arise as a result of the COVID-19 pandemic. The self-employed whose business got disrupted were part of the new Universal Credit claimants. Their return to productive jobs in the future was uncertain. It is important to have a better understanding of how the self-employed fared through the pandemic and its aftermath in order to help them fully realise their productive potential in local economies. Assistance to re-start, expand or start new businesses should be made available.

Ceredigion businesses and the self-employed were asked for policy suggestions to help them recover from the impacts of the pandemic. There was a call for Ceredigion County Council to consult with businesses to understand their problems, before implementation of any schemes to support the high streets and town centres. Town centres need to be clean and accessible to encourage visitors with free and ample parking. Local and UK tourism needs to be encouraged so that visitors return to Ceredigion towns. Grants should be made available to businesses wanting to start-up or relocate to town centres and funding made available to repurpose vacant properties. Improved policies are needed for protecting business tenants renting properties, such as reduced rent or additional financial support including payment holidays.

There were a large number of comments regarding business rates. Many called for a review in order to support and reinvigorate Ceredigion town centres and encourage new businesses to set up in the high street. The government could consider the implementation or the continuation of tax cuts/ breaks including VAT and Corporation Tax. The consensus from the responses was that there needs to be a continuation of financial support from the government for businesses affected by the pandemic as customers have not returned to allow for "business as usual". Businesses are struggling with the long-term effects of COVID-19. In order to survive this 'business long COVID', they will also need to adapt and change their operations to become more innovative.

There were suggestions for Ceredigion County Council to support businesses to increase their capacity to allow them to be more viable and to support growth (examples of these businesses include a tourism boat and coach transport). Hospitality and retail businesses requested support to increase their digital capabilities, they reported a lack of digital skills in the business and a lack of training opportunities to improve these skills.

Although governments tried to foster e-commerce, regulations should not create barriers to new business models that include substantial e-commerce activity. Digital connectivity issues such as consumer privacy and protection need to be addressed to increase trust and confidence when transacting online. This necessitates the development of consumer skills to participate in e-commerce. Digital connectivity issues were present before the pandemic, but they have since been exacerbated by the impact of COVID-19.

As discussed above and in the vulnerability section the respondents of this survey noted that further support is needed for the self-employed who could not work during the pandemic or whose income was reduced. It was suggested that the Universal Credit payments for the selfemployed need to be reviewed.

The government should increase education support to improve the quality of the workforce by providing funded apprenticeships to assist young people into employment. Funding should be made available to support general and mental health of employees to assist with retaining human capital. Further assistance was requested by the respondents for help with childcare, increasing financial support and offering additional provision. The suggestions included increasing the provision on the 30hour free childcare scheme. Respondents asked for more support from the banking sector which included free business banking, longterm interest free loan schemes, repayment holidays and extended bounce back loans. Some businesses in the survey remained open to serve their community during lockdown and felt 'let down' by the government and the local council both in terms of their efforts and contribution not being acknowledged and the financial support they received. For example, one of the respondents stated: "Policy should account for and be adjusted for those very few independent businesses that stayed operating through it all....no acknowledgement from our regional or national government for putting our community before our personal and business needs..... We serviced all corners of Ceredigion, bringing deliveries to those who were isolating or unable to use their normal services. From March - May, we lost £90k in turnover.....We reacted 100% to the needs of our community and our staff.....We stayed open to meet their needs and nothing else......The grants we received we were grateful for, but they didn't come close to covering what the pandemic cost us".

In summary, the responses to the survey indicate that Ceredigion businesses and the self-employed need further support. This includes those businesses who temporarily closed during the pandemic and those that remained open but were still adversely affected. Most of the respondents' comments refer to continued financial support, but it is also clear that town centres and high streets in Ceredigion need to be considered as a priority moving forward. The banking sector could also assist businesses by alleviating their financial pressures by introducing free business banking, repayment holidays, interest free loans and extended bounce back loans.

What is clear from the responses in this report is that more needs to be done to support local businesses. Business has not returned to normal and Ceredigion businesses and the self-employed are still facing many challenges as a direct result of the COVID-19 pandemic. It is hoped that the outcomes of this report will help policymakers in allocating resources to the most needed domains.

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Appendix 1: Non-Essential Shops

Covid-19: non-essential shops closed but not exhaustive list

Accountancy Daily accessed 3 January 2023

Closures

The following shops and facilities had to close at end of trading on 23 March 2020:

- all non-essential retail stores including clothing and electronics stores; hair, beauty and nail salons; and outdoor and indoor markets, excluding food markets;
- hotels, hostels, bed and breakfasts, campsites, caravan parks, and boarding houses for commercial/leisure use (excluding permanent residents and key workers);
- indoor and outdoor leisure facilities such as bowling alleys, arcades and soft play facilities;
- libraries, community centres, and youth centres;
- communal places within parks, such as playgrounds, sports courts and outdoor gyms; and
- places of worship, except for funerals attended by immediate families.

Takeaway and delivery services may remain open and operational in line with guidance issued on Friday 20 March 2020.

Online retail will remain open, and postal and delivery services will run as normal.

Open list

The following retail outlets were allowed to remain open:

- banks;
- bicycle shops;
- car rentals;
- chemists, pharmacies, health shops, including non-dispensing pharmacies;
- corner shops;

- garages;
- home and hardware shops;
- · laundrettes and dry cleaners;
- newsagents;
- pet shops;
- petrol stations;
- post offices; and
- supermarkets and other food shops.

There are also tight restrictions on the public's use of retail and public premises which are permitted to remain open, which will be the responsibility of retail owners.

The following measures were followed:

- ensure two meters between customers and shop assistants.
- let people enter the shop only in small groups, to ensure that spaces are not crowded; and
- queue control is required outside of shops and other essential premises that remain open.

Appendix 2: SEISS Eligibility Criteria

The SEISS was announced on 26 March 2020 as part of the UK government's support package for businesses and self-employed people during the coronavirus (COVID-19) outbreak in early 2020.

The scheme was open to self-employed individuals and members of a partnership who met the following criteria:

- traded in the tax year 2018 to 2019 and submitted their self-assessment tax return on or before 23 April 2020 for that year
- traded in the tax year 2019 to 2020
- intended to continue to trade in the tax year 2020 to 2021
- carried on a trade which had been adversely affected by COVID-19

A business could be adversely affected by COVID-19 if for example:

- they were unable to work because they:
 - were shielding
 - were self-isolating
 - were on sick leave because of COVID-19
 - had caring responsibilities because of COVID-19
- they had to scale down or temporarily stop trading because:
 - > their supply chain had been interrupted
 - > they had fewer or no customers or clients
 - > their staff were unable to come in to work

The grant was not open to limited companies or those operating a trade through a trust.

To work out eligibility, HMRC first looked at the 2018 to 2019 Self Assessment tax return. Trading profits must have been between £0 and £50,000 and at least equal to non-trading income. If an individual was not eligible based on the 2018 to 2019 Self Assessment tax return, HMRC then looked at an average of the tax years 2016 to 2017, 2017 to 2018, and 2018 to 2019.

The scheme allowed an eligible individual to

claim a taxable grant worth 80% of three months' average trading profits, paid out in a single instalment and capped at \pm 7,500 in total.

The first grant opened for claims 13 May 2020 and closed on 13 July 2020.

On the 17 August 2020 applications for the second grant opened. This was a taxable grant worth 70% of three months' average trading profits, paid out in a single instalment and capped at £6,570 in total. To be eligible the individual's business had to be adversely affected due to COVID-19 on or after 14 July 2020. The second grant closed for claims on 19 October 2020.

On 30 November 2020 applications for the third grant opened. This was a taxable grant worth 80% of three months' average trading profits, paid out in a single instalment and capped at £7,500 in total. The third grant closed for claims on 29 January 2021.

To be eligible for the third grant an individual's business had to be impacted due to COVID-19 on or after 1 November 2020, and the individual had to declare they intended to continue to trade and either:

- were currently trading but were impacted by reduced activity, capacity or demand due to COVID-19
- were trading but were temporarily unable to do so due to COVID-19
- had to also declare that they reasonably believed that any reduced activity, capacity or demand or inability to trade due to coronavirus during the period 1 November 2020 to 29 January 2021, would result in a significant reduction in trading profits for the year those profits were reported in, compared to what they would otherwise expect to have achieved
- that they intended to continue to trade

The government announced at Spring Budget 2021 that the SEISS would continue until September 2021, with a fourth and a final fifth grant.

For both the fourth and fifth grants the income rules remained unchanged, and the person had to:

- carry on a trade the business of which had been adversely affected due to COVID-19 in the qualifying period (1 February to 30 April 2021 for the fourth grant)
- have carried on a trade in the tax years 2019 to 2020 and 2020 to 2021
- intended to continue to carry on a trade in the tax year 2021 to 2022
- submitted their self-assessment tax return for 2019 to 2020 on or before 2 March 2021

On 22 April 2021 applications for the fourth grant opened. The claims window closed on 1 June 2021. As with the previous grants eligibility was based on a person's tax returns for either:

- the 2019 to 2020 tax year
- an average of the consecutive tax years 2016 to 2017, 2017 to 2018, 2018 to 2019, and 2019 to 2020, if a person was not eligible based on 2019 to 2020 alone

With the 2019 to 2020 tax year assessed for the first time, some individuals could claim a grant that were previously unable to do so. These individuals were either:

- newly self-employed, meaning the individual started trading in 2019 to 2020 having not traded in any of 2016 to 2017, 2017 to 2018 or 2018 to 2019
- previously ineligible based on their tax returns, for example because their trading profit was less than their non-trading income

The fourth grant was a taxable grant based on 80% of 3 months' average trading profits, paid out in a single instalment and capped at £7,500.

On 29 July 2021 applications for the fifth grant opened. The person's business had to be impacted due to COVID-19 in the qualifying period (1 May 2021 to 30 September 2021). The claims window closed on 30 September 2021. This grant introduced 2 levels of grant based on the reduction in turnover experienced between an individual's reference year (either 2018 to 2019 or 2019 to 2020) and their pandemic year (a 12-month period starting between 1 April and 6 April 2021 inclusive). These 2 levels were either:

- a grant of 80% of 3 months' average trading profits capped at £7,500 for those with a turnover down by 30% or more
- a grant of 30% of 3 months' average trading profits capped at £2,850 for those with a turnover down by less than 30%

To be eligible for the higher grant, the individual's turnover must have fallen by 30% or more between their reference year and the pandemic year. Newly self-employed individuals were not subject to the turnover test and could claim the higher grant.

Source: Self-Employment Income Support Scheme (SEISS) - GOV.UK (www.gov.uk). Accessed on 9 May 2023.

Appendix 3: The Impact of COVID-19 in Ceredigion: Business Survey

Section 1: General Information	8. Has your business applied for bankruptcy because of COVID-19 pandemic issues?
1. What year did your business start?	O Yes
	O No
The value must be a number	
The value must be a number	9. Has your business experienced any difficulties
2. What is your industry sector?	because of COVID-19?
	O Yes
	Ο Νο
3. Is your business a limited liability company?	
O Yes	10. If you have answered `yes' to question 9,
○ No	which of the reasons listed below applies to your business? (Please select all appropriate options
	from the list)
4. Is your business a sole proprietorship?	Restrictions due to the COVID-19 pandemic
O Yes	Issues related to your supply chain
O No	E Fewer customers
	Increase in the number of business debtors
5. Which of the following best describes the	Fall in cash flow
location of your business?	Other
○ Countryside	
○ Town	
○ Village	
	Section 2: Employment and Human
6. Has your business closed temporarily because of COVID-19 pandemic issues?	Resources
O Yes	11. How many staff does your business employ?
O No	
	The value must be a number
7. Has your business closed permanently	
because of the adverse impact of the COVID- 19 pandemic?	12. How many of your employees work from home?

Yes No

The value must be a number

13. Do your employees who work from home use their own technology, e.g. computers?

\bigcirc	Yes
\sim	

🔾 No

14. Does your business provide technology, e.g., computers for employees who work from home?

- 🔾 Yes
-) No

15. Has your business laid off any of its employees with a specific recall date?

- 🔘 Yes
- 🔾 No

16. Has your business laid off its employees with the prospect of a recall?

- 🔾 Yes
- 🔾 No

17. Has your business permanently laid off or made its employees redundant?

- 🔾 Yes
- 🔵 No

18. Has your business reduced its employees' work hours?

\frown	
\bigcirc	Yes

🔾 No

19. Has your business registered for the government's furlough scheme? (Coronavirus Job Retention Scheme)

- 🔾 Yes
-) No

20. If you answered `no' to question 19, please explain the reasons for this:



21. Was your business' application for the furlough scheme successful?

) No

22. How many employees in your business were put on the furlough scheme during the COVID-19 pandemic?

The value must be a number

23. How many employees in your business were put on company-paid leave during the COVID-19 pandemic?

The value must be a number

24. How many employees in your business used their annual leave allowance during the COVID-19 pandemic?

The value must be a number

25. How many employees in your business were self-isolating or on company-paid sick leave during the COVID-19 pandemic?

The value must be a number

26. How many employees in your business were self-isolating or on statutory pay sick leave during the COVID-19 pandemic?

The value must be a number

27. How many employees in your business were self-isolating or on sick leave without sick pay during the COVID-19 pandemic?

The value must be a number

28. How many employees in your business were off-sick with stress because of the COVID-19 pandemic?

The value must be a number

29. How many employees in your business are caring for children or others?

The value must be a number

30. Regarding the employees in your business who are caring for children and others, please tick which of these apply to them:

They are working



They are working part-time

They are working full-time

Section 3: Supply Chain and Operations Management

31. Has the introduction of new public health measures such as the 'social distancing' rule changed the way your business operates?

) Yes

) No

32. If you answered 'yes' to question 31, please explain the changes:



33. Has your line of business changed because of the COVID-19 pandemic? (For example, some distillery lines changed to hand sanitiser production lines. Please list the business lines that were discontinued because of the COVID-19 pandemic).



34. Please list the business lines that were suspended temporarily because of the COVID-19 pandemic.

35. Please list the new business lines that were created because of the COVID-19 pandemic.

36. Has part, or all your business moved online?

Yes

No

37. Are you considering moving your business online?

Yes

No

38. Are you considering opening 'pop-up shops' in vacant business units?

\bigcirc Y	es
\smile II	ະວ

()No

39. Are you considering diversifying your current business to other areas?

Yes

No

40. Has the COVID-19 pandemic disrupted your business supply chain?

○ Yes

41. If your answer to question 40 above is 'yes', please explain how your business supply chain been disrupted?



42. Can you give an estimate of how many per cent your business supply chain has been disrupted?

The value must be a number

43. Has the cost of raw materials or products risen because of COVID-19 pandemic?

-) Yes
 -) No

Section 4: Business Performance and Profitability

44. Has your business revenue changed during the COVID-19 pandemic? Please select the option that best describes your revenue situation from the list below:

-) Increase
-) Decrease
- \bigcirc Remains the same

45. If your answer to question 44 above is "increase", by what percentage has your business revenue increased during COVID-19 pandemic?

The value must be a number

46. If your answer to question 44 above is "decrease", by what percentage has your business revenue decreased during COVID-19 pandemic?

The value must be a number

47. What measures has your business implemented to improve customer confidence? (Please list them)



48. Which of the following schemes and initiatives have you accessed during the COVID-19 pandemic

Coronavirus Job Retention Scheme
Self-Employment Income Support Scheme
Government-backed accredited loans or finance agreements
Business grants funded by Welsh Government
Business rates holiday
Deferring VAT payments
HMRC Time To Pay scheme

49. Are there any new schemes you would recommend that could help to reinvigorate your business sector? (Please list them)

50. In your view, what policy support would your business like the government to introduce to help businesses in the country recover from the impact of COVID-19? (Please list them)

51. What sort of support and investments would you like to see the public sector (Government, Local Authorities) implement to help support the recovery from the COVID-19 pandemic?

Section 5: Business Financing

52. What are your business' main sources of finance? (Please list them)

53. Does your business usually use bank loans and credit facilities?

🔘 Yes

) No

54. Has your business been able to apply for a bank loan successfully during the pandemic?

🔾 Yes

) No

55. Has your business' level of external debt risen during the pandemic?

🔾 Yes

) No

56. Has your business applied for loan repayment holidays because of the impact of COVID-19 on your revenue? ()Yes No 57. Have your business' finances remained stable during the COVID-19 pandemic? Yes No 58. Is your business eligible to apply for any of the government funding schemes? Yes No 59. If you answered 'yes' to question 58 above, please list the scheme(s)

60. Has your business successfully applied for any of the government's funding schemes in question 59 above?

🔾 Yes

🔾 No

61. If your answer to question 60 is 'yes', how much in total did your business receive in pound sterling (£)?

The value must be a number

Section 6: Additional Information

62. Has your business experienced any of the following digital connectivity issues during the COVID-19 pandemic? Please tick all that apply

Low broadband speed	covid for explore some of the impacts of the COVID-19 pandemic in Ceredigion in more
Lack of reliable broadband / mobile signal	detail? O Yes
Lack of digital skills in your business	O No
Lack of training opportunities for digital skills	66. If you answered 'yes' to question 65 and
Lack of awareness of schemes to help improve digital access	would like to take part in a focus group, please provide your contact details:
Lack of broadband / mobile options	
Cost of access	
Other	

64. How confident do you feel about life returning to normal in the near future?

\bigcirc	Very	confident
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- O Confident
 - Neutral
 - Not very confident
- Not at all confident

65. Would you like to be involved in a focus group to explore some of the impacts of the COVID-19 pandemic in Ceredigion in more detail?

\bigcirc	Yes
\sim	100

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63. How confident do you feel about the recovery of the economy from the COVID-19 pandemic?

- Very confident
- Confident
- Neutral
- Not very confident
- Not at all confident