12 June

## Economic Commentaries



# GDP growth in Sweden relative to other countries in the wake of Covid-19

Yıldız Akkaya, Carl-Johan Belfrage, Vesna Corbo and Paola Di Casola<sup>1</sup> The authors work in the Monetary Policy Department of the Riksbank.

The coronavirus pandemic has in a short period of time changed the lives of people around the world. In addition to the repercussions on health and social life, we are witnessing major effects on the economy, both from the spread of the virus and the measures taken to limit contagion. Economic indicators both in Sweden and abroad imply that we are experiencing one of the largest and most rapid falls in economic activity in modern times. Usually, Swedish GDP growth follows that abroad, but with slightly larger fluctuations. Particularly in times of deep crisis, GDP tends to fall more in Sweden than in the countries that are our most important trading partners. However, in this particular crisis there are several factors that indicate the relationship may be different, including differences in measures taken to avoid spreading the disease and the size of the sectors that are hit hardest.

In this Economic Commentary we discuss some of the reasons why the relationship between GDP developments in Sweden and abroad may differ from what we have observed in the past. We are in the early stage of the economic crisis now, and the medical and epidemiological properties of the coronavirus are still unclear. It is therefore extremely difficult to know what the prospects are for economic developments in the coming years. Here we base our analysis on the information available at the time of writing and we highlight various aspects of how the economy may be affected in Sweden in relation to the rest of the world, with a focus on the coming year.

#### Sweden's GDP growth usually follows that of its major trading partners

The fact that GDP is now falling in Sweden and abroad at the same time is entirely in line with historical patterns. One important reason is that factors that affect economic activity are often global in nature, as is the coronavirus pandemic. Moreover, Sweden's openness means that cyclical fluctuations abroad tend to spread quickly to the Swedish economy through confidence in the household and corporate sectors, international trade and the financial markets. On the whole, Swedish GDP growth closely follows that abroad, albeit with somewhat larger rises and falls, see Figure 1. The pattern is at its most clear in times of crisis, not least during the global financial crisis 2008-2010.<sup>2</sup>

The Swedish economy is closely linked to the rest of the world through trade, investment and the financial markets. In addition, many of the events that affect the economy are global in nature. This means that GDP growth in Sweden tends to follow that of its most important trading partners.

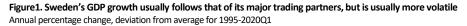
There are, however, several factors in the crisis triggered by the coronavirus pandemic that indicate Sweden may be affected less negatively than its major trading partners in the short term. The economy has not been closed down to the same extent as many others. The sectors hit hardest by social distancing are relatively small in Sweden and a low sovereign debt leaves ample space for fiscal policy to support the companies and households that have been hit hardest. But there are also factors indicating that the reverse could apply. Swedish households have a high level of debt, which entails risks for both households and the financial sector. Moreover, the Swedish economy is heavily dependent on international trade, which is under great strain at the moment.

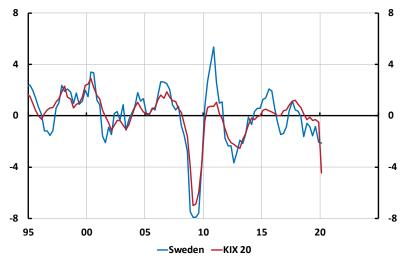
Our overall assessment is that the Swedish economy will nonetheless be hit less hard in the short term than many of its largest trading partners' economies. However, it is too early to say anything about longer-run developments. They could prove to be either more or less beneficial from a Swedish perspective.

<sup>&</sup>lt;sup>1</sup> The authors would like to thank Erik Frohm, Magnus Lindskog, Henrik Siverbo, Ingvar Strid and Jakob Winstrand for valuable comments and discussions on data collection. Thanks also to Mikael Apel, Meredith Beechey Österholm, Charlotta Edler, Mattias Erlandsson, Jesper Hansson, Björn Lagerwall, Stefan Laséen and Marianne Sterner for valuable comments on earlier drafts. The opinions expressed are those of the authors and are not to be seen as the Riksbank's view.

<sup>&</sup>lt;sup>2</sup> This pattern and the way the Riksbank's forecasts and those of other analysts have tended to relate to it is discussed in Lindé and Reslow (2017). One possible explanation why Sweden's GDP tends to vary somewhat more than GDP abroad is that the specialisation of production enabled by international trade is in Sweden's case mostly in investment goods, and the demand for these tends to weaken the most when the economy weakens, and vice versa. This is also discussed in Sveriges Riksbank (2010).

Is there reason to believe that history will repeat itself, or will we see a different pattern during this crisis? In the initial stage, the actual measures to prevent contagion appear to play a decisive role. To the extent that they differ from country to country, it is reasonable to assume that they can affect GDP growth to varying degrees. Furthermore, economies may react differently to the measures to prevent contagion as a result of differences in the importance of different sectors, the possibilities to work while observing social distancing guidelines or regulations, the room for manoeuvre in fiscal policy, the sensitivity to changes in trade patterns and the scope of private sector indebtedness. In the following, we discuss how Sweden differs in these aspects from the parts of the world that have the greatest impact on Swedish GDP growth, that is, the euro area (in several cases represented by the four major euro area countries Germany, France, Italy and Spain) and the United States.





Note. The KIX is an aggregate of countries that are important for Sweden's international trade. KIX 20 consists of the euro area (19 countries) and the United States.

Sources: National sources and Statistics Sweden

#### Sweden has introduced less comprehensive restrictions than many other countries

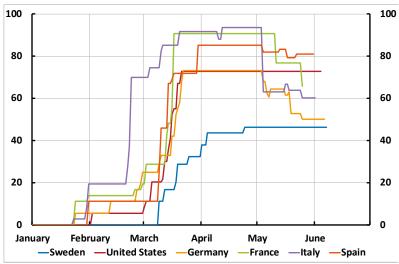
There has recently been a widespread debate placing Sweden's measures to reduce the spread of the virus into an international context. Sweden has chosen a strategy with less comprehensive restrictions and greater reliance on responsible conduct by individuals than many other countries in the western world. It will take some time before it is possible to evaluate the different strategies, and before it is possible to assess how successful or unsuccessful they have been in various respects. This Economic Commentary only deals with the economic aspects and from this perspective, it is likely that less extensive restrictions will lead to less severe negative effects on the economy, at least in the near term.<sup>3</sup>

The so-called stringency index produced by Hale et al. (2020) measures how many and how stringent the restrictions (such as school closures and travel restrictions) introduced in

<sup>&</sup>lt;sup>3</sup> It is difficult to predict what economic consequences the different strategies to reduce the spread of the virus will have in the slightly longer run, and this is an issue that is much debated. A study by Correia et al. (2020) that has attracted a lot of attention compares the economic developments in US states and cities in the wake of the 1918 pandemic. They find that there is no conflict between halting the spread of the infection and mitigating the adverse economic consequences of the pandemic, since the areas that introduced stricter measures to prevent contagion early on also had stronger economic growth in the long run. Lilley et al. (2020) question these results, however, as they find that the differences between the economic development in different areas that Correia et al. (2020) highlight are instead due to differences in population trends that were there before the outbreak of the pandemic. It is also important to note that there are differences between the pandemics in 1918 and 2020. One of these differences is how hard they have hit different parts of the population.

different countries are, see Figure 2. The figure shows clearly that the Swedish measures to limit contagion have been less restrictive than those elsewhere.

Figure 2. Less restrictive measures to prevent contagion in Sweden than abroad Stringency index



Note. The stringency index can take values between 0 and 100 and is an aggregate of eight sub-indices that measure the degree of school closures, workplace closures, cancelled events, the size of public gatherings, cancelled public transport, requirements and recommendations to stay at home, restrictions on domestic travel and restrictions on foreign travel. Source: Hale et al. (2020)

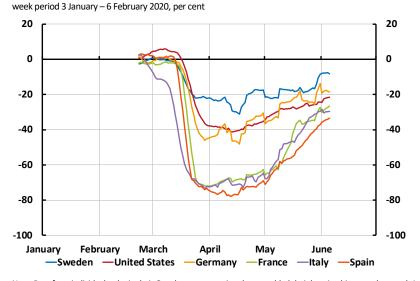


Figure 3. Less decline in mobility in public spaces in Sweden than abroad Deviations in movement in public environments in relation to the median value for the corresponding weekday during the five-

Note. Data from individuals who in their Google account settings have enabled their location history to be saved. Averages of the subindices "Retail&Recreation", "Grocery&Pharmacy", "Transit Stations" and "Workplaces". Data is available from 23 February. We have taken into account data up to and including 5 June 2020. Source: Google

However, it is not solely the authorities' measures that are of interest in this context, but rather the overall effect that the risk for contagion and the various measures have had on people's behaviour. Many of us have in various ways changed our way of life.<sup>4</sup> It is possible

<sup>&</sup>lt;sup>4</sup> The surveys carried out by Kantar/Sifo in recent months, commissioned by the Swedish Civil Contingencies Agency, show that almost all respondents consider they have taken some form of measure to reduce the spread of the infection.

that these changes in behaviour are greater than those required to follow the authorities' requirements and recommendations. It is also possible that people respond in different ways to recommendations from the authorities and this can give rise to other differences between countries than those implied by the stringency index.<sup>5</sup> The mobility data gathered by different bodies can give us an indication. Data from Google indicate that mobility in public spaces has declined significantly in all countries since the pandemic hit and various measures to limit it were introduced, see Figure 3.<sup>6</sup> But it is also clear that mobility has fallen less in Sweden than in the other countries in our sample. Mobility data from other sources, gathered at the city level, confirm this picture.<sup>7</sup> As lower mobility can be assumed to be linked to lower consumption in, for instance, retail stores, it is likely that economic activity has so far fallen less in Sweden.<sup>8</sup> The differences between Sweden and other countries appear to be declining now, however, as many countries are easing their restrictions.

#### The Swedish economy may be more resilient for structural reasons

As noted above, the Swedish economy has been subject to milder domestic restrictions than the economies of our trading partners. However, the total impact on the economy is not only due to the scope of the restrictions, but also to how vulnerable the economy is to these restrictions. This in turn depends on the structure of the economy and the abilities of various agents to adapt to the new conditions the restrictions entail. Also based on these considerations, there may be reason to believe that the negative impact of the coronavirus on the economy could be slightly less in Sweden than elsewhere.

Many countries began early on to limit the possibility to travel abroad, which meant that international tourism more or less ceased to exist. As long as these and other restrictions that hamper tourism continue, Sweden will be affected relatively mildly, due to its limited dependence on income from tourism and due to the fact that Swedes normally spend a relatively large amount of money as tourists abroad – money which to some extent will now be spent at home instead.<sup>9</sup> More generally, it is reasonable to assume that economies where a smaller percentage of activity is within sectors that require physical interaction will be affected less by the requirement for social distancing. In Sweden, some of the most affected sectors, such as hotels and restaurants, account for a relatively small percentage of value added, see Figure 4.<sup>10</sup>

How much of the economy can function despite social distancing depends to some extent on how far it is possible for employees to do their work from home. Dingel and Neiman (2020) present estimates of the number of jobs in the economy that can be done from home for a number of different countries, based on their sectoral composition. Sweden, where it is assessed that 44 per cent of jobs can be done from home, is among the countries with the

<sup>&</sup>lt;sup>5</sup> A comparison of Swedish and Danish consumption patterns by Andersen et al. (2020), and a comparison of employment outcomes in Korean regions with and without large-scale spread by Aum et al. (2020), indicate that most of the decline in economic activity in the wake of Covid-19 is due to factors other than the formal restrictive measures imposed.

<sup>&</sup>lt;sup>6</sup> The figure shows an average of several index categories, but the pattern is the same in all areas included – a decline in mobility in both Sweden and the other countries, but less of a decline in Sweden.

<sup>&</sup>lt;sup>7</sup> Both Apple and Citymapper gather data on mobility in cities. It is clear in both data sets that mobility has declined in the cities of all countries in our sample since the beginning of March. But we can also see that Stockholm is one of the cities that has been affected the least in the surveys and it shows less of a fall in mobility than Berlin, Madrid, Paris and Rome, as well as New York and Washington D.C.
<sup>8</sup> This picture is supported by the outcomes for GDP growth in the first quarter of 2020. While Swedish GDP rose marginally between the fourth quarter of 2019 and the first quarter of 2020 if fell by around 5 per cent in the countries that introduced relatively far-reaching restrictions early on (Italy, France and Spain), and by just over 2 per cent in Germany and just over 1 per cent in the United States.
<sup>9</sup> The so-called net travel balance – the difference between what foreign visitors spend in the country and what the country's own inhabitants spend abroad – was in 2019 –0.4 per cent of GDP for Sweden, 0.3 per cent of GDP for the USA and 0.4 per cent of GDP for the euro area.

<sup>&</sup>lt;sup>10</sup> As the contact-intensive sectors account for part of the demand for goods and services from other sectors, and to some extent also provide other sectors with necessary goods and services, limitations to the contact-intensive sectors' operations may have a greater impact on the economy than their percentage of the total value added would indicate. Calculations on US data by Leibovici et al. (2020) indicate that the effect on other sectors' output is significant, although it is less than the direct effect on output in the contact-intensive sectors.

highest percentage, surpassed only by Luxembourg and Switzerland. In comparison, the United States has a share of 42 per cent, while the corresponding shares for the large euroarea countries vary between 32 and 38 per cent. In addition, distance working, like other possibilities for the economy to adapt to social distancing, such as a transition to ecommerce, benefits from a high degree of adoption of information and communications technology. Here, too, Sweden has a relatively favourable starting position.<sup>11</sup>

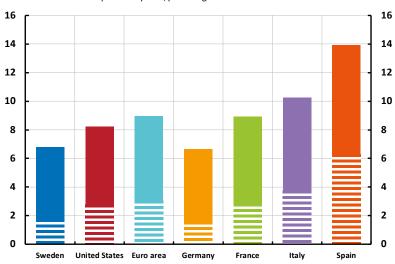


Figure 4. The sectors that are hardest hit comprise a smaller share of the economy in Sweden Value added in sectors hit particularly hard, percentage of GDP

Note. Data from 2017, with the exception of Italy (2016). The bottom (striped) parts of the respective columns refer to value added in the hotels and restaurants sector, while the remaining part is the sum of value added in retail trade, air travel and culture, entertainment and recreation sectors.

Sources: The OECD and the Riksbank.

There are academic studies looking into the vulnerability of economies in various aspects and attempting to determine the risk that the coronavirus crisis will have severe economic consequences. One such study is Noy et al. (2020), which analyses the risk that various countries face, based not only on the degree of contagion in the country, but also on the economy's exposure, vulnerability and resilience. The population density in the country serves as a proxy for exposure to the virus. Vulnerability is linked to factors such as the role and scope of the tourism industry in the economy, the age composition of the population and how well the medical and healthcare system functions. Resilience is connected to factors such as how widespread access to the internet is. The study shows that the countries hit hardest by the spread of the infection are not necessarily those that run the greatest economic risk. Sweden and the other Nordic countries are among those judged to have the lowest economic risk. The risk to the Swedish economy is less than that to the euro area economy, despite the fact that the spread of infection so far can be said to have been similar, although there is considerable variation between the different countries in the euro area.<sup>12</sup>

Doerr and Gambacorta (2020), who look at the effects of the pandemic on employment in different regions in Europe, also find reason to believe that Sweden will not be among those hit hardest. They construct an employment risk index, which aims to measure the percentage of jobs threatened by the pandemic, based on employment in different sectors. The share of

<sup>&</sup>lt;sup>11</sup> Sweden is among the world leaders with regard to the highest degree of incorporation of information and communications technology (4th place) according to the World Economic Forum (2019). According to Eurostat's Digital Economy and Society Index (DESI), which measures the degree of connectivity and digital performance, Sweden is one of the highest rated countries in Europe. Spain, Germany, France and Italy, in this order, all have much lower DESI figures.

<sup>&</sup>lt;sup>12</sup> A related study, by Barrot et al. (2020), estimates the expected GDP loss as a result of social distancing in a number of different countries. The study does not include data for Sweden, but it has data for neighbouring Norway and Denmark. These are two of the countries expected to cope the best due to their high percentage of distance working, something that should also apply to Sweden.

employment in small companies is also included, as small companies tend to be more sensitive to periods of weak income flows, to be more dependent on local markets and to have fewer sources of income. Here, Sweden is placed in the category with the lowest employment risk, together with Denmark, Germany and the United Kingdom, while France, Italy and Spain are among the countries assessed to have the largest employment risk.

The ongoing economic crisis has so far been primarily a crisis of the real economy. One concern is that it could develop into a financial crisis, which could have further negative effects on growth and the economy as a whole. The Swedish banking system is large and interconnected, in that the banks own one another's securities. The banks' assets as a percentage of GDP are greater than in any of the five countries in our comparisons. However, when compared with the banks in the rest of Europe, Swedish banks are at present probably better equipped to handle a crisis. The percentage of non-performing loans in the Swedish banking sector is around 0.5 per cent, which is one of the lowest in the EU, where the average is around 3 per cent. In addition, the major Swedish banks have lower costs and higher profitability than the major banks in the EU, which makes them more resilient to potential crises.<sup>13</sup>

#### Low government debt gives good conditions for fiscal policy stimulation

To dampen the effects on the economy of the spread of the infection and the measures taken to limit it, many countries have implemented extensive economic policy measures. This has primarily concerned fiscal policy measures to help hard-hit companies and households get through the crisis. A compilation of the fiscal policy measures decided on up to mid-May indicates that Sweden implemented extensive fiscal stimulus at an early stage.<sup>14</sup>

Fiscal policy measures are important to dampen the economic effects of the ongoing pandemic. Even in countries with a high government debt, a less expansionary fiscal policy now could in the long run aggravate the public finance situation and lead to higher long-term unemployment and a greater number of bankruptcies. However, historical experiences indicate at the same time that there is a risk that market participants will make a different assessment if an already high government debt rises quickly. In the euro area the large budget deficits that followed from the financial crisis led to a sovereign debt crisis, when several euro-area countries that faced a risk of a deterioration in their debt-servicing ability had difficulties funding their government debts.

Figure 5 shows the development of general government debts over time in our sample of countries. It shows that in all countries, with the exception of Sweden and Germany, general government debt as a percentage of GDP is now higher than prior to the financial crisis. If financing costs increase, for instance because of unease on the financial markets, this risks leading to the market beginning to question the sustainability of the debt in a similar way to during the euro-area sovereign debt crisis. This could be part of the explanation for the differences in the size of the fiscal policy stimulus between the countries.<sup>15</sup> Compared with many of its trading partners, however, Sweden has a very low government debt. This gives ample space for using fiscal policy as far as possible to alleviate the economic consequences of the corona crisis.

<sup>&</sup>lt;sup>13</sup> See Finansinspektionen (2019).

<sup>&</sup>lt;sup>14</sup> This compilation was done by Elgin et al. (2020) and is based on data from the IMF's "policy tracker". Including credit guarantees and loans, the fiscal policy measures in Sweden in mid-May amounted to around 12 per cent of GDP, while the corresponding figures were 13 per cent for the United States, 11 per cent for Germany, 9 per cent for France, 6 per cent for Italy and 7 per cent for Spain. The figures represent averages of intervals depending on the utilisation rate of various support measures. With regard to countries in the EU, there is a small addition for measures from the EU budget. The IMF (2020a) notes, for instance, that Sweden's measures to counteract the economic consequences of the pandemic were prompt and large.

<sup>&</sup>lt;sup>15</sup> Applying regression analysis on data for a large number of countries, Balajee et al. (2020) find, that the countries' credit ratings have a positive and significant impact on the size of the fiscal stimulus package. The credit rating serves as a proxy for the sustainability of the national debt.

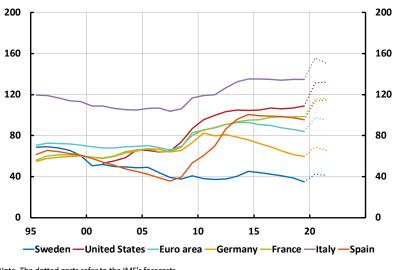


Figure 5. Sweden's low general government debt gives ample space for fiscal stimulus Indebtedness in the public sector, percentage of GDP

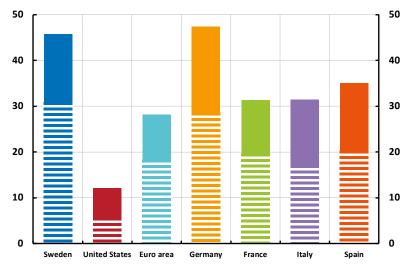
Note. The dotted parts refer to the IMF's forecasts Source: IMF Fiscal Monitor, April 2020

#### Swedish economy also has vulnerabilities

So far, we have identified a number of reasons why the development of Swedish GDP may be somewhat less weak than in other countries compared to what is implied by historical patterns. But at the same time, there are a number of vulnerabilities in the Swedish economy that point in the opposite direction.

Figure 6. Foreign trade plays a large role in the Swedish economy

Export of goods and services, percentage of GDP, dotted part of the columns refers to the part of exports linked to global value chains.

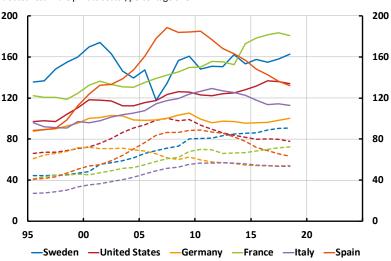


Note. Data for 2018. The export share for the euro area refers to exports to countries outside of the euro area, while those for Germany, France, Italy and Spain refer to the countries' total exports, including to other countries in the euro area. The striped parts of the respective columns refer to the share of exports linked to global value chains, measured as the total of foreign value added in the country's exports and exports of intermediate goods used for export production in a third country, according to UNCTAD. The individual euro area countries' exports in global value chains also include trade with other euro area countries. For the euro area, the estimate is based on the global-value-chain share on all exports from euro-area countries, including to destinations within the euro area. It should also be noted that estimates of trade in global value chains are on the whole uncertain and differ from one source to another. Sources: The World Bank, Eurostat and UNCTAD-Eora GVC Database - Eora MRIO The Swedish economy may be considered more dependent on international trade than many other countries' economies, both with regard to exports in relation to GDP and participation in global value chains, see Figure 6. International trade may be strongly affected by the corona crisis, not just on the basis of reduced demand, but also as a result of disruptions to global value chains and increased protectionism.<sup>16</sup>

Sweden's relatively large involvement in global value chains makes the economy vulnerable to production shocks in other parts of the chains. New closures in various parts of the world could halt operations in important production channels and thereby risk affecting Swedish producers who supply goods to them or use goods from them.<sup>17</sup>

The dependence on international trade also means that the Swedish economy is relatively vulnerable to the increased protectionism that often follows in the wake of economic crises.<sup>18</sup> There are several reasons to fear that protectionist tendencies will be relatively strong even in the current crisis – there have already been cases that have attracted a lot of attention, where trade in medical equipment has been restricted and support for free trade is currently unusually weak in some parts of the world.

The high level of private indebtedness also represents a risk factor for the Swedish economy, see Figure 7. <sup>19</sup> Household indebtedness as a percentage of GDP is higher in Sweden than in any of the countries of interest. Zabai (2017) also assigns Sweden to the group of countries with a high and rising household debt, while the euro area has a low and falling household debt. A highly indebted household has poorer capacity to manage unexpected loss of income or increases in expenditure, especially if the debts are used to finance illiquid assets such as housing.





Note. Broken lines refer to household indebtedness, solid lines refer to the total indebtedness for households and non-financial corporations

Source: The IMP

<sup>&</sup>lt;sup>16</sup> Baldwin (2020) argues that the coronavirus pandemic will lead to an unprecedented fall in global trade, which is assumed to be more extensive than the fall during and after the financial crisis.

<sup>&</sup>lt;sup>17</sup> See Baldwin and Freeman (2020) and Frohm (2018).

<sup>&</sup>lt;sup>18</sup> See Georgiadis and Gräb (2016) and Eaton et al. (2016) for analyses of protectionist tendencies and their impact on the development of trade in connection with earlier crises.

<sup>&</sup>lt;sup>19</sup> Based on an analysis of advanced economies over the past three decades, IMF (2012) finds that recessions preceded by larger run-ups in household debt tend to be more severe.

The non-financial corporations' indebtedness (the difference between solid and broken lines in Figure 7) is also relatively high in Sweden. In the case of Sweden, it is primarily a question of actors in the real estate market, including housing cooperatives, while the data for the euro area indicates that a larger share of the debt there concerns companies outside of the real estate sector.<sup>20</sup>

Most of the Swedish households' and non-financial corporations' relatively high indebtedness is thus linked to real estate. As the lending mostly comes from Swedish banks, these now have a high exposure to the real estate sector, which risks further aggravating the problems if there were to be a downturn in the housing market.<sup>21</sup>

#### The conclusions for the future are uncertain

It is clear that the effects on the economy of Covid-19 will be very large, both in Sweden and abroad. There are a number of factors indicating that Sweden could be affected less in relation to the rest of the world than the historical patterns indicate. But there are also indications that the reverse could apply. Our overall assessment is that the Swedish economy will nevertheless be less severely hit in the near term. This assessment is in line with the forecasts for Sweden and the rest of the world in the Riksbank's most recently published forecast and also has some support in the forecasts for 2020 published by the IMF and the OECD in the middle of April and at the beginning of June, respectively.<sup>22</sup>

However, it is too early to say how the various economies will develop in the longer run. This will be affected by a number of different factors, not least those related to the spread of the virus. The scope of the spread during the first wave of the pandemic, the risk of a second wave, how quickly and successfully various countries can open up their economies again and whether, and if so when, there will be a vaccine or effective medicine for Covid-19 are all factors that are difficult to estimate and can lead to significant differences between countries. Economic policy factors, such as the scope of the fiscal policy measures in various countries and how well policy measures manage to dampen the long-term effects on the labour market and company defaults, will play an important role for developments in the longer run. It still remains to be seen whether the pandemic will give rise to more lasting changes in the behavioural patterns of households and companies, or change attitudes regarding openness for trade and international cooperation. All of these factors mean that the comovement between GDP growth in Sweden and the rest of the world may very well deviate from the patterns we have observed in recent decades even in the longer run – in ways that can be more or less favourable from a Swedish perspective.

<sup>&</sup>lt;sup>20</sup> The real estate sector, broadly defined, accounted for just over 40 per cent of the monetary and financial institutions' outstanding loans to non-financial companies in the euro area during the fourth quarter of 2019

<sup>(</sup>http://sdw.ecb.europa.eu/reports.do?node=1000003598). The corresponding share for Swedish monetary and financial institutions' lending was almost 65 per cent in March 2020, see Sveriges Riksbank (2020).

<sup>&</sup>lt;sup>21</sup> Finansinspektionen has earlier assessed that Swedish banks are underestimating the risk in their lending to the commercial property sector, and that they therefore have less capital than they would actually need to cover this risk, see Finansinspektionen (2019).
<sup>22</sup> See Sveriges Riksbank (2020). See also IMF (2020b) and OECD (2020). In the IMF's forecast, GDP in Sweden falls by 6.8 per cent between 2019 and 2020, while the pattern for the period 1995-2019 had indicated a weakening of almost 9 per cent of GDP in Sweden, given the forecasts for the euro area and the United States. According to the OECD's forecast, Swedish GDP still has somewhat higher growth than the KIX-20 weighted countries.

### References

Andersen, A. L., Toft Hansen, E., Johannesen, N. and A. Sheridan (2020), "Pandemic, Shutdown and Consumer Spending: Lessons from Scandinavian Policy Responses to COVID-19", May 12, <u>https://arxiv.org/pdf/2005.04630.pdf</u>, accessed 4 June 2020.

Aum, S., Lee, S. Y. and Y. Shin (2020), "COVID-19 Doesn't Need Lockdowns to Destroy Jobs: The Effect of Local Outbreaks in Korea", NBER Working Paper 27264.

Balajee, A., Tomar, S. and G. Udupa (2020), "COVID-19, Fiscal Stimulus, and Credit Ratings", Indian School of Business, <u>http://dx.doi.org/10.2139/ssrn.3577115</u>, accessed 1 June 2020.

Baldwin, R. (2020), "The Greater Trade Collapse of 2020: Learnings from the 2008-09 Great Trade Collapse", VoxEU.org, 7 April.

Baldwin, R. and R. Freeman (2020), "Supply chain contagion waves: Thinking ahead on manufacturing 'contagion and reinfection' from the COVID concussion", VoxEU.org, 1 April.

Barrot, J.-N., Grassi, B. and J. Sauvagnat (2020), "Sectoral effects of social distancing", *Covid Economics*, no. 3, pp. 85-102, CEPR.

Correia, S., Luck, S. and E. Verner (2020), "Pandemics Depress the Economy, Public Health Interventions Do Not: Evidence from the 1918 Flu", http://dx.doi.org/10.2139/ssrn.3561560, accessed 1 June 2020.

Dingel, J. I. and B. Neiman (2020), "How Many Jobs Can be Done at Home?", NBER Working Paper 26948.

Doerr, S. and L. Gambacorta (2020), "Covid-19 and regional employment in Europe", *BIS Bulletin*, no. 16.

Eaton, J., Kortum, S., Neiman, B. and J. Romalis (2016), "Trade and the Global Recession", *American Economic Review*, vol. 106, no. 11, pp. 3401-3438.

Elgin, C., Basbug, G. and A. Yalaman (2020), "Economic policy responses to a pandemic: Developing the Covid-19 economic stimulus index", *Covid Economics*, no. 3, pp. 40-53, CEPR.

Finansinspektionen (2019), *Stabiliteten i det finansiella systemet* [Stability in the financial system], November.

Frohm, E. (2018), "How do global value chains influence the effects of the krona exchange rate on exports?", *Economic Commentaries* no. 9, Sveriges Riksbank.

Georgiadis, G. and J. Gräb (2016), "Growth, Real Exchange Rates and Trade Protectionism since the Financial Crisis", *Review of International Economics*, vol. 24, no. 5, pp. 1050-1080.

Hale, T., Angrist, N., Kira, B., Petherick, A. and T. Phillips (2020), "Variation in government responses to COVID-19", Blavatnik School of Government working paper 2020/032, Oxford University.

IMF (2012), "Dealing with Household Debt", World Economic Outlook, April.

IMF (2020a), "Sweden: Will COVID-19 Economics be Different?", IMF Country Focus, June 4, https://www.imf.org/en/News/Articles/2020/06/01/na060120-sweden-will-covid-19economics-be-different, accessed 7 June 2020.

IMF (2020b), World Economic Outlook, April.

Leibovici, F., Santacreu, A. M. and M. Famiglietti (2020), "How the Impact of Social Distancing Ripples through the Economy", On the Economy Blog, April 7, Federal Reserve Bank of St. Louis.

Lilley, A., Lilley, M. and G. Rinaldi (2020), "Public Health Interventions and Economic Growth: Revisiting The Spanish Flu Evidence", <u>https://scholar.harvard.edu/files/rinaldi/files/paper.pdf</u>, accessed 1 June 2020.

Lindé, J. and Reslow, A. (2017), "Do Swedish forecasters properly account for Sweden's international dependence?", *Economic Review* 2017:2, Sveriges Riksbank.

Noy, I., Nguyen, D., Ferrarini, B. and D. Park (2020), "Measuring the economic risk of Covid-19", *Covid Economics*, no. 3, pp. 103-122, CEPR.

OECD (2020), Economic Outlook, June.

Sveriges Riksbank (2010), "Why higher growth in Sweden than in the eurozone and the United States?", article in *Monetary Policy Report*, October.

Sveriges Riksbank (2020), Financial Stability Report, 2020:1.

World Economic Forum (2019), The Global Competitiveness Report.

Zabai, A. (2017), "Household debt: recent developments and challenges", *BIS Quarterly Review*, December.