

Weyerstrass, Klaus

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Fiscal policies during the Covid-19 crisis in Austria: A macroeconomic assessment

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Fiscal Policies during the Covid-19 Crisis in Austria – A Macroeconomic Assessment

Klaus Weyerstraß (IHS Vienna)

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Telephone +49 89 9224-0, Telefax +49 89 9224-1462, email Dolls@ifo.de

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Introduction

The coronavirus pandemic and particularly the necessary containment measures resulted in an unprecedented slump in economic activity. In Austria, seasonally adjusted real GDP declined by 2.4 percent in the first quarter and plummeted by 11 percent in the second quarter 2020. In 2020 as a whole, according to the latest estimates (as of October 2021), the contraction amounted to 6.7 percent. Mid-March the first containment measures were put in place, and most of them were lifted again at the end of May. At the same time as the first lockdown was announced, the government adopted a large-scale fiscal policy package to cushion the economic impact of the containment measures. As further lockdowns became necessary during new Coronavirus waves, the government extended parts of the measures in November 2020 and in spring 2021. In the autumn of 2020, the Austrian Ministry of Finance commissioned a macroeconomic assessment of the fiscal policy measures from research institutes WIFO (Österreichisches Wirtschaftsforschungsinstitut - Austrian Institute of Economic Research) and IHS (Institut für Höhere Studien - Institute for Advanced Studies). Parts of the measures, in particular the distributional and labour supply effects of the income tax reduction, were evaluated by the WIFO with a microsimulation model. Both WIFO and IHS used their respective macroeconomic models to assess the overall macroeconomic impacts of the measures. Detailed results of the evaluation can be found in Baumgartner et al. (2020). In this paper, results obtained with the IHS macroeconomic model are described.

Fiscal response in Austria to the pandemic

In contrast to “normal” recessions which are often characterised by a lack of total demand, the recession in 2020 was triggered by restricting supply to contain the spread of the Corona virus. Furthermore, in Asia where the pandemic originated factories were temporarily closed. As many of the affected factories produce high-tech products such as semi-conductors that are used as intermediate input in Europe, particularly in the car manufacturing industry, also here companies in the manufacturing sector had temporarily stop their production. All in all, the Coronavirus recession was foremost a negative supply-side shock, while lack of demand was not an issue. Hence, the fiscal policy reaction was different from demand-stabilising policies usually adopted in recessions.

Compensating companies, self-employed persons, employees, and people that became unemployed for income losses they suffered because of the containment measures helped maintain the economy's growth potential, which would have otherwise been lost if viable firms and jobs had been permanently destroyed. Large parts of the stimulus packages aimed at stabilising employment. To this regard,

companies were paid subsidies for short-time work schemes. In addition, gross fixed capital formation was supported by an investment premium of 7% for “standard” investment or 14% for investment in “green” technologies, digitalisation, or health-related projects.

Similar measures as in Austria were adopted in many countries in Europe and even world-wide (see OECD, 2020; IMF, 2021). According to the IMF (2021), the Austrian stimulus package is the third largest multi-year package in the European Union, amounting to about 50 billion euro or about 12 percent of 2019 GDP. The package includes support to the health care system, a short-term work arrangement, liquidity support for firms (fixed cost subsidy and loss compensation), and public loan guarantees. On the revenue side, the government announced an originally 3-months deferral of personal and corporate income tax payments, social security contributions, and VAT payments, as well as a VAT reduction in some categories (hotels, restaurants, cultural events). The package also includes investment in climate protection, affordable housing, health, and digitalisation, innovation and research. The reduction of the lowest income tax rate from 25 to 20 percent, planned for 2021, was brought forward and made retroactive to January 2020. In June 2020, the tax deferral was extended until January 2021. In the course of 2021, several of the support measures were extended in light of renewed lockdowns. These extended measures include a new phase of the short-term work arrangement, the fixed cost subsidy, the hardship fund for small businesses, a revenue replacement, and the unemployment assistance. Measures to reallocate labour including upskilling and retraining are also included.

Details on the fiscal policy measures can be found in Prammer (2020) and in Budgetdienst (2021). The latter publication contains also the most recent update of the figures which are continuously updated in view of the actual uptake of the budgeted funds. These recent figures deviate from the figures used for the simulations presented in this paper, since they are based on a study carried out at the end of 2020, and as mentioned, the budgeted funds for some of the measures are still changing, as the uptake in particular of the investment premium and of the funds for the short-time work arrangements are higher than originally planned and expected by the government.

Not all measures are straightforward to implement in an aggregate macroeconomic model. This applies in particular to the guarantees, since they are only associated with a monetary flow if they have to be taken up. And in an environment with virtually zero interest rates, it is hard to argue that the public guarantees helped to reduce companies’ financing costs. The guarantees were certainly very effective in securing access to bank financing by companies in sectors that were heavily affected by the lockdown measures such as hotels and restaurants. Hence, these guarantees along with the suspension of the duty to file for insolvency prevented a large rise in the number of bankruptcies. However, such impacts can hardly be quantified or translated to inputs for a macroeconomic model.

The macroeconomic model LIMA

The model LIMA (**L**ink **M**odel **A**ustria) model was developed as the Austrian contribution to the LINK project of the United Nations.¹ A detailed documentation of an earlier version of the model can be

¹ Details on the LINK project can be found here: <https://www.un.org/development/desa/dpad/project-link.html>

found in Hofer and Kunst (2005). The LIMA model is a traditional structural macroeconometric model with an emphasis on the demand side. In this sense, the model may be called 'Keynesian. The supply side is incorporated via potential output, and the output gap enters the price system. LIMA's model structure is updated frequently when new data become available and suggest that an equation is no more adequate, or to adopt the most recent developments in econometrics. Parameter estimates are updated once a year when the official provisional data for the previous year become available. Currently, 1995 is the earliest year, for which national accounts data are available that correspond to the ESA standard. All equations are estimated by ordinary least squares (OLS). Indications of misspecification due to autocorrelation are adjusted by dynamic modelling rather than by GLS-type corrections. Thus, most behavioural equations are dynamic. The model's centre piece is domestic demand. Demand aggregates are modelled in real terms and sum up to real GDP via modelling previous year's prices, thus taking chaining into account. Additional equations are used to determine consumer prices and the deflators of the GDP demand components.

Gross fixed capital formation, differentiated into construction and equipment investment, depends positively on production and negatively on the user cost of capital. These include the long-term real interest rate, the relevant depreciation rate, and the ratio of the deflator of equipment or construction investment to the GDP deflator. The real interest rate is defined as the difference between the risk-free interest rate, approximated by the yield on ten-year government bonds, and the annual change in the GDP deflator. Imports are determined by domestic demand and the terms of trade.

In the labour market block, employment, unemployment, and wages are determined. The working-age population and the participation rate are exogenous. Both labour supply and employment are not differentiated by education levels, but aggregate variables are used. Employment depends positively on real gross domestic product and negatively on real wage costs. In an extended Phillips curve relationship, nominal wages depend positively on consumer prices and productivity and negatively on the unemployment rate. Income from entrepreneurial activity and property as well as transfer payments are added to employee income by means of an estimate and wage and income tax as well as social security contributions are subtracted. The disposable income determined in this way is the main factor influencing private consumption. Unlike earlier versions of the model, the current version contains an aggregate consumption function and does not differentiate between durable and non-durable consumer goods and services. It also does not differentiate between different income groups.

In the public sector block of the model, public consumption is exogenous. In contrast, several components of government revenues are modelled as endogenous variables, such as direct taxes or contributions to social security. From this government sector, balancing items such as the budget deficit can also be calculated. The labour market block of the LIMA model determines variables such as employment, the labour force, and wages. Other variables, such as the working-age population, are exogenous. In the income block, wage income and certain nominal variables from the government sector, such as social insurance, add to nominal disposable household income, which, after expressing it in constant prices, becomes the main determinant of private consumption. The LIMA model does not include a financial sector. Financial variables that are influential for the goods market, such as exchange rates and interest rates, are determined outside the models

Transformation of fiscal COVID-19 measures into model inputs

Measures to support disposable incomes

While the implementation of those measures that strengthen private household income is rather straightforward in the macroeconomic model, the actual volume of the measures to consider in the macro simulations had to be determined beforehand. To this end, the microsimulation model WIFO-Micromod (Fink and Rocha-Akis, 2020) was run so as to determine the volume and the distributional impact (by household income strata) of these measures. These calculations and assumptions on the effectiveness and take-up of the measures form the basis for the inputs of the macrosimulations. Some of the income-support measures had a temporary effect (i.e., they were only effective in 2020), while others have a permanent effect.

Regarding the reduction of the income tax rate, the microsimulation shows the full extent of the relief measure but does not consider when households can dispose of the tax reduction: the lower income tax for the self-employed for 2020 will only take effect retroactively during their income tax returns in the following year. For employees, the reduction of the entry rate in the wage tax was considered during the September wage calculations by the employers for the entire year. Only for employees who are employed by the same employer for the entire year can the full wage tax reduction be processed through the wage settlement. Persons who have changed jobs or lost their employment can only claim their full entitlements from the wage tax reduction with the income tax declaration in the following year. To account for this, only two-thirds of the relief was assumed to have a direct impact on disposable household income. The full effect of this permanent measure is assumed from 2021 onwards, also considering an assumed nominal income growth of 1.3 percent. For the macroeconomic simulations, the effect of the tax reform is summarised as the effect of the reduction in the income tax rate and the increase in the supplement to the transport deduction as well as the social security bonus.

Measures to support companies

Measures for companies comprise a temporary investment premium and a degressive depreciation on fixed investment. The amount of additional investment triggered by the investment premium was estimated a priori, and this impulse was included in the model by exogenously raising gross fixed capital formation. Additional increases of investment then resulted due to multiplier effects.

To calculate the fiscal effects of the investment premium, the relevant investment of private enterprises must first be quantified. For this purpose, two databases with different information can be used, namely the LSE (Performance and Structural Survey of Statistics Austria) and the National Accounts (NA). Due to its more appropriate coverage of the relevant investment categories, the LSE was used. Some calculations and assumptions were necessary since the investment premium is higher for some specific investment goods. In particular, the 7 percent "base premium" can be increased by a further 7 percent for investment in digitalisation, greening and health. From the LSE, the amount of investment in the different categories can be deducted. Since the LSE is based on data for 2017, the

development of capital formation since then had to be considered. Furthermore, assumptions had to be made on the share of additional investment. Only this investment that would not have been undertaken by the companies anyway could be used as impulse in the model simulations. In addition, some investment would have been undertaken in later years, but was brought forward to 2020 and 2021 because the investment premium was only temporarily granted in 2020 and 2021. Based on WIFO surveys, both 15 percent of additional investment and 15 percent of investment that were put forward were assumed. A further 24 percent of companies report a change in their investments due to the priority funding in digitalisation, greening, and health. Based on these considerations and assumptions, additional gross fixed capital formation of 200 million euro in 2020 and 700 million euro in 2021 were put into the model as initial exogenous increase of investment. Based on the focus of the investment premium on machinery and equipment, it was further assumed that 75 percent of the additional investment falls into this category, while the remaining 25 percent is construction investment.

The temporary degressive depreciation was implemented via a reduction in the user cost of capital in the two investment equations in the model. Degressive depreciation reduces the tax base in the short term by accelerating the deductibility of investment costs. Towards the end of the user period of the capital goods, however, the tax depreciation falls below the value which would have prevailed in the case of straight-line depreciation. Assuming an equally weighted capital stock and a constant tax rate, a switch to degressive depreciation is thus fiscally neutral in the long run. However, degressive depreciation of up to 30 percent for machinery and equipment leads to a significant reduction in the tax base in the first three years, which is slowly reversed over the average useful life of these capital goods. In the case of construction investment, this counter-effect occurs in the distant future (in 40 or 65 years) in accordance with the useful life of buildings. For the simulations with the LIMA model, based on previous calculations (Berger et al., 2009; Forstner and Davoine, 2018), that the user cost of capital decrease by 2 percent due to the higher present value of depreciation.

Short-time work

The results of the microsimulation for short-time work used an input for the macroeconomic simulation bring a quite surprising result for its effect on disposable income for the year 2020. Despite massive upheavals in the labour market - short-time work secures 184,000 jobs according to the microsimulation - its effect on income appears modest with an additional 0.5 billion euro in disposable income. But behind this result lie strong countervailing effects. Income of persons who become unemployed is not zero since they receive unemployment benefit. Furthermore, persons who stay in employment due to the short-time subsidies stay in higher tax brackets than unemployed people, hence they pay higher income taxes and social security contributions. Therefore, the net effect on both disposable income and the tax receipts and transfer payments of the government are much smaller than the original subsidy for the short-time work scheme. Since at the time of performing the simulations, it was assumed that the short-time arrangements would only be needed in 2020, exogenous shocks were implemented only for that year. Effects from the work-time scheme in 2021 thus result solely from internal model dynamics.

Summary of model inputs

Table 1 summarises the model inputs. The figures show the “shocks”, i.e. the exogenous changes that were put into the model before running the simulations.

Table 1: Summary of model inputs

| Measure | Affected variable | Bill. euro | |
|--|---|------------|-------|
| | | 2020 | 2021 |
| Degressive depreciation | Reduction of user cost of capital by 2 percent | 0.15 | 0.69 |
| Investment premium | Investment | 0.20 | 0.70 |
| | of which: machinery and equipment | 0.15 | 0.53 |
| | of which: construction | 0.05 | 0.18 |
| Hardship fund | Transfers to households | 0.99 | 0.50 |
| Child benefit | Transfers to households | 0.66 | |
| One-off payment of unemployment benefit | Transfers to households | 0.24 | |
| Alignment of long-term unemployment benefit with regular unemployment benefit | Transfers to households | 0.16 | 0.16 |
| Income tax reduction | Income tax | 1.13 | 1.72 |
| Short-time work | Less income taxes and social security contributions | -2.00 | -0.32 |
| | More transfers | 2.00 | 0.03 |
| | Less subsidies | -9.00 | -1.42 |
| | Employees (persons) | 184,000 | |

Source: Adapted from Baumgartner et al. (2020)

The investment premium was implemented by exogenously raising the two investment categories by the amount stated in the table, and then let the model determine any accelerator and multiplier effects. The other measures were implemented by increasing or decreasing, respectively, the mentioned variables in the model. Hence, also the tax reduction was not implemented by modifying an average income tax rate, but rather by taking the absolute amount derived from the microsimulation as a reduction of income tax payments.

Simulation results

Table 2 summarises the results of the counterfactual simulations. For the simulations with the IHS-LIMA, the short- and medium-term forecast IHS from October 2020 are used as a base solution (Bittschi et al., 2020). It was assumed that the forecast contains all measures. The effects of the measures were calculated by counterfactual simulations of a situation without the measures

examined. For this purpose, the current forecast of the Austrian economy is compared with a scenario in which the measures are not implemented. The results are presented as deviations from the baseline forecast. The deviations from the baseline simulation measure the macroeconomic impulses the fiscal policy measures. Although in calculating the effects these are subtracted from the baseline solution (e.g., disposable income is reduced by the elimination of transfers), the effects of the measures are subsequently presented positively, i.e., it is shown what the effect of a measure would be if it were introduced. This presentation was also used in the assessment of the Budget Service (Budgetdienst, 2020) and thus facilitates comparison with this study. In addition to the baseline, the following simulations were run: (i) only the measures aimed at stimulating investment, (ii) with the income support measures excluding the tax reduction, (iii) the tax reduction, (iv) the short-time work scheme, and (v) all measures implemented together.

Table 2: Macroeconomic effects of fiscal policy measures

| | Measures to support investment | | Income support (excl. tax reduction) | | Tax reduction | | Short-time work scheme | | All measures | |
|-----------------------------------|--------------------------------|-------|--------------------------------------|-------|---------------|-------|------------------------|--------|--------------|--------|
| | 2020 | 2021 | 2020 | 2021 | 2020 | 2021 | 2020 | 2021 | 2020 | 2021 |
| Real GDP and demand | | | | | | | | | | |
| GDP (bill. euro) | 0.15 | 0.84 | 1.14 | 0.79 | 0.63 | 1.15 | 1.36 | 0.56 | 3.29 | 3.33 |
| GDP (%) | 0.04 | 0.23 | 0.33 | 0.22 | 0.18 | 0.31 | 0.39 | 0.15 | 0.94 | 0.91 |
| Private consumption (%) | 0.02 | 0.11 | 0.72 | 0.31 | 0.40 | 0.60 | 0.86 | 0.15 | 2.01 | 1.17 |
| Gross fixed capital formation (%) | 0.36 | 1.58 | 0.51 | 0.42 | 0.28 | 0.56 | 0.61 | 0.33 | 1.76 | 2.88 |
| Labour market | | | | | | | | | | |
| Employment (1,000 persons) | 0.77 | 4.37 | 5.95 | 4.45 | 3.27 | 6.15 | 191.26 | 26.17 | 201.34 | 40.93 |
| Employment (%) | 0.02 | 0.12 | 0.16 | 0.12 | 0.09 | 0.17 | 5.23 | 0.71 | 5.50 | 1.10 |
| Unemployment (1,000 persons) | -0.47 | -2.47 | -3.66 | -0.72 | -2.01 | -2.73 | -152.97 | -53.68 | -159.16 | -59.35 |
| Unemployment rate (pp.) | -0.01 | -0.06 | -0.09 | -0.03 | -0.05 | -0.07 | -3.82 | -1.22 | -3.98 | -1.37 |
| Public finances | | | | | | | | | | |
| Public revenues (bill. euro) | -0.12 | -0.49 | 0.23 | 0.22 | -1.00 | -1.44 | 5.78 | 1.08 | 4.90 | -0.64 |
| Public expenditures (bill. euro) | 0.10 | 0.41 | 2.06 | 0.67 | 0.01 | 0.02 | 7.00 | 1.40 | 13.17 | 2.56 |
| Budget balance (bill. euro) | -0.22 | -0.90 | -1.83 | -0.45 | -1.01 | -1.45 | -1.21 | -0.31 | -8.27 | -3.20 |
| Budget balance ratio (pp.) | -0.05 | -0.21 | -0.44 | -0.10 | -0.24 | -0.34 | -0.27 | -0.07 | -2.10 | -0.74 |

Source: Baumgartner et al. (2020); own calculations

For the investment premium, an additional investment impulse of 200 million euro in 2020 and 700 million euro in 2021 is assumed, whereby cumulatively only € 400 million represent a real additional impulse. Since the premium is only temporarily granted in 2020 and 2021, it is assumed that investments of around €500 million already planned for 2022 will be brought forward in order to benefit from the subsidy. A pure windfall effect is expected for most of the subsidy of 2.2 billion euro. As explained above, in the LIMA model the investment premium is implemented by initially increasing investment exogenously, while the degressive depreciation is implemented in such a way that the capital utilisation costs are reduced, so that the resulting changes in the investments are determined by the model. As can be seen from Table 2, the measures aimed at strengthening investment raise gross fixed capital formation by 0.4 percent in 2020 and by 1.6 percent in 2021. Via multiplier effects, also private consumption is positively affected. Since also imports rise, the overall impact on GDP is

dampened. According to the model simulations, GDP is higher by 0.04 percent in 2020 and by 0.23 percent in 2021. Higher investment has a short-term demand effect. In the medium to long term, productivity is raised by the increase in the capital stock and the implementation of new technologies. Both measures primarily cause investments to be brought forward from subsequent years, which will thus lead to weaker investment activity in the future (from 2022 onwards). The main budget burden also lies outside the analysis horizon after 2021.

The measures aimed at increasing disposable income of private households excluding the tax reduction (adjustment of unemployment assistance to unemployment benefit, unemployment bonus, child bonus and support from the hardship fund for the self-employed) raise real GDP by 0.33 percent in 2020 and by 0.22 percent in 2021. The number of employees is higher by around 6,000 persons in 2020 and by slightly less than 4,500 persons in 2021. This decreases the unemployment rate by 0.09 and 0.03 percentage points, respectively. The measures worsen the budget balance by around 0.5 percent of GDP in 2020 and by 0.1 percent of GDP in 2021. The pressure on prices is very low: inflation is less than 0.01 percentage points higher, and because of this negligible effect, it is not shown in the table. This very small impact on inflation is due to a strong underutilisation of production capacities. The increase in production leads to higher labour demand, while the effect on wages is negligible due to high unemployment. The (slight) increase in employment and (very small) nominal wage increases lead to an expansion of the wage bill and a further increase in disposable income of private households.

The tax reduction raises real consumption by 0.4 percent in 2020 and by 0.6 percent in 2021. Real GDP is higher by 0.2 percent and 0.3 percent, respectively. Employment is expected to be about 3,300 (2020) and about 6,150 (2021) persons higher than without implementation of the tax reform. In 2021, public debt will be about 2.5 billion euro higher than without the tax reduction, leading to an increase of 0.34 percentage points in the budget balance ratio.

According to the results from the micro simulation, the short-time work scheme stabilises employment by 184,000 persons (see above). This number was used as an exogenous input for the model simulations. Due to multiplier effects, the overall employment effect amounts to about 191,000 employees in 2020. The number of unemployed persons is by 153,000 lower than without this measure, and the unemployment rate is reduced by 3.8 percentage points. Real GDP is by about 0.4 percent higher in 2020. Due to carry-over effects, also in 2021 GDP and employment are higher than without this measure. The budget balance deteriorates by about 1.2 percent of GDP in 2020 and by slightly less than 0.1 percentage points in 2021.

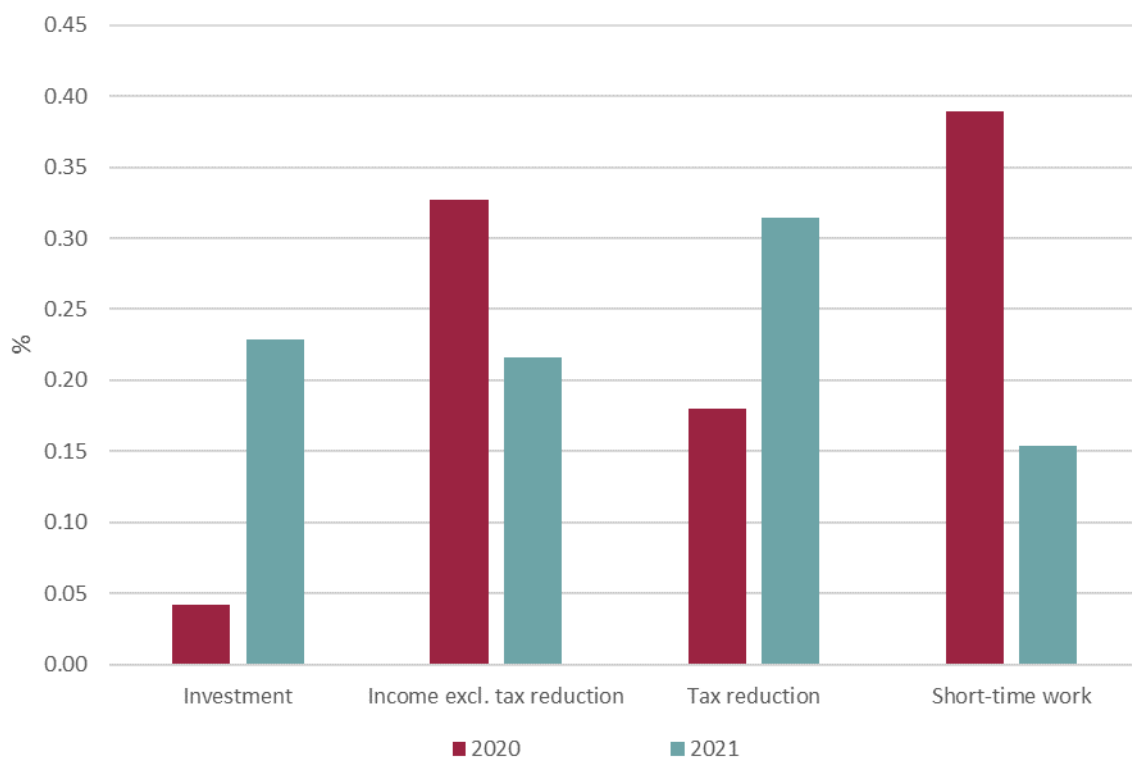
Taking all measures together, both in 2020 and in 2021 real GDP was by about 0.9 percent higher than without this fiscal policy support. Employment was higher by about 200,000 persons in 2020 and by 41,000 employees in 2021. The public budget deteriorated by 8.3 billion euro in 2020 and 3.2 billion euro in 2021, implying that the deficit ratio was about 2 percentage points higher in 2020 and by about 0.75 percentage points in 2021 as compared to a counterfactual situation without the fiscal policy support.

As real GDP slumped by around 7 percent in 2020, the measures were suitable to cushion the decline, but due to the severity of the crisis the slump could only be mitigated somewhat. Since most of the measures were aimed at supporting the disposable income of private households, the estimated

effect on private consumption is much stronger than on GDP. Investment also decreased less than it would otherwise have been the case, but especially due to the time limit of the investment premium and of the degressive depreciation, the measures affect mainly the temporal profile and less the absolute level of investment in the coming years.

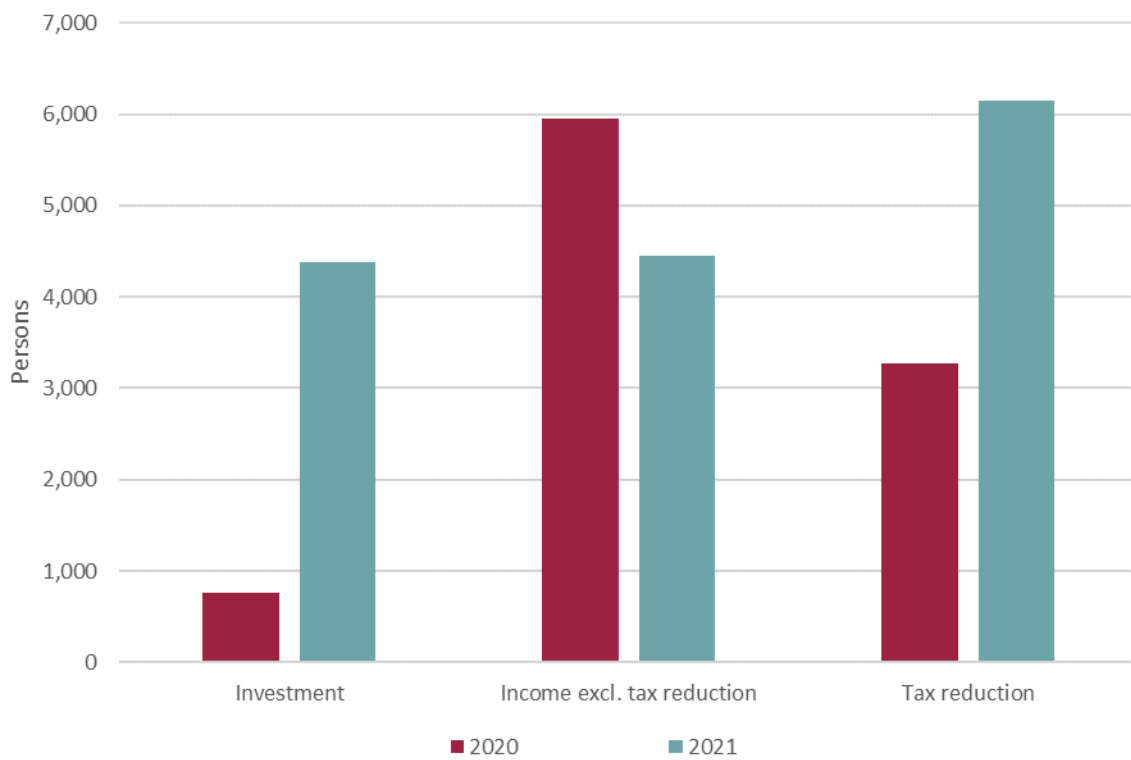
The following figures visualise the macroeconomic impacts of the fiscal policy measures. Each figure shows, analogously to Table 2, deviations of the model simulations from the baseline, i.e. the impacts of the measures are shown. Due to the large difference in the impact on employment, for the labour market effects two figures are displayed, one summarising the impacts of the other measures, and one for the short-time work scheme. In all cases, as in the table, the results are shown for the measures aiming at stimulating investment, the income support measures excluding the tax reduction, the tax reduction, and the short-time work scheme. Figure 4 shows an estimate of fiscal policy multipliers, calculated as the absolute change in nominal GDP divided by the change in public spending and revenues. In general, the multipliers are in a range of 0.5 to 0.8. The high multiplier of the measures strengthening disposable income is due to second round effects, captured by internal model dynamics.

Figure 1: Impact on real GDP



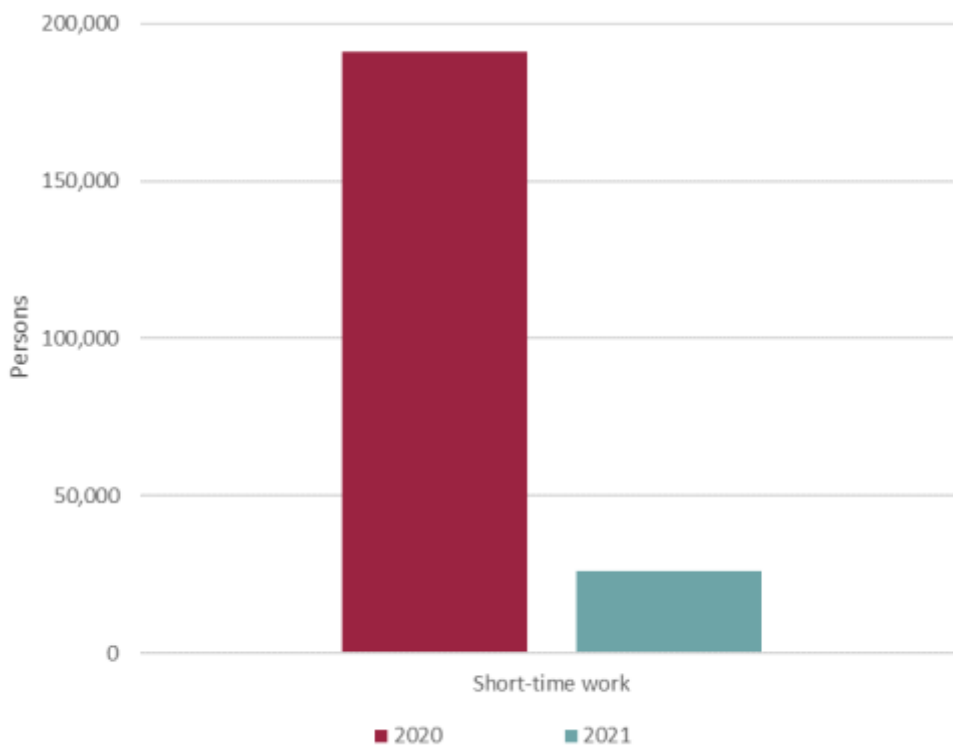
Source: Own illustration

Figure 2: Impact on employment (excluding short-time work scheme)



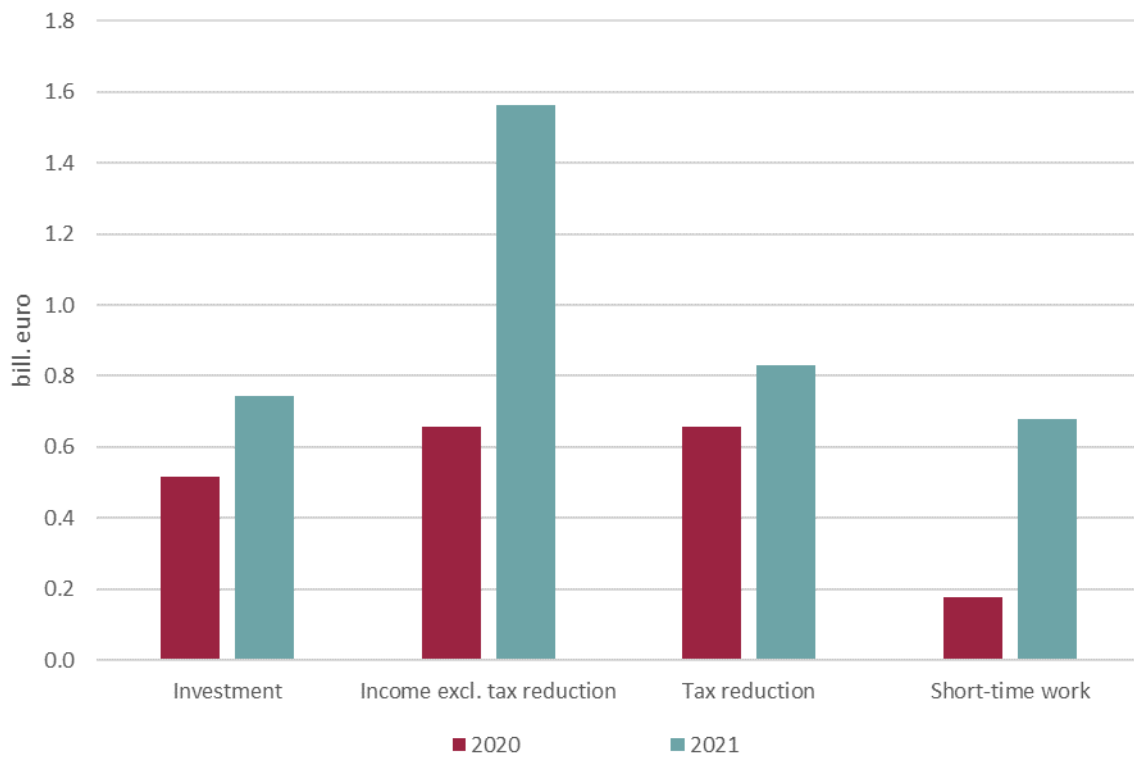
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Figure 3: Impact of the short-time work scheme on employment



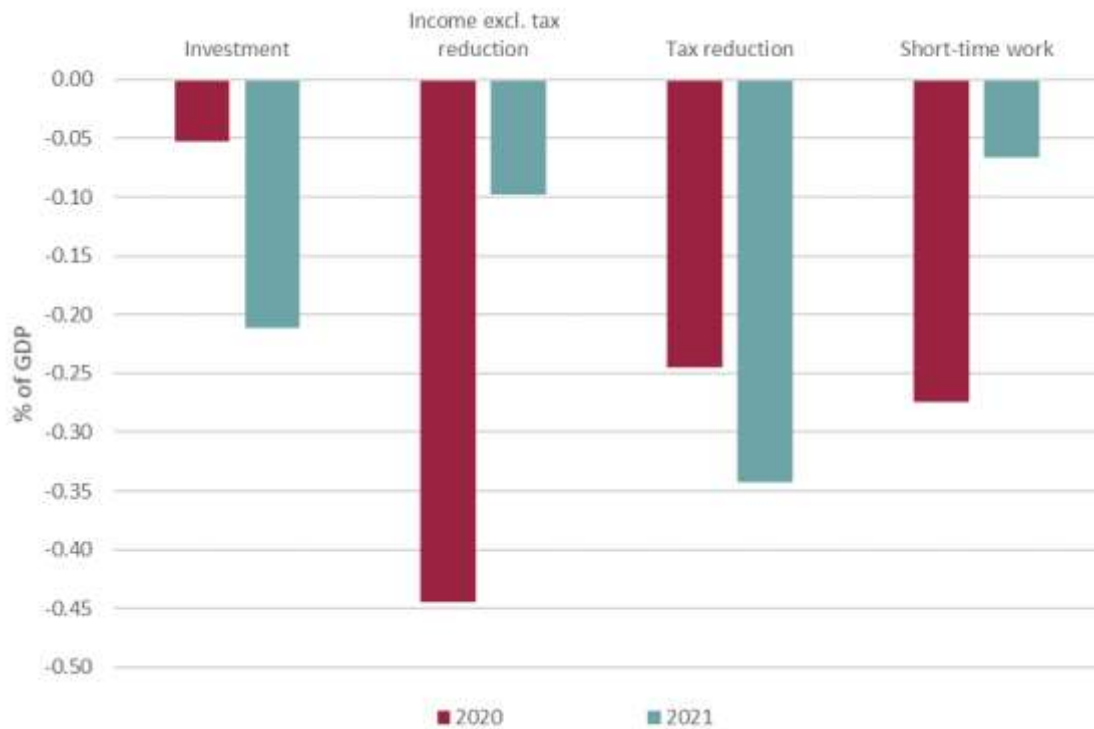
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Figure 4: Fiscal policy multipliers



Source: Own illustration

Figure 5: Impact on the budget balance in relation to GDP



Source: Own illustration

Summary and conclusions

The coronavirus pandemic and the measures undertaken to contain its spread led to an historic slump of economic activity. In Austria, the decline of real GDP by close to 7 percent was larger than that in the Great Financial crisis of 2009 (3.8 percent), and particularly the speed and steepness of the slump in the second quarter of 2020 was unprecedented. As in almost all industrialised and many emerging market economies, the Austrian government announced large fiscal policy measures to cushion the economic impact of the lockdown measures. Relatively high multipliers resulted from the measures aimed at stabilising disposable income of private households. Particularly successful in preventing employment from plummeting in line with real activity was the short-time work scheme.

In a situation in which the recession is not caused by a lack in demand but by government measures to restrict consumption possibilities, support to private consumption is not the recommended fiscal policy reaction. However, support to those employees and self-employed who are affected by closures of some businesses are appropriate. In addition, both in order to support income and to help companies in maintaining their human capital, the short-time work scheme is an appropriate measure.

As the OECD (2020) mentions, as long as the pandemic is taking its toll on the economy, further adaptations to fast changing circumstances are important. Tax policy should continue to focus on limiting hardship while maintaining the ability for a quick rebound. Protecting household income and employment remains essential, with special attention given to the self-employed and workers in the informal sector. Furthermore, policies aimed at preventing insolvency of companies which are healthy but affected by lockdown measures are necessary. However, while noting that such a distinction is difficult in practice, it is also important that those companies that would have left the market anyway are not kept alive artificially. This would hamper structural change. For the same reason, short-time work schemes should only be offered as long as the containment measures or other pandemic-related problems such as supply-chain disruptions prevail.

As soon as the immediate macroeconomic impacts of the pandemic are overcome, the sustainability of public finances must be restored. For some countries including Germany and Austria, the increase in public debt is not so drastic that sharp restrictive policies will be needed. In addition, interest rates are still very low and are likely to remain low in the medium-term. On the other hand, public finances will come under pressure due to population ageing, resulting in lower public revenues and higher expenditures for pensions and long-term care. Furthermore, large public spending will be required for the greening and digitalisation of the economy. Hence, pandemic-related policies must be removed as soon as the economic situation makes it possible.

References

Baumgartner, J., Fink, M., Lappöhn, S., Moreau, C., Plank, K., Rocha-Akis, S., Schnabl, A., Weyerstrass, K. (2020), Wirtschaftspolitische Maßnahmen zur Abfederung der COVID-19-Krise. Mikro- und makroökonomische Analysen zur konjunkturellen, fiskalischen und verteilungspolitischen Wirkung. Joint IHS and WIFO study, commissioned by the Austrian Ministry of Finance.

Berger, J., Hanappi, T., Hofer, H., Müllbacher, S., Schuh, U., Schwarzbauer, W., Strohner, L., Weyerstraß, K. (2009), Konjunktur-belebende Maßnahmen der österreichischen Bundesregierung und der Bundesländer. Abschätzung der volks-wirtschaftlichen Effekte, IHS study, Wien.

Bittschi, B., Fortin, I., Grozea-Helmenstein, D., Hlouskova, J., Hofer, H., Koch, S. P., Kocher, M. G., Kunst, R. M., Reiter, M., Sellner, R., Weyerstraß, K. (2020), Prognose der österreichischen Wirtschaft 2020–2021. Zögerliche Erholung von der COVID-19-Krise, IHS economic forecast 114, Wien.

Budgetdienst (2021), COVID-19-Berichterstattung. Vollzug 2020 und Ausblick 2021.

https://www.parlament.gv.at/ZUSD/BUDGET/2021/BD - COVID-19-Berichterstattung_Vollzug_2020_und_Ausblick_2021_BF.pdf (18 October 2021).

Budgetdienst (2020), Auswirkungen des Konjunkturstärkungspakets 2020, Anfragebeantwortung des Budgetdienstes vom 2. November 2020. https://www.parlament.gv.at/ZUSD/BUDGET/2020/BD - Anfragebeantwortung_zu_den_Auswirkungen_des_Konjunkturstuerkungspakets_2020.pdf (28 October 2021).

Fink, M., Rocha-Akis, S. (2020), Senkung des Eingangssteuersatzes in der Lohn- und Einkommensteuer Wirkung auf Steuerbelastung, Steueraufkommen und verfügbare Einkommen der privaten Haushalte", WIFO-Monatsberichte, 2020, 93(5), S. 393-402.

Forstner, S., Davoine, T., Makroökonomische Auswirkungen von Reformoptionen für eine Senkung der Körperschaftsbe-steuerung, IHS-Projektbericht. Wien, 2018.

Hofer, H., Kunst, R.M. (2005), The Macroeconometric Model LIMA, in: Fenz, G., Gnan, E., Köhler-Töglhofer, W., Schneider, M. (eds.), Macroeconomic Models and Forecasts for Austria. Workshop Proceedings (No. 5), 87-116-

IMF (2021), Policy Responses to COVID-19. Policy Tracker. <https://www.imf.org/en/Topics/imf-and-covid19/Policy-Responses-to-COVID-19#A> (18 October 2021, continuously updated).

OECD (2020), Tax and Fiscal Policy in Response to the Coronavirus Crisis: Strengthening Confidence and Resilience. <https://www.oecd.org/ctp/tax-policy/tax-and-fiscal-policy-in-response-to-the-coronavirus-crisis-strengthening-confidence-and-resilience.htm>. (18 October 2021)

Prammer, D. (2021), Unprecedented fiscal (re)actions to ease the impact of the COVID-19 pandemic in Austria, Monetary Policy & the Economy, Oesterreichische Nationalbank (Austrian Central Bank), issue Q4/20-Q1/, 153-173.

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