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Reports

53rd Konstanz Seminar on Monetary Theory and Policy 2022

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The 53rd Konstanz Seminar on Monetary Theory and Policy was held from 31 May to 2 June 2022. After the pandemic had forced the conference to move online in 2020 and to a hybrid format in 2021, this year's conference was held with 45 participants on site. The Konstanz Seminar provides an independent platform for intense discussion of recent developments in monetary theory and policy. Each year it brings together leading senior academics, junior researchers, participants from the Federal Reserve System, European central banks, and international organisations, as well as practitioners from the private sector. Founded by renowned monetarist Karl Brunner in 1970 and currently organised by a team of researchers, with Keith Kuester as the local organiser, the seminar looks back on a unique tradition. The venue traditionally is Strandhotel Löchnerhaus on the island of Reichenau on Lake Constance. The papers for all presentations and the subsequent discussions are briefly presented below. Papers, presentations and discussions can be downloaded from http://www.konstanzseminar.org/.

This year's seminar started with an evening session in which *Alaïs Martin-Baillon* (Sciences Po) presented work on a topic very much at the heart of recent debates: "Should Monetary Policy Care about Redistribution? Optimal Fiscal and Monetary Policy with Heterogeneous Agents." Recent literature has shown that monetary policy generates important redistributive effects. Yet, to what extent monetary policy should *use* these effects and deviate from targeting price stability to improve the well-being of society is debated. Martin-Baillon and her co-authors, François Le Grand (EMLyon Business School) and Xavier Ragot (Sciences Po), study optimal monetary and fiscal policy in response to a temporary decline in productivity in a setting of incomplete markets and nominal frictions. Simplified, they ask whether the government should use inflation (instead of other tools) to reduce the real return and thereby redistribute re-

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sources from savers to borrowers to stabilise the well-being of the society over the business cycle.

The authors show that monetary policy should solely focus on implementing price stability when fiscal policy can set time-varying capital and labour taxes. These taxes are more efficient in addressing distributional concerns since they directly affect households' income while the central bank can still stabilise prices. When time-varying capital taxes are not available, the central bank could have a motive to generate similar effects on the real interest rate via unexpected inflation. Rule-based monetary policy should nonetheless focus on price stability instead of allowing for higher inflation volatility. Households would anticipate the behaviour such that the effect on the real interest vanishes. Yet, inflation is more volatile. If the central bank can, however, engineer surprises, it uses surprise inflation to depress the real interest rate such that resources are redistributed from wealthy to poor households in recessions.

Having the Maastricht rules in mind, the discussant *Anna Rogantini Picco* (Sveriges Riksbank) suggested considering the implications of caps on debt and deficits for monetary policy conduct in addition to the lack of time-varying taxes. Furthermore, she wondered how much the policy prescriptions depend on the weights that the government puts on the well-being of different parts of society. The plenary discussion focussed on practical considerations like monetary and fiscal coordination and the implementation of policy with simple rules. Also, there was interest in getting a clearer idea of the costs associated with not following the optimal policy.

In the morning, *Galo Nuño* (Banco de España) continued with a very related topic: "Firm Heterogeneity, Capital Misallocation and Optimal Monetary Policy." Nuño, Beatriz González (Banco de España), Dominik Thaler (ECB) and Silvia Albrizio (IMF), examine the effect of monetary policy on the allocation of capital when firms have heterogeneous productivity. This addresses recent debates about whether low interest rates have negative long-run implications on productivity. In particular, they consider entrepreneurs that differ by productivity and net worth and need to borrow productive capital against their net worth. Interest rates affect net worth, borrowing costs and other prices. Thus, the authors ask whether monetary policy can and should use interest rates to facilitate capital reallocation to productive firms.

The authors find that a reduction in interest rates increases productivity (TFP). The model features an endogenous productivity threshold: firms that are more productive borrow as much as possible and produce, whereas less productive firms are inactive and lend their capital to other firms. Low rates affect both the threshold and net worth of firms. Even though borrowing costs decline, the threshold increases so that less productive firms do not enter. The threshold increases because a rise in activity means that production costs (wages, in particu-

lar) rise. Unproductive firms are crowded out. Less-productive firms, thus, lend their capital to more productive firms which can afford capital because low interest rates increase their net worth. Hence, investment of productive firms increases more, capital is reallocated to them and TFP increases. Monetary policy thus has a motive to reduce interest rates to increase TFP. Nonetheless, if bound by past commitments, policy still targets price stability. Yet, when the central bank would like to decrease interest rates but cannot due to the zero lower bound (ZLB), interest rates should stay low for much longer relative to a model without firm heterogeneity because TFP declines during the ZLB period and running the economy hot afterwards can help recover the lost productivity.

In the model, market entry and exit of firms are unaffected by monetary policy, whereas previous literature has argued that this margin of entry is an important component of monetary transmission. Hence, *Agnieszka Markiewicz* (Erasmus University Rotterdam) proposed to explore the quantitative importance of Nuño et al.'s channel relative to endogenous entry and exit. Further, she would like to see more evidence that highly productive firms are financially constrained. The audience debated whether interest rates are a good tool to alleviate financial frictions that prevent the efficient allocation of capital and what the implications for policy conduct are, in particular considering higher inflation targets to avoid ZLB episodes.

Central banks are increasingly concerned about climate risks. Not least, because the distribution of climate change prevention costs across society will affect the business cycle. The paper presented by *Stephie Fried* (San Francisco Fed) presents a first step towards thinking about climate concerns in a macroeconomic context. In "Understanding the Inequality and Welfare Impacts of Carbon Tax Policies," Fried and her co-authors, Kevin Novan (UC Davis) and Will Peterman (Fed Board of Governors), want to understand how to best reimburse the proceeds from future carbon taxes, taking the level of carbon taxes itself as given. They consider combinations of a carbon tax with a reduction in capital or labour taxes, with lump-sum or income-dependent payments or with changes in the progressivity of labour taxes. They build a quantitative model with polluting energy and household heterogeneity along the dimensions of age, income and energy consumption to study the well-being of future generations.

Well-being is highest for a rebate that uses two-thirds of revenues to reduce the distortionary capital tax and one-third to reduce labour income taxes for the poor. The first tool increases the efficiency of the economy: a carbon tax disincentivises capital investment. To counteract this, capital taxes are decreased. Poor households' consumption tends to be more energy-intensive, wherefore a carbon tax hurts them in particular. Hence, the second tool compensates them, lowering income taxes for poor and increasing them for rich households. Lump-sum payments and income-dependent payments are not well targeted towards

households in need and hence do not emerge as good tools to reduce the unequal effects of carbon taxes.

The discussant *Simon Fuchs* (Atlanta Fed) suggested considering spatial heterogeneity: in the US, for example, regions have different exposure to a carbon tax. This could potentially affect the decision how to rebate across regions. Another dimension of heterogeneity was raised in the plenary discussion: a carbon tax could, for instance, lead to higher unemployment, particularly in sectors where poor households work. The audience further discussed the implementability of a carbon tax. Rebates could be seen as a tool to induce voters to support a carbon tax proposal. Thus, it would be crucial to consider the well-being of current generations, too. Fried has worked on this in earlier projects and agreed on the importance of the transition period.

After the lunch break, *Kjetil Storesletten* (University of Minnesota) presented the paper "Business Cycles During Structural Change: Arthur Lewis' Theory from a Neoclassical Perspective," which is joint work with Bo Zhao (Peking University) and Fabrizio Zilibotti (Yale University). Storesletten et al. contribute to the understanding on how and why business cycles of developing and emerging economies differ from those of mature economies. Insights into this might serve as a basis for adapting stabilisation policies to economies undergoing rapid structural change. As a case study, they compare China to the US.

Storesletten et al. document empirically that employment in poorer economies with a large agricultural sector barely moves with GDP, whereas both are usually highly correlated in industrialised economies like the US. To explain this fact, they build a model consisting of a manufacturing sector as well as a modern and a traditional agricultural sector. In contrast to the other sectors, the traditional sector does not use capital in production. Capital accumulation and faster technological growth in the manufacturing sector constitute structural change towards a mature economy. In this process, the increase in labour productivity in the modern agricultural and the manufacturing sector attracts workers from the traditional sector. As long as the reservoir of labour in the traditional sector is large, effects on wages remain limited. This has important implications for the business cycle: poorer countries with a large agricultural sector react mainly by reallocating the labour force between the modern and the traditional sector. Since wage adjustment is limited, we see a small reaction of aggregate labour supply and thus acyclical total employment. In contrast, mature economies have depleted their labour reservoir and react by adjusting wages and aggregate labour supply.

Gregor Boehl (University of Bonn) discussed the paper. Besides a comment on the estimation technique, he advised publishing the paper as it is. In the plenary discussion, the participants discussed whether other mechanisms might explain the acyclical labour response in developing and emerging countries. One hy-

pothesis was that social security plays a key role. If workers in manufacturing were to receive social insurance, they would have no reason to return to the farming sector. Furthermore, questions were raised on how mobile the workers are and how well they can move between sectors. Finally, the role of the informal sector was discussed.

The optimal level of government debt will be an important decision to make in the advanced economies, not least those in the euro area. In the evening session of the first full seminar day, *Harris Dellas* (University of Bern) contributed to the debate on benefits and costs of public debt and the optimal level of debt by presenting the paper "Public Debt as Private Liquidity: Optimal Policy." The joint project with George-Marios Angeletos (MIT) and Fabrice Collard (TSE), analyses the implications of public debt that provides liquidity to the private sector and clarifies the trade-offs that fiscal policy faces. Government debt is valuable to households because it gives them a liquid means to save and, thus, to self-insure against income risk. It is costly, though, since the government has to raise the funds for repaying the debt by means of distortionary taxation in the future. Furthermore, increasing public debt raises the interest cost since it reduces the liquidity premium that benefits the government. Households require higher returns to hold more public debt. Thus, higher distortionary taxation is needed to finance debt repayment.

In the model, the optimal level of public debt is hence governed by three forces: the government's desire to smooth distortionary taxes, debt's role in allowing self-insurance (ease financial frictions) and, importantly, the interest cost of public debt. Fiscal policy could provide sufficient liquidity until households' liquidity demand is satiated; however, this becomes increasingly costly. Hence, the government creates a shortage relative to liquidity satiation.

In his discussion, *Dmitriy Sergeyev* (Bocconi University) proposed to also consider the foreign demand and supply of safe assets. If foreigners demand domestic debt, the liquidity service is not fully enjoyed at home. If foreigners supply debt, the interest rate might be determined globally and issuing more domestic debt might have a limited effect on the liquidity premium. Finally, Sergeyev discussed potential sources for households' liquidity demand and interactions of these with debt sustainability as an interesting avenue to explore. The audience noted that if the government finds a way to invest the funds profitably, it needs to levy lower taxes in the future and can afford higher interest rates. Then, the trade-off shifts towards issuing debt.

The second day of the conference started with the presentation by *Gauti Eggertsson* (Brown University). In the paper "The Aging Hypothesis," he and his co-author Neil Mehrotra (New York Fed) identify three big macroeconomic trends. First, real interest rates have been falling since the 80s. Second, the rise in income and wealth of the top 1 % drives income and wealth inequality. And

finally, firms' market power is on the rise. They argue that all three observations can be explained by a common cause: aging. For central banks, a better understanding of falling real rates is particularly important, as low real rates increase the frequency of zero lower bound episodes, which constrain monetary policy.

To explain these facts, Eggertsson and Mehrotra argue that older people are more loyal to the products they buy. Consequently, they are less likely to switch products when prices adjust. This increases firms' market power allowing for larger mark-ups, i. e. larger spreads between the selling price of a product and its production costs. As the share of older people grows in an aging society, so does firms' market power – explaining the upward trend in mark-ups and subsequently a rise in firms' profits. When the income of the rich disproportionally depends on firms' profits, the income and wealth of the top 1 % rise disproportionally, leading to an increase in inequality. Finally, interest rates decline if rich people spend less and save more relative to the less wealthy. As a result, the aggregate supply of savings rises, driving down real interest rates.

In his discussion, *Guido Ascari* (De Nederlandsche Bank and University of Pavia) pointed out that the paper is the first to provide a demand-driven explanation for the rise in mark-ups. Yet, it may have difficulties to explain other facts. It is unclear why some faster-aging societies like Japan or Germany have much lower growth rates in mark-ups than the US. Further, mark-ups increase most in the information and communications technology sectors. Yet, these sectors have the largest reallocation and turnover rates of market shares. In contrast, the model would predict that the oldest firms have and keep the highest market shares. In the plenary discussion, the participants asked whether the channel is of quantitative importance. Other explanations for a rise in mark-ups are an increase in barriers to market entry or a rise in superstar firms, which are firms that are highly innovative, productive and profitable. Furthermore, it was pointed out that the relevance of the mechanism heavily depends on the assumption that the rich disproportionally benefit from the rise in mark-ups.

After the traditional group photo was taken, *Salome Baslandze* (Atlanta Fed) presented her paper "Entrepreneurship through Employee Mobility, Innovation, and Growth." Against the background of high debt, an important question is how governments can stimulate growth going forward. The paper discusses one way to stimulate growth. It finds that firms created by former employees, so-called spinout entrants, often turn into exceptionally productive high-growth firms, sometimes reshaping a whole industry. However, creating spinouts causes tension between entrepreneurs and employees. Therefore, Baslandze asks whether the government should allow to restrict spinouts by non-compete agreements. To answer the question, Baslandze wants to clarify through which mechanisms spinout entrants affect economic growth. She documents three key facts about entrepreneurial spinouts. First, spinout entrants outperform regular

entrants. Second, spinouts entering from tech leader parents perform better. Lastly, in states with stricter non-compete agreements, the number of spinout entrants is lower.

Based on these facts, Baslandze builds a model from which she can infer four channels on how spinouts affect economic growth. Since spinouts are more innovative than other entrants, they directly add more to technological growth ("direct entry effect"). Second, spinouts from tech leaders have a higher chance of becoming tech leaders themselves, which creates further successful spinouts, promoting technological growth ("knowledge diffusion effect"). Third, spinouts increase competition and thus aggregate innovation efforts ("firm composition effect"). On the downside, the "disincentive effect" decreases the incentive of potential parent firms to invest in research and development: human capital is lost when an employee leaves the company. Quantitatively, Baslandze finds that the latter effect has a sizable negative impact on economic growth but is dominated by the positive channels. Reducing spinouts with non-compete agreements dampens technological growth. In fact, she finds that prohibiting all non-compete agreements in the US would increase annual growth rates by seven basis points in her model.

The discussant *Rüdiger Bachmann* (University of Notre Dame) questioned the relatively small impact of the disincentive effect. In the model, spinouts only hurt the incumbent through a loss of human capital at the firm. However, spinout entrants might additionally compete directly with their parent company, making it even more costly for the parent firm to tolerate spinouts. This might improve the effect of non-compete agreements on growth. The plenary discussion picked up on the size and mechanism of the disincentive effect. Some participants proposed to provide more empirical evidence on it. Others proposed that the effect might be stronger because firm-specific information or intangible assets could be stolen as well.

Next, *Andrew Atkeson* (UCLA) had bad news for all Americans. Before the Great Recession, the United States enjoyed a special form of privilege. For almost four decades, the US ran a current account deficit (importing more goods and services than it exported). Nonetheless, net foreign assets, the difference between the market value of foreign assets held by Americans and US assets owned by foreigners, remained virtually unchanged. After the Great Recession, however, the value of the net foreign asset position fell sharply, marking the end of the privilege.

In the paper "The End of Privilege: A Reexamination of the Net Foreign Asset Position of the United States," Atkeson and his co-authors Jonathan Heathcote (Minneapolis Fed) and Fabrizio Perri (Minneapolis Fed) investigate this fact. Empirically, they find that a revaluation of domestic or foreign asset positions can explain the difference between the current account and changes in net for-

eign assets. In particular, the value of US assets held by foreigners has been rising faster than the value of foreign assets held by Americans, leading to the decline in net foreign assets positions. The authors look at two hypotheses that may explain the revaluation effect: first, an unexpected rise in the profitability of US firms caused by a surge in mark-ups and, second, an unexpected rise in unobserved capital. Developing an international macro finance model, they reject the second hypothesis as it gives counterfactual implications. Namely, in order to match the observed increase in valuation, the current account deficit should be much larger than what is observed in the data. However, the first hypothesis is in line with the data and has serious welfare consequences. An increase in mark-ups reduces not only the efficiency of the economy but also raises the share of GDP that is paid to capital holders. Since the foreign share of holdings of US equity is almost 30 %, one-third of the additional capital income caused by a surge in mark-ups is paid to foreign countries, to the detriment of US consumers and workers. Quantitatively, this transfer abroad accounts for 1.3 % of US GDP per year.

Federica Romei (University of Oxford) saw little room for further improvement of the paper. Instead, she proposed potential avenues for future research. First, she asked which countries gain from the additional capital income. Romei pointed at the major European economies. Second, she wondered whether investors in the US and Europe adjusted their portfolios to account for the larger US returns. Finally, she asked what caused the rise in mark-ups suggesting that this might be a by-product of the low-interest rate environment after the Great Recession. The plenary discussion focussed on the distributional aspects of the shift. In particular, participants asked which sectors, regions and firms saw the largest surge in mark-ups and which segments of the population were the ultimate beneficiaries.

Finally, *Christopher J. Waller* held the policy session. Since December 2020, Waller is a governor at the Board of Governors of the Federal Reserve System. He talked about the experiences he made in his first years as Fed Governor. Afterwards, participants discussed questions regarding current monetary policy issues.

The conference was concluded with the traditional conference dinner. Next year's 54th Konstanz Seminar on Monetary Theory and Policy is scheduled to be held from 23 to 26 May 2023.