

EQUALFIN – Finance and inequality in times of polycrisis – Doctoral Program

Research Area 4: Unequal finance and its consequences for social security, real estate markets and economic development

The interaction between the **financial system and the real sector** - and its changes in the event of inequality - is of particular interest for macroeconomic issues. Especially since the financial crisis of 2008/2009, macroeconomic research in the context of heterogeneous agent models has focused on the interaction of inequality and macroeconomic aggregates (see e. g. Kaplan et al. 2018, Coibion et al. 2017). While we know that credit constraints can play an important role in the transmission of aggregate shocks, monetary policy and fiscal policy, the role of the financial system - in particular frictions and asymmetries - has not yet been sufficiently investigated in this regard. This is where the proposed doctoral program aims at providing a relevant contribution.

Part of the existing literature uses the concept of household heterogeneity and the associated differences in the marginal propensity to consume and save. It is well documented that redistribution towards households with a high propensity to consume has an expansionary effect, so that transfers to these households can be an effective stabilization instrument in crises. However, it remains to be seen whether there is a similarly relevant heterogeneity at the firm level. The financial system is likely to play an important role here. Arabzadeh, Balleer and Gehrke (2022) show that financial market frictions in companies reinforce the business cycle and influence wages, the labor market and income distribution. It is also well documented that especially young, growing companies find it difficult to access finance suffer over-proportionally from crises (Sedláček and Sterk 2017). At the same time, it is these companies that create particularly high employment (Haltiwanger et al. 2013), innovation and growth.

Social security systems such as health, unemployment, and pension insurance are relevant in the majority of OECD countries in reducing income inequality. The financing and design of these systems have changed considerably over time, partly due to financial pressure and in part due to changes in the demands placed on these systems by new social challenges.

One of these changes relates to the introduction/reinforcement of **capital funded pension systems**, which in itself strengthens the role of financial markets in securing income in old age and with this the influence of institutional investors in financial markets (Köhler et al. 2018). As most societies age, pension benefits become increasingly relevant (UN-DESA 2022), raising the question of what conditions funded pension systems can fulfill their tasks (secure and sufficient income in old age over long periods of time). Neoclassical modeling with over-lapping generation approaches (Feldstein 1974, Feldstein 1978, Holzmann 1997, Homburg 2013, Breyer and Buchholz 2021: 163-251) predict positive effects on growth under not overly restrictive circumstances, primarily due to higher household savings. More critical approaches give greater weight to the transition costs from pay-as-you-go to capital-funded schemes (e.g. Barr and Diamond 2009, who remain within a comparable paradigmatic analytical framework) and question Pareto optimality. Keynesian approaches fundamentally question the neoclassic assumption of the effects on savings (Bofinger 2020).

Regarding economic policy recommendations, the effects of system changes are often analyzed in terms of country comparisons. For example, the ILO critically examined the effects in countries in Eastern Europe and Latin America that followed the World Bank's recommendations for strengthening capital funding in social security system (Ortiz et al. 2018). For this, various aspects such as effects on public finances, gender inequality, benefit levels, governance, financial market regulation were considered. The OECD also conducted country comparisons on the design of partial pension systems and their effects (e.g. OECD 2021). Duval (2003) examines the effects on the labor force participation of older people. Other more specific country comparisons or even individual country analyses provide a more detailed analysis of system changes and pension reforms (for Germany and Austria: Blank et al. 2016 and 2021, for Sweden e.g. Rausch 2017).

In addition to country comparisons, specific variables are analyzed to compare the performance of pension systems. A heavily discussed argument is that the way of financing the system is decisive for its performance. A common but controversial assumption is the higher return in capital-funded systems compared to pay-as-you-go systems due to the assumption of higher returns on the capital market (e.g. in the OECD reports *Pension at a Glance* or in the EU reports on aging). In the pay-as-you-go system, returns are instead based on wage trends and demographics. When comparing the performance of the different systems, it is important how returns are calculated and how they develop over time. Jordà et al. (2019), for example, calculate the returns of different financial investments over very long periods of time, this way smoothing volatile developments. It is neither clear if high returns in foreign financial markets can be taken as a benchmark for domestic capital funded systems. The calculated returns on German investments abroad are surprisingly low (Hünnekes et al. 2019, Klär et al. 2013); and the risks of foreign investments are often underestimated (Grabau and Joebges 2012).

Another aspect concerns the question of which risks are covered in the pension systems: It is particularly relevant how increasing non-standard employment biographies are covered, i.e. how de-commodifying private pensions are. The OECD (2019) addresses this question with simulations for temporary workers and the self-employed, and for interruptions in employment due to parental responsibilities or unemployment. For Germany, the topic has not yet been analyzed much with microeconomic data; Frommert et al. (2021) are one of the rare exceptions.

Self-employed entrepreneurs play an important role regarding inequality. In the US, for example, they make up a disproportionate share of households in the top income and wealth percentiles (Brüggemann 2021); in developing and emerging countries, there is a high proportion of self-employment among the poorer population, often combined with informality. In this context, the literature focuses primarily on the role of taxation of people with high incomes and assets, or on ways to reduce the precariousness of informal dependent employment. The role of social security systems, on the other hand, is less studied, although this has recently been clearly demonstrated in the context of the Covid-19 pandemic, where self-employed were not covered by short-time work or unemployment insurance, for example. This experience could, therefore, prevent employees from starting their own businesses in the long term, thereby inhibiting innovation and growth and also influencing income distribution.

Real estate markets play a prominent role in inequality (James et al. 2022): People are generally dependent on affordable housing, so the level of rents and the supply of real estate play an important factor in the distribution of income and consumption opportunities. At the same time, real estate is the most important asset held by private households (OECD 2021), and the distribution of real estate assets and their valuation plays an important role in the question of general wealth inequality.

Financial markets and central banks have a special role to play here: interest rate and credit policies, directly and indirectly, influence the willingness to invest in real estate and thus the provision of housing; changes in interest rates lead to price changes (Calza et al. 2013, Koeniger et al. 2022), which can increase or decrease this inequality depending on the distribution of assets and the composition of these assets (Domanski et al. 2016).

The link between interest rates, construction and property prices is also influenced by financial and housing market regulations (Koeniger et al. 2022) and not least by the need to decarbonize buildings.

An important channel of impact between the financial sector and inequality at an individual or household level is **real estate financing** (Causa et al. 2019, Long 2023). Historically, investment in housing has yielded noticeably higher returns at a comparatively low risk than other forms of investment (Jordà et al. 2019). In addition, empirical evidence shows that households that own property have a higher savings rate than households that rent, probably because the monthly mortgage payment, which includes a proportion of the repayments and therefore the savings, acts as a nudge to save more. At the same time, most young households do not have sufficient assets to purchase real estate without borrowing.

For a long time, the simplification and broadening of access to mortgage loans were therefore seen as an instrument for reducing wealth inequality. This instrument worked well until the late 1970s (Maclennan and Miao 2017). More recently, however, the focus has shifted to the negative side effects of simplified mortgage lending on **wealth distribution**. In combination with housing market institutions that restrict the expansion of supply (such as restrictive construction planning), an expansion of mortgage loans is increasingly leading to price increases for existing properties in particular, which makes access to home ownership more difficult and, on the other hand, gives existing homeowners disproportionately large increases in wealth, which in itself can make the wealth distribution more unequal (Hilber and Schöni 2016): Cohorts that have historically owned property or their heirs benefit at the expense of those who do not own property; landlords at the expense of tenants, property owners in growing metropolitan areas compared to those in regions with declining economic output.

It has also been shown in recent decades that the deregulation of credit markets and increased real estate lending can lead to greater fluctuations in real estate prices (Dullien et al. 2016a, 2016b), which can result in a total loss of wealth for "marginal households" who could only just afford to buy their property and who live with high debt ratios (Wood et al. 2013).

The availability and accessibility of credit and financing options have a direct impact on the decision of individuals to purchase a property. However, if the financial system is characterized by significant barriers, as shown in the current housing finance crisis, or if there are inequalities in lending practices, this can limit the opportunities and possibilities for specific parts of the population. This in turn can have an impact on fertility decisions, as financial resources and stability are important factors in planning a family (e.g. Moffitt 1984).

High property ownership rates are associated with lower wealth inequality (Kaas et al. 2019). At the same time, however, home ownership is an illiquid asset, meaning that the insurance function in crises is likely to be lower than for more liquid assets. An analysis of the tension between inequality reduction and the insurance function in crises is not yet available, as the latter channel has hardly been considered in the literature to date. On the contrary, based on the experience of the financial crisis, the literature tends to focus on real estate markets as a source of shocks (e.g. Iacoviello 2005).

Based on these observations, there are a number of conceivable research questions that can be addressed using a variety of methods - from macro-level (econometric) approaches to analyses using micro data from panel surveys or agent-based modeling.

Possible research questions for this research focus are:

- How did simplified access to mortgage loans affect wealth inequality in the various OECD countries in recent decades? What role did the institutional framework play?
- Can housing ownership act as a potential insurance in crises? This question could be analyzed both in country-comparisons or based on household survey data (e.g. the Panel on Household Finance published by the Deutsche Bundesbank).
- What is the interaction between monetary policy, mortgage regulation and wealth distribution?
- How do changes in employment biographies affect inequality via capital funded pension systems? Do capital funded schemes increase or decrease inequality?
- Which forms of unemployment insurance or employment protection for the self-employed in the SME sector can help to cushion major shocks? How does this influence innovation and growth?
- What are the interactions between the financial system, the financing of higher education, and socio-economic inequality in access to higher education?
- Should instruments such as hiring subsidies or short-time working allowance - both instruments that have proven effective in stabilizing employment during crises (Cahuc et al. 2019, Balleer et al. 2016) - be used in a more targeted manner based on company characteristics such as financing conditions? Should subsidies take e.g. profits and employment targets into account?
- How do monetary and fiscal policy interact with companies facing heterogeneous credit market frictions and how does this affect the distribution of employment and income?

List of references

- Balleer, A., Gehrke B., Lechthaler W., Merkl, M. (2016). Does short-time work save jobs? A business cycle analysis. *European Economic Review*, 84, 99-122.
- Barr, N., Diamond, P. (2009). Reforming pensions: Principles, analytical errors and policy directions. *International Social Security Review*, 62(2), 5-29.
- Blank, F., Türk, E., Logeay, C., Wöss, J., & Zwiener, R. (2021). Deutlich höhere Renten in Österreich als in Deutschland—methodische Aspekte des Vergleichs. *Zeitschrift für Sozialreform*, 67(3), 211-259.
- Blank, F. Logeay, C., Türk, E., Wöss, J., Zwiener, R. (2016). Alterssicherung in Deutschland und Österreich: Vom Nachbarn lernen?. *WSI Report*, 27.
- Bofinger, P. (2020). Reviving Keynesianism: The modelling of the financial system makes the difference. *Review of Keynesian Economics*, 8.1, 61-83.
- Brüggemann, B. (2021). Higher taxes at the top: The role of entrepreneurs. *American Economic Journal: Macroeconomics*, 13(3), 1–36; doi:10.1257/mac.20170441.
- Breyer, F., Buchholz, W. (2021). *Ökonomie des Sozialstaats*. Springer, Berlin.
- Cahuc, P., Carcillo S., Le Barbanchon, T. (2019). The effectiveness of hiring credits. *The Review of Economic Studies*, 86(2), 593-626.
- Calza, A., Monacelli, T., Stracca, L. (2013). Housing finance and monetary policy. *Journal of the European Economic Association*, 11(1), 101-122.
- Causa, O., Woloszko, N., Leite, D. (2019). Housing, wealth accumulation and wealth distribution: Evidence and stylized facts. *OECD Economics Department Working Papers*, 1588, OECD Publishing, Paris.
- Coibion, O., Gorodnichenko, Y., Kueng, L., Silvia, J. (2017). Innocent bystanders? Monetary policy and inequality. *Journal of Monetary Economics*, 88, 70-89.
- Domanski, D., Scatigna, M., Zabai, A. (2016). Wealth inequality and monetary policy. *BIS Quarterly Review*, März 2016.
- Dullien, S., Joebges, H., Márquez-Velázquez, A. (2016a). Führt lockere Geldpolitik zu Hauspreisblasen? Lehren aus der theoretischen Literatur. *Vierteljahrshefte zur Wirtschaftsforschung: Niedrigzinsen - Ursachen, Wirkungen, Ausstiegsoptionen*, 85(1), 111-123.
- Dullien, S., Joebges, H., Márquez-Velázquez, A. (2016b). Wann verursachen Niedrigzinsen Hauspreisblasen? Lehren aus einem systematischen Fallstudienansatz. *Vierteljahrshefte zur Wirtschaftsforschung: Niedrigzinsen - Ursachen, Wirkungen, Ausstiegsoptionen*, 85(1), 125-138.
- Feldstein, M. (1974). Social security, induced retirement, and aggregate capital accumulation. *Journal of Political Economy*, 82(5), 905-926.
- Feldstein, M. (1978). Do private pensions increase national savings?. *Journal of Public Economics*, 10(3), 277-293.
- Frommert, D., Hagen, C., Himmelreicher, R. (2021). Mind the (gender) gap between pay and pension. *Arbeit*, 30(4), 307-332.

- Grabau, M., Joebges, H. (2012). Das hohe Risiko von Fremdwährungsanleihen. Warum sich Finanzierungsprobleme der Rentenversicherung nicht so einfach durch Kapitalanlagen im Ausland lösen lassen. *IMK Working Paper*, 92.
- Haltiwanger, J., Jarmin R.D., Miranda J. (2013). Who creates jobs? Small versus large versus young. *Review of Economics and Statistics*, 95(2), 347-361.
- Hilber, C.A. L., Schöni, S. (2016). Housing Policies in the United Kingdom, Switzerland, and the United States: Lessons Learned. *Cityscape*, 18(3), 291–332.
- Holzmann, R. (1997). Pension reform, financial market development, and economic growth: Preliminary evidence from Chile. *Staff Papers (International Monetary Fund)*, 44(2), 149–178; <https://doi.org/10.2307/3867541>.
- Homburg, S. (2013). *Theorie der Alterssicherung*. Springer.
- Hünnekes, F., Schularick, M., Trebesch, C. (2019): Exportweltmeister: The low returns on Germany's capital exports. *Kiel Working Papers*, 2133.
- Iacoviello, M. (2005). House prices, borrowing constraints, and monetary policy in the business cycle. *American Economic Review*, 95(3), 739-764.
- James, L., Lyrian, D., Bentley, R., Baker, E. (2022). Housing inequality: a systematic scoping review. *Housing Studies* (i.E.).
- Jordà, Ò., Knoll, K., Kuvshinov, D., Schularick, Moritz., Taylor, A.M. (2019). The rate of return on everything, 1870–2015. *The Quarterly Journal of Economics*, 134(3), 1225-1298.
- Kaas, L., Kocharkov, G., Preugschat, E. (2019) . Wealth inequality and homeownership in Europe. *Annals of Economics and Statistics*, 136, 27-54.
- Kaplan, G., Moll, B., Violante, G. (2018). Monetary policy according to HANK. *American Economic Review*, 108(3), 697–743.
- Koeniger, W., Lennartz, B., Ramelet, M.A. (2022). On the transmission of monetary policy to the housing market. *European Economic Review*, 145.
- Maclennan, D., Miao, J. (2017). Housing and capital in the 21st century. *Housing, Theory and Society*, 34(2), 127-145.
- Moffitt, R. (1984). Optimal life-cycle profiles of fertility and labor supply. *Research in Population Economics*, 5, 29–50.
- OECD (2019). Pensions at a glance 2019: OECD and G20 indicators. *OECD Publishing*, Paris; <https://doi.org/10.1787/b6d3dcfc-en>.
- OECD (2021). Brick by brick. Building better housing policies. OECD: Paris.
- OECD (2021). Pensions at a glance 2021: OECD and G20 indicators. *OECD Publishing*, Paris; <https://doi.org/10.1787/ca401ebd-en>.
- Ortiz I., Durán-Valverde F., Urban, S., Wodsak V. (ed; 2018). Reversing pension privatizations: Rebuilding public pension systems in Eastern Europe and Latin America. International Labour Office, Geneva: ILO.

- Rausch, J. (2017). Was wäre, wenn wir Schweden wären? Ist das schwedische Rentensystem auf Deutschland übertragbar?. *Sozialer Fortschritt*, 66(2), 97-122.
- Sedláček, P., Sterk, V., (2017). The growth potential of startups over the business cycle. *American Economic Review* 107, 10, 3182-3210.
- UN DESA, Population Division (2022). World Population Prospects 2022: Summary of Results. UN DESA/POP/2022/TR/ 3.
- Wood, G., Smith, S., Ong, R., Cigdem, M. (2013). The edges of home ownership. *AHURI Final Report*, 216, Australian Housing and Urban Research Institute Limited, Melbourne.