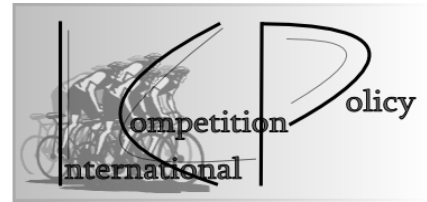


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Der Lehrstuhl VWL 8 „Internationale Wettbewerbsökonomik“ bietet im Wintersemester 2023/24 ein Seminar für Bachelor-Studierende in den Studiengängen Economics, Internationale Wirtschaft und Entwicklung, Wirtschaftsmathematik und Philosophy & Economics zu dem Thema

### **MICROECONOMICS OF BANKING: BANK FAILURES, ZOMBIES AND EXCESSIVE RISK TAKING**

an. Die weltweite Finanzkrise 2007-2009 war gekennzeichnet durch massive Probleme *adverser Selektion* und *moralischen Risikos* im Finanzsektor. So vergaben zum Beispiel Banken Kredite an kreditunwürdige Gläubiger, da sie diese in verbriefter Form weiterverkaufen konnten. Hohe Managerboni schufen Anreize für Bankmanager, zu hohe Risiken einzugehen, da sie bei Erfolg ihrer riskanten Strategie stark profitierten, aber nicht für den Misserfolg der Strategie haften mussten. Auch in jüngerer Zeit haben Krisen von Banken und anderen Finanzakteuren für Schlagzeilen gesorgt. Z.B. der Zusammenbruch von Regionalbanken, wie der Silicon Valley Bank im Frühjahr 2023, oder die Insolvenz der Kryptobörse FTX.

In dem Seminar werden wir uns mit mikrotheoretischen Modellen des Bankensektors beschäftigen. Neben den oben skizzierten Fragen geht es auch um den grundsätzlichen Zusammenhang von Liberalisierung und Risikostruktur im Bankensektor. Es wird zum Beispiel die Frage behandelt, ob ein spezialisierter Finanzsektor mit getrennten Geschäfts- und Investitionsbanken einem System mit Universalbanken vorzuziehen ist.

Den behandelten Modellen liegt oft ein industrieökonomisches Modell des Bankenwettbewerbs zu Grunde. Daher ist eine vorherige erfolgreiche Teilnahme an der Veranstaltung „Markt und Wettbewerb“, „Wettbewerbstheorie und -politik“, oder „Spieltheorie“ hilfreich, aber nicht zwingend erforderlich.

Es stehen insgesamt 20 Seminarplätze zur Verfügung. Übersteigt die Anzahl der Interessenten die verfügbaren Seminarplätze, so werden die Seminarplätze nach der Reihenfolge der Anmeldungen vergeben. Die **Seminarleistung** besteht aus einer

**Seminararbeit** (10 - 12 Seiten) und einem **Vortrag** (inklusive Foliensatz) der eigenen Arbeit sowie in der Beteiligung an der allgemeinen Diskussion.

- Economics-Bachelor-Studierende können das Seminar als „Seminar zu Institution und Governance“, „Mikrotheoretisches Seminar“ oder im „Individuellen Schwerpunkt“ anrechnen (5 LP, neue PO). Gemäß alter PO kann das Seminar als „GVWL 2-Seminar“ (GVWL II 5 oder GVWL II 6) eingebracht werden (5 LP)
- Bachelor-Studierende aus dem Studiengang Philosophy & Economics können das Seminar im E6/Ö6-Bereich (5 Leistungspunkte) anrechnen.
- IWE-Studierende können das Seminar als „Seminar zur Internationalen Wirtschaft“ oder im „Individuellen Schwerpunkt“ anrechnen (5 LP).

### **Seminaranmeldung:**

Die Seminaranmeldung wird über CMLife abgewickelt, wo die Veranstaltung als „Mikrotheoretisches Seminar (30263)“ geführt wird. Die Anmeldung ist vom 1. September bis zum 22. Oktober 2023 möglich. Die Themenzuteilung erfolgt per Email. Schicken Sie hierzu bitte eine Präferenzliste (mit drei Themen) an [fabian.herweg@uni-bayreuth.de](mailto:fabian.herweg@uni-bayreuth.de). Verwenden Sie hierzu die Themennummern der Seminarbeschreibung (nicht die Buchstaben der Themenblöcke. Zum Beispiel:

#12 > #5 > #18

Die Zuteilung der Themen erfolgt am **Montag, 30. Oktober**. Sie werden per Email über die Annahme zum Seminar und die Themenzuteilung benachrichtigt. Die Seminaranmeldung gilt ab diesem Tag als **verbindlich**.

### **Organisatorisches/ Termine:**

- Vorbesprechung: Mittwoch, 18. Oktober 15.00Uhr (ZOOM)
  - <https://uni-bayreuth.zoom.us/j/64148778524?pwd=Z1V4ekY1V2N6RWcrV1Jna2RWZlVnZz09>
- Anmeldeschluss: Sonntag 22.Oktober 24:00Uhr
- Blockseminar: **Freitag und Samstag, 19. und 20. Januar** (9-18Uhr)
- Ort: Universität Bayreuth
- Abgabe der Seminararbeit: Montag, **29. Januar 2023** (gedruckt und per E-Mail als ein PDF-Dokument)

- Ansprechpartner: Maximilian Kähny ([maximilian.kaehny@uni-bayreuth.de](mailto:maximilian.kaehny@uni-bayreuth.de)), Prof. Dr. Fabian Herweg ([fabian.herweg@uni-bayreuth.de](mailto:fabian.herweg@uni-bayreuth.de))
- Vortragssprache: deutsch
- Leitfaden zum Erstellen einer wissenschaftlichen Arbeit: <http://www.icp.uni-bayreuth.de>

### Lehrbücher zu den Themenkomplexen

- Microeconomics of Banking, von Xavier Freixas und Jean-Charles Rochet, MIT Press, 2008.
- Comparing Financial Systems, von Franklin Allen und Douglas Gale, MIT Press, 2001.
- The Prudential Regulation of Banks, von Mathias Dewatripont und Jean Tirole, MIT Press, 1999.

### THEMEN

In dem Seminar werden **neun Themenblöcke** besprochen:

- a) Wettbewerbsintensität und Risikostrukturen im Bankensektor
- b) Vor- und Nachteile eines Bankensektors mit Universalbanken
- c) Anreize zum Halten von Eigenkapital
- d) Verbriefung von Krediten und Risikotransfer
- e) Haltung Liquidier Mittel
- f) Kreditvergabe an Zombie-Unternehmen
- g) Wagniskapital (Venture Capital)
- h) Schattenbanken
- i) Weitere Themen

#### a) Wettbewerbsintensität und Risikostrukturen im Bankensektor

1. Repullo, Rafael (2004): "Capital requirements, market power, and risk-taking in banking", Journal of Financial Intermediation, Vol. 13, 156-182.

*This paper presents a dynamic model of imperfect competition in banking where the banks can invest in a prudent or a gambling asset. We show that if intermediation margins are small, the banks' franchise values will be small, and in the absence of regulation only a gambling equilibrium will exist. In this case, either flat-rate capital requirements or binding deposit rate ceilings can ensure the existence of a prudent equilibrium, although both have a negative impact on deposit rates. Such impact does not obtain with either risk-based capital requirements or nonbinding deposit rate ceilings, but only the former are always effective in controlling risk-shifting incentives.*

2. Cordella, Tito und Yeyati, Eduardo L. (2002): "Financial opening, deposit insurance, and risk in a model of banking competition", European Economic Review, Vol. 46, 471-485.

*We study the impact of competition on banks' risk-taking behavior under different assumptions about deposit insurance and the dissemination of financial information. While opening increases banks' riskiness, a risk-based deposit insurance or, alternatively, the public disclosure of financial information, are likely to mitigate this effect. Moreover, the limiting cases of uninsured but fully informed depositors, and risk-based full deposit insurance, yield the same equilibrium risk level. Although the welfare consequences of increased competition depend on its impact on risk, financial opening unambiguously improves welfare as we approach the limiting cases.*

## **b) Vor- und Nachteile eines Bankensektors mit Universalbanken**

3. Choi, Jay P. und Stefanadis, Christodoulos (2015): „Monitoring, cross subsidies, and universal banking“, International Journal of Industrial Organization, Vol. 43, 48-55.

*We formalize the idea that a financial conglomerate may utilize commercial banking activities to cross-subsidize investment banking through bundled offers. The investment banking sector entails supra-normal profits due to incentive problems with security underwriting. Universal banks may aim to capture (some of) those profits by providing discounts on commercial loans. This practice has an adverse effect on commercial banks' monitoring incentives, encouraging the pursuit of private rents by entrepreneurs. It also leads to lower underwriting fees and a lower probability of successful public offerings. The social welfare effects of universal banking can be either positive or negative.*

4. Kanatas, George und Qi, Jianping (2003): "Integration of Lending and Underwriting: Implications of Scope Economies", The Journal of Finance, Vol. 58, 1167-1191.

*Informational scope economies provide a cost advantage to universal banks offering "one-stop shopping" for lending and underwriting that enables them to "lock in" their clients' subsequent business. This market power reduces universal banks' incentive, relative to that of specialized investment banks, to apply costly underwriting efforts; consequently, universal banks are less successful in selling their clients' securities. Our results suggest that an integrated financial services market is less innovative than one with specialized intermediaries. Our analysis also identifies economy, intermediary, and firm characteristics that motivate either the integration or segmentation of bank lending and underwriting.*

## **c) Anreize zum Halten von Eigenkapital**

5. Allen, Franklin et al. (2015): "Deposits and bank capital structure", Journal of Financial Economics, Vol. 118, 601-619.

*In a model with bankruptcy costs and segmented deposit and equity markets, we endogenize the cost of equity and deposit finance for banks. Despite risk neutrality, equity capital earns a higher expected return than direct investment in risky assets. Banks hold positive capital to reduce bankruptcy costs, but there is a role for capital regulation when deposits are insured. Banks could no longer use capital when they lend to firms instead of investing directly in risky assets. This depends on whether the firms are public and compete with banks for equity capital or are private with exogenous amounts of capital.*

6. Allen, Franklin et al. (2011): "Credit Market Competition and Capital Regulation", The Review of Financial Studies, Vol. 24, 983-1018.

*Empirical evidence suggests that banks hold capital in excess of regulatory minimums. This did not prevent the financial crisis and underlines the importance of understanding bank capital determination. Market discipline is one of the forces that induces banks to hold positive capital. The literature has focused on the liability side. We develop a simple theory based on monitoring to show that discipline from the asset side can also be important. In perfectly competitive markets, banks can find it optimal to*

*use costly capital rather than the interest rate on the loan to commit to monitoring because it allows higher borrower surplus.*

#### **d) Verbriefung von Krediten und Risikotransfer**

7. Hakenes, Hendrik und Schnabel, Isabel (2010): „Credit risk transfer and bank competition“, *Journal of Financial Intermediation*, Vol. 19, 308-332.

*We present a banking model with imperfect competition in which borrowers' access to credit is improved when banks are able to transfer credit risks. However, the market for credit risk transfer (CRT) works smoothly only if the quality of loans is public information. If the quality of loans is private information, banks have an incentive to grant unprofitable loans that are then transferred to other parties, leading to an increase in aggregate risk. Higher competition increases welfare in the presence of CRT with public information. In contrast, welfare eventually decreases for high levels of competition in the presence CRT with private information due to the expansion of unprofitable loans. This finding coincides with the decrease in credit quality observed during the late years of the credit boom preceding the subprime crisis.*

8. Parlour, Christine A. und Plantin, Guillaume (2008): “Loan Sales and Relationship Banking”, *The Journal of Finance*, Vol. 63, 1291-1314.

*Firms raise money from banks and the bond market. Banks sell loans in a secondary market to recycle their funds or to trade on private information. Liquidity in the loan market depends on the relative likelihood of each motive for trade and affects firms' optimal financial structure. The endogenous degree of liquidity is not always socially optimal: There is excessive trade in highly rated names, and insufficient liquidity in riskier bonds. We provide testable implications for prices and quantities in primary and secondary loan markets, and bond markets. Further, we posit that risk-based capital requirements may be socially desirable.*

9. Ahn, Jung-Hyun und Breton, Régis (2014): “Securitization, competition and monitoring” *Journal of Banking & Finance*, Vol. 40, 195-210.

*We analyze the impact of loan securitization on competition in the loan market. Using a dynamic loan market competition model where borrowers face both exogenous and endogenous costs to switch between banks, we uncover a competition softening effect of securitization that allows banks to extract rents in the primary loan market. By reducing monitoring incentives, securitization mitigates winner's curse effects in future stages of competition thereby decreasing ex ante competition for initial market share. Due to this competition softening effect, securitization can adversely affect loan market efficiency while leading to higher equilibrium profits for banks. This effect is driven by primary loan market competition, not by the exploitation of informational asymmetries in the secondary market for loans. We also argue that banks can use securitization as a strategic response to an increase in competition, as a tool to signal a reduction in monitoring intensity for the sole purpose of softening ex ante competition. Our result suggests that securitization reforms focusing exclusively on informational asymmetries in markets for securitized products may overlook competitive conditions in the primary market.*

#### **e) Haltung Liquider Mittel**

10. Heider, Folrian et al. (2015): „Liquidity hoarding and interbank market rates: The role of counterparty risk“, *Journal of Financial Economics*, Vol. 118, 336-354.

*We develop a model of interbank lending and borrowing with counterparty risk. The model has two key ingredients. First, liquidity in the banking sector is endogenous, so there is an opportunity cost of holding liquid assets. Second, banks are privately informed about the risk of their long-term assets, which can lead to adverse selection and high interest rates in the interbank market. We identify a novel form of a market break-down, which can lead to liquidity hoarding. It arises because adverse selection in the interbank market changes the opportunity cost of holding liquidity. We use the model to shed light on developments in interbank markets prior to and during the 2007–09 financial crisis, as well as the effectiveness of policy interventions aimed at restoring interbank market activity.*

## f) Kreditvergabe an Zombie-Unternehmen

11. Bruche, Max und Gerard Llobet (2014): „Preventing Zombie Lending“, Review of Financial studies, Vol.27, 923-956.

*Because of limited liability, insolvent banks have an incentive to continue lending to insolvent borrowers, in order to hide losses and gamble for resurrection, even though this is socially inefficient. We suggest a scheme that regulators could use to solve this problem. The scheme would induce banks to reveal their bad loans, which can then be dealt with. Bank participation in the scheme would be voluntary. Even though banks have private information on the quantity of bad loans on their balance sheets, the scheme avoids creating windfall gains for bank equity holders. In addition, some losses can be imposed on debt holders.*

12. Acharya, Viral V., Simone Lenzu und Olivier Wang (2021): „Zombie Lending and Policy Traps“, NBER Working Paper no. 29606.

*We build a model with heterogeneous firms and banks to analyze how policy affects credit allocation and long-term economic outcomes. When firms are hit by small negative shocks, conventional monetary policy can restore efficient bank lending and production by lowering interest rates. Large shocks, however, necessitate unconventional policy such as regulatory forbearance towards banks to stabilize the economy. Aggressive accommodation runs the risk of introducing zombie lending and a “diabolical sorting”, whereby low-capitalization banks extend new credit or evergreen existing loans to low-productivity firms. If shocks reduce the profitability gap between healthy and zombie firms, the optimal forbearance policy is non-monotone in the size of the shock. In a dynamic setting, policy aimed at avoiding short-term recessions can be trapped into protracted low rates and excessive forbearance, due to congestion externalities imposed by zombie lending on healthier firms. The resulting economic sclerosis delays the recovery from transitory shocks, and can even lead to permanent output losses.*

## g) Wagniskapital (Venture Capital)

13. Hellmann, Thomas (2002): „A theory of strategic venture investing“, Journal of Financial Economics, Vol. 64, 285-314.

*Some venture capital investors seek purely financial gains while others, such as corporations, also pursue strategic objectives. The paper examines a model where a strategic investor can achieve synergies, but can also face a conflict of interest with the entrepreneur. If the start-up is a complement to the strategic partner, it is optimal to obtain funding from the strategic investor. If the start-up is a mild substitute, the entrepreneur prefers an independent venture capitalist. With a strong substitute, syndication becomes optimal, such that the independent venture capitalist is the active lead investor and the strategic partner a passive co-investor. The expected returns for the entrepreneur are nonmonotonic, lowest for a mild substitute, and higher for a strong substitute as well as for a complement. The paper also explains why a strategic investor often pays a higher valuation than an independent venture capitalist.*

14. Schwienbacher, Armin (2008): „Innovation and Venture Capital Exits“, Economic Journal, Vol. 118, 1888-1916.

*This article analyses how start-ups financed by venture capital choose their innovation strategy based on the investor's exit preferences and thereby form different outcomes in the product market. It considers innovation choices and venture capital exits (IPO vs trade sale) in a setting in which entrepreneurs derive private benefits from staying independent, which is better guaranteed under an IPO. The entrepreneur has incentives to distort the innovation strategy in order to induce the venture capitalist to bring the company public. The analysis generates a number of empirical implications for the link between innovation, valuation, venture capital exit routes and market structure.*

15. Fulghieri, Paolo und Merih Sevilir (2009): „Size and Focus of a Venture Capitalist's Portfolio”, *Review of Financial Studies*, Vol. 22, 4643-4680.

*We take a portfolio approach to analyze the investment strategy of a venture capitalist (VC) and show that portfolio size and scope affect both the entrepreneurs' and the VC's incentives to exert effort. A small portfolio improves entrepreneurial incentives because it allows the VC to concentrate the limited human capital on a smaller number of startups, adding more value. A large and focused portfolio is beneficial because it allows the VC to reallocate the limited resources and human capital in the case of startup failure and allows the VC to extract greater rents from the entrepreneurs. We show that the VC finds it optimal to limit portfolio size when startups have higher payoff potential—that is, when providing strong entrepreneurial incentives is most valuable. The VC expands portfolio size only when startup fundamentals are more moderate and when he can form a sufficiently focused portfolio. Finally, we show that the VC may find it optimal to engage in portfolio management by divesting some of the startups early since this strategy allows him to extract a greater surplus.*

## **h) Schattenbanken**

16. Plantin, Guillaume (2014): “Shadow Banking and Bank Capital Regulation”, *Review of Financial Studies*, Vol. 28, 146-175.

*Banks are subject to capital requirements because their privately optimal leverage is higher than the socially optimal one. This is in turn because banks fail to internalize all costs that their insolvency creates for agents who use their money-like liabilities to settle transactions. If banks can bypass capital regulation in an opaque shadow banking sector, it may be optimal to relax capital requirements so that liquidity dries up in the shadow banking sector. Tightening capital requirements may spur a surge in shadow banking activity that leads to an overall larger risk on the money-like liabilities of the formal and shadow banking institutions.*

17. Górnicka, Lucyna A. (2016): “Banks and Shadow Banks: Competitors or Complements? *Journal of Financial Intermediation*, Vol. 27, 118-131.

*Bank managers can buy risky assets through a regulated bank and through an off-balance sheet special purpose vehicle (SPV). The choice of the preferred entity depends on whether bank managers can lower the cost of SPV funding by guaranteeing SPV returns with bank proceeds. When there are no guarantees, using the SPV is more profitable for high levels of the minimum capital requirement, in which case the SPV crowds out the bank. Contrary, when bank managers guarantee SPV returns, the bank needs to operate for the SPV to take advantage of recourse to the bank's balance sheet also when the capital requirement is high. The bank and the SPV intermediation become complements.*

## **i) Weitere Themen**

18. Calzolari, Giacomo und Loranth, Gyongyi (2011): „Regulation of multinational banks: A theoretical inquiry“, *Journal of Financial Intermediation*, Vol. 20, 178-198.

*This paper examines national regulators' incentives to intervene in a multinational bank's activities and the extent to which these incentives differ with the bank's foreign representation choice (branch or subsidiary). Shared liability leads to higher incentives for intervention than legal separation. Cross-border deposit insurance, on the other hand, yields less intervention than when regulators compensate local depositors only. Based on these results, we derive implications for multinational banks' and regulators' preference on foreign expansion and representation.*

19. Hakenes, Hendrik und Schnabel, Isabel (2014): “Bank Bonuses and Bailouts” *Journal of Money, Credit and Banking*, Vol. 46, 259-287.

*This paper shows that bonus contracts may arise endogenously as a response to agency problems within banks, and analyzes how compensation schemes change in reaction to anticipated bailouts. If there is a risk-shifting problem, bailout expectations lead to steeper bonus schemes and even more risk taking. If there is an effort problem, the compensation scheme becomes flatter and effort decreases. If both types of agency problems are present, a sufficiently large increase in bailout perceptions makes it optimal for a welfare-maximizing regulator to impose caps on bank bonuses. In contrast, raising managers' liability can be counterproductive.*

20. Biais, B., Florian Heider und Marie Hoerova (2016): “Risk-sharing or Risk-Taking? Counterparty Risk, Incentives, and Margins.

*Derivatives activity, motivated by risk-sharing, can breed risk-taking. Bad news about the risk of an asset underlying a derivative increases protection sellers' expected liability and undermines their risk-prevention incentives. This limits risk-sharing, creates endogenous counterparty risk, and can lead to contagion from news about the hedged risk to the balance sheet of protection sellers. Margin calls after bad news can improve protection sellers' incentives and in turn enhance risk-sharing. Central clearing can provide insurance against counterparty risk but must be designed to preserve risk-prevention incentives.*