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The German Bank Restructuring Act: An Economic Perspective

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Abstract

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The German Bank Restructuring Act: An Economic Perspective

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ABSTRACT

The paper explores incentives created by the German Bank Restructuring Act for investors holding assets in systemically important banks (SIBs). Its purpose is to examine consequences that follow for risk choices of SIBs, as well as for Germany's financial system. Applying the analytical model of Stiglitz (1990) the study reinforces the view that regulators can induce SIBs to forego risks by curbing promises of systemic support. Adverse consequences result from the fact that the Bank Restructuring Act is affecting different groups of SIB-investors heterogeneously. This leads to macro-effects that bear potentials to offset risk reductions achieved on the micro level.

Keywords. Bailout Guarantees, Banking Act, Bank Reorganization Act, Bank Restructuring Act, Bank Restructuring Fund Act, Financial Markets, Risk, Systemically Important Institutions

JEL-Classification: G01, G21, G32, K22, K29, N24

Introduction

This is an exploration of the incentives created by the German Bank Restructuring Act for different classes of investors, which hold assets in systemically important banks (SIBs). Its purpose is to classify alternative preferences about SIBs' risk strategies that SIB-investors might have in mind and to see what kind of consequences follow for risk choices of SIBs as well as for Germany's financial system.

The German Bank Restructuring Act (*Restrukturierungsgesetz*) was published on December 14, 2010 (*Bundesgesetzblatt* I, Nr. 63, p.1900) and went into effect on January 1, 2011. As omnibus act, it adds amendments to existing regulations such as the Banking Act (*Kreditwesengesetz*), while also introducing new laws such as the Bank Reorganization Act (*Kreditinstitute Reorganisationsgesetz*), and the Restructuring Fund Act (*Restrukturierungsfondsgesetz*).

The Bank Restructuring Act seeks to prevent risks for the financial system by remedying regulatory shortcomings in German law that became apparent in the financial crisis. For example, the Bank Reorganization introduces rules that foresee an orderly restructuring of credit institutions instead of the "asserted 'expropriation' of shareholders" (Jan D. Bayer, 2011), that determined the wind-down of Hypo Real Estate. Also, the Restructuring Fund Act makes credit institutions participate in the insurance costs of systemic stability by introducing a bank levy that obliges SIBs to pay into a EUR 70bn fund (Section 12 of the Restructuring Fund Act, cf. also Financial Market Stabilization (FMSA), 2011). Conclusive aim of the new regulations is to curb "banks' excessive risk appetites" (*ibid.*).

In the present paper I will explore in how far the legal framework introduced by the Bank Restructuring Act fulfills FMSA's (2011) goal to lower "risk appetites" of SIBs. The discussion follows assumptions of Moody's (2011) regarding the ways in which the German Financial Supervisory Authority (*Bundesanstalt für Finanzdienstleistungsaufsicht*, BaFin) will make use of the instruments provided by the Act. According to these assumptions regulators will primarily focus on the rights of subordinated investors to prevent systemic shocks, since the restraining of senior claims would be likely to induce bank panics. In this case, as the subsequent paragraphs will show, the Restructuring Act does not affect risk preferences of all investor classes uniformly. Contrary to FMSA's (2011) goal of lowering "risk appetites" it is – at least in the short term – even likely to increase risk propensities of senior claims' owners.

In 1993 George A. Akerlof, Paul M. Romer, Robert E. Hall, and Gregory Mankiw (1993) published their seminal study on problems that result for societies when financial institutions face incentives to socialize losses and to privatize gains. Since then, the management of banks' risk appetites through formal and implicit bailout guarantees has attracted brought attention in the literature on law and economics. Authors have studied the phenomenon of bailout guarantees and systemic risks from the angles of various national jurisdictions that illustrate the phenomenon's universality (cf. for example Hiroshi Nakaso (2001), James R. Barth et al (2004), and Bartu Soral et al. (2006)). More recent investigations such as John C. Coffee's (2011) examination of the consequences of the Dodd-Frank Act, and Maximilian Hall's (2009) discussion of UK financial reform, focus on formal and political changes in governmental approaches toward financial sector stabilization in response to the recent crisis. Scholarly discussions that investigate the incentives brought by changes in Germany's financial legislation from an economic perspective are yet missing. The present article aims to narrow this gap.

In order to fulfill this goal, the article is divided into three sections: In *Section 1*, I will discuss key elements of the Bank Restructuring Act that determine investor interests. In *Section 2*, I will apply Joseph E. Stiglitz' (1990) analysis of liability regimes and risk preferences so as to discuss consequences of the German Bank Restructuring Act for different classes of bank investors. Results and implications of this discussion are presented in *Section 3*.

1. *The German Bank Restructuring Act*

In this section I am going to present a brief overview of regulatory changes brought by the German Bank Restructuring Act that are of relevance to SIBs and their investors as they affect rights of the latter.

1.1 *Instruments Affecting Investor Rights*

Through the German Bank Restructuring Act, the German legislator responded to insufficiencies in the legal basis for the orderly recovery and resolution of SIBs (Bundesbank, 2011). From an investment perspective, the Restructuring Act has introduced three new instruments that are of particular relevance for the present discussion since they curtail rights of bank asset owners:

- The Stabilization Procedure (Sanierungsverfahren) as laid out in sections 2-6 of the Bank Reorganization Act
- The Reorganization Procedure (Reorganisierungsverfahren) as laid out in section (7) *et seq.* of the Bank Reorganization Act
- The Transfer Order (Übertragungsanordnung) as laid out in the new section 48a-s of the Banking Act.

1.2 *The Stabilization Procedure*

Sections 2-6 of the Bank Reorganization Act allow the senior management of distressed credit institutions to initiate financial restructuring processes other than those foreseen by existing insolvency regulations. Prerequisites of a financial restructuring are “the development of the bank’s asset base, financing or income” to levels that “indicate that specific regulatory minimum capital or liquidity requirements can no longer be met on a sustainable basis” (Bayer, 2011; cf. section 45(1) of the Banking Act).

Although section 2 (2) of the Bank Reorganization Act does not foresee reorganization measures that curb investor rights without prior consent of the former, the restructuring plan “may prime existing unsecured creditors by providing for new liquidity via a super-senior loan facility” (Bayer, 2011). Given its limited scope, the Stabilization Procedure will most likely be of minor consequence to investors on a stand-alone basis (*ibid.*). Yet, Bayer (2011) deems it probable that in financial crises the Stabilization Procedure will be complemented by other measures that will have decisive impact on investors’ positions. These measures are discussed in the subsequent paragraphs of this paper.

1.3 *The Reorganization Procedure*

Sections 7 *et seq.* of the Bank Reorganization Act allow the senior management of distressed SIBs to initiate a Reorganization Procedure if alternative recovery measures do not offer prospects of success, or have already failed. Key of the Re-

organization Procedure is the development and execution of a Reorganization Plan comparable to existing insolvency plan proceedings under German law or the reorganization plan in the US Chapter 11 proceedings (Hendrik Boss, 2011). From an investors' perspective the Reorganization Procedure is of significance as it allows for the application of measures that directly affect third-party rights such as debt-to-equity swaps (section 9 of the Bank Reorganization Act), spin-offs (section 11 of the Banking Reorganization Act), and other forms of intervention that curb investor rights (sections 10 and 12 of the Banking Reorganization Act).

The different instruments of the Reorganization Procedure only enter into effect upon approval of those SIB-investors, whose rights are to be affected by the envisaged procedures (section 19 of the Bank Reorganization Act), and of the responsible Higher Regional Court (section 20 of the Bank Reorganization Act).

Sections 17 and 18 of the Bank Reorganization Act set down the respective voting procedures for creditors and shareholders. For a Reorganization Plan to be approved, a partial majority of creditors and shareholders is sufficient. Hence, interests of investors that belong to dissenting minorities are not protected under this regime. In analogy to section 245 of the German Insolvency Code the Bank Reorganization Act further allows the responsible Court to overrule majority votes of creditors and shareholders under specific conditions (sections 19(2-4) and 20(1) of the Bank Reorganization Act). Hence, the new regime formally foresees that bailout costs are passed on to all investors.

1.4 *The Transfer Order*

Contrary to the new rescue measures introduced by the Bank Reorganization Act that can only be invoked by distressed banks themselves, the new sections 48a-s of the Banking Act enable supervising authorities to initiate SIB restructurings. They allow BaFin to force distressed SIBs to transfer systemic assets and liabilities to a so-called "Bridge-Bank" under the preconditions laid out in section 48b of the Banking Act (Karsten Müller-Eising et al., 2011).

Since the main goal of sections 48 (a-s) of the Banking Act is to guarantee systemic stability, BaFin will most likely focus on the protection of systemically relevant business units of SIBs as defined in section 48(2) of the Bank Restructuring Act, rather than protect investor interests in general. Under this premise, transfer orders are likely to be designed in ways that will lead to wipe-outs of investor positions remaining with distressed SIBs (Bayer, 2011; c.f. also Moody's (2011)). Investor claims on systemically relevant assets of a SIB are thus better protected than holdings of non-relevant assets under the new regime.¹

1.5 *De facto guarantees for Senior Creditors*

Therefore, holders of systemically relevant SIB titles – and in particular those that are not subject to section 48m (6) of the Banking Act – benefit from the Act in form of additional government protection. For, even although section 4(2) of the Restructuring Fund Act rejects the *formal* existence of any guarantees by denying FMSA's obligation to bail out distressed SIBs, it can be argued that under current market conditions the new legislation has created a *de facto* lender of last resort.

¹ In theory, investors who hold systemically relevant assets of SIBs also face impairment risks as defined in section 48m (6) Banking Act. Yet, as Moody's (2011) notes, an impairment of senior claims seems unlikely given the current fragility of markets (cf. also Bayer, 2011).

The legislator established the latter by instituting a formal framework for the rescue of SIBs that has reversed the burden of proof upon the legitimacy of government bailouts: Before the aforementioned framework had been established, government support of SIBs was the exception to the rule, i.e. authorities needed to explain on a case-by-case basis why support *for* SIBs was in the public interest. Since the respective support mechanisms have been institutionalized, what was formerly an exception has now become the new rule, i.e. in the future authorities will need to justify on a case-by-case basis why rejecting *support to* a distressed SIB might be preferable from viewpoints of systemic stability. Moody's (2011) claim, that fragile markets render this kind of justification almost impossible without creating the risk of a banking panic, has already been mentioned.²

Additionally, the introduction of the banking levy as quasi tax³, that furnishes political claims (Stephen Holmes and Cass R. Sunstein, 1999), reduces the probability of senior investor demands for protection to be rejected.

2. *The Model*

In light of the conflicting incentives that the Bank Restructuring Act creates for different classes of SIB-investors, its final implications for SIBs' "risk appetites" are not self-evident. Hence, a detailed analysis is necessary before it is possible to draw conclusions on the consequences that follow from the Act for SIBs' risk behavior. In the subsequent paragraphs I propose the model of Stiglitz (1990) as theoretical framework for examining those consequences.

"Given the time sensitivity of bank restructurings due to daily refinancing requirements and the imminent risk of bank runs during a crisis ... a Transfer Order is the most likely restructuring tool" for distressed SIBs (Bayer, 2011; cf. Moody's, 2011). Accordingly, I will focus the subsequent discussion on the tool of Transfer Orders and its implications for SIBs and SIB investors.

2.1 *The Model of Stiglitz (1990) as Analytical Framework*

I propose to start my analysis by examining the case, where SIBs and their investors are not protected by government guarantees. I assume investors to have homogenous risk preferences when they allocate their funds with SIBs. SIBs use investor funds to undertake different investment projects, from which they receive fees and interest payments as revenues. Returns on investments and investment risks are passed on to investors proportionally.

The probability of success of a given investment project is described in relative terms of being either higher or lower than the success probabilities of alternative projects. I suppose that SIBs have information on these probabilities before undertaking projects and that investors know about SIBs' decisions so that they can allocate funds according to their preferences.

To simplify the discussion I presume SIBs' to build portfolios in binary terms. According to this supposition, SIBs' portfolios consist either entirely of investment projects with higher success probabilities, or of projects with lower success probabilities. SIBs that decide for portfolios with high success probabili-

² Cf. the footnote above.

³ In economic terms the nature of the banking levy is ambiguous. Clifford Chance (2010) refers to the levy as fee whereas Freshfields Bruckhaus Deringer (2010) categorizes the levy as tax.

ties are said to have relatively safe (s) risk profiles. SIBs that concentrate on portfolios with lower success probabilities are labeled as relatively risky (r).

In case of success, relatively safe portfolios of the scale (L) yield returns $Y_s(L)$ to SIBs, while relatively risky portfolios of the same scale generate returns $Y_r(L)$. Portfolios are either realized or default in full.⁴ If a portfolio defaults, returns to SIBs are zero. Success probabilities are denoted p_s for relatively safe portfolios, and p_r for relatively risky portfolios, with $p_s > p_r$.

Before undertaking a project, SIBs collect information on the latter's risks. Fixed screening costs are assumed to be higher for riskier projects than for projects with higher success probabilities. Consequently, fixed costs for the risky portfolio $\bar{L}_r$ as sums of individual fixed screening costs exceed the sum of individual fixed screening costs for safe portfolios $\bar{L}_s$, or $\bar{L}_r > \bar{L}_s$.

Gross returns on investment increase with portfolio scale. In light of differences in fixed costs and all other things being equal, risky projects have to generate higher gross returns than safe projects to attract funds. Portfolio gross returns in the relevant region are hence characterized by $Y'_r > Y'_s$. Figure 1 visualizes these assumptions.

[Insert Figure 1 here]

Figure 1: SIB Gross Returns in Case of Success for Safe and Risky Portfolios

Luigi Zingales (2010) observes with regard to US subprime markets before the financial crisis of 2008-2010 that “mortgages [were] offered to the riskiest part of the U.S. population” (p.35). The bursting of the sub-prime bubble indicates that if adjusted for the correct probabilities of success many of the “nontraditional” (Jeremy Stein, 2010, pp.43-44), i.e. “risky”, subprime loans were yielding lower absolute returns than “traditional” (ibid.), or “safe”, loans. The following inequality translates this into the current model with r as rate of interest:

$$Y_s(L)p_s - (1 + r)L > Y_r(L)p_r - (1 + r)L \quad \forall L$$

Under these premises, SIBs that allocate own funds by investing either exclusively into safe or risky project portfolios will always choose the former over the latter if bailouts are not to be expected. Equally, if SIBs invest borrowed funds but will be wiped out in case that their projects fail, they will prefer safe to risky projects (cf. Stiglitz 1990, p.354). Equivalently, investors who are exposed to the same risks and returns as SIBs, will prefer the latter to hold safe portfolios instead of risky portfolios.

The newly instituted instrument of Transfer Orders reduces the likelihood of government support for Lower Tier 2 and Tier 3 securities of SIBs (Moody's, 2011). The inequality above is hence valid for holders of these kinds of securities and indicates that the former prefer SIBs to focus on safe projects. With regard to this class of investors, the Bank Restructuring Act fulfills the goal formulated by FMSA (2011) and creates incentives that curbs risk appetites of SIBs.

2.2 *De Facto Guarantees as Risk Incentives for Senior Investors*

I now turn to the case where government guarantees exist for certain classes of SIB investors. As discussed in *Section 1.5* of this paper, the Bank Restructuring

⁴ For a binary categorization of risky vs. safe portfolios cf. Viral V. Acharya, 2003, p.2748.

Act has installed *de facto* guarantees for senior SIB securities. What are the consequences for the risk preferences of investors that hold this type of securities?

When Moody's (2011) responded to the Bank Restructuring Act in February 2011 by downgrading the ratings of several SIB-securities it excluded senior instruments. This observation indicates that owners of the latter will perform calculations different to those of the inequality in Section 2.1. The *de facto* guarantees created by the Bank Restructuring Act allow protected investors to discount costs of funds to reflect the probability of bailout. This implies that investors do no longer strictly prefer less to more risky projects, as I will discuss below.

It has been assumed that SIBs pass on returns and success probabilities of their respective portfolio i to investors. Accordingly, the latter receive a utility of income $U(Y_i)$ in proportion to the risks and returns of the respective SIB which I assume to display the well-known characteristics of $U' > 0$ and $U'' < 0$.

SIB investors undergo efforts $e(L)$ that are connected with their investments such as the execution of shareholder rights, monitoring of SIBs' management etc. Efforts are identical no matter whether SIBs undertake risky or safe projects, but increase with the stakes that investors hold in the respective SIB. The disutility of effort $v(e(L))$ increases with growing effort, i.e. $v' > 0$, and $v'' < 0$. Like Stiglitz (1990, p.354), I write the expected utility V that investors receive from owning SIB securities as difference of the utility of risk adjusted net returns from their investment and the disutility resulting from investment efforts:

$$V_i(L, r) = U[Y_i(L) - (1 + r)L]p_i - v(e(L))$$

Equation [1]

Equation [1] allows for determining an investor's indifference curves for holding securities of a SIB (risky or safe). The curves represent combinations of the scale L at which investors hold securities, and interest rate r that yield the investors identical levels of utility (cf. Hellmuth Milde & John G. Riley, 1988)

$$\frac{dr}{dL} = \frac{Y'_i - (1 + r) - \frac{v'e'}{U'p_i}}{L}$$

Equation [2]⁵

Incremental net benefits that investors receive from adding SIB securities to their portfolios are offset by additional (opportunity) costs of funds reflected in the interest rate r .⁶ Investors, who hold securities of a select SIB, benefit if funding costs r are lower. In Figure 2, investors hence strictly prefer contracts below the indifference curve V_0 to contracts above the curve.

[Insert Figure 2 here]

Figure 2: SIB Investors' Indifference Curves with Regard to Scale of Investments and Funding Costs

⁵ Stiglitz (1990, p.356) notes that indifference curves "for a given project ... [are] 'well-behaved' in the relevant region where $Y'_i > (1 + r)$ provided $Y''_i < 0$, and $d^2(v'e')/dL^2 > 0$."

⁶ If investors use own funds, r represents the opportunity costs of the foregone interest of the next best investment alternative. If investors use borrowed funds r can be interpreted as representing the market rate of interest.

Having established a framework for the analysis of investor preferences with government bailouts, it is now possible to discuss further determinants of SIB investors' risk propensities.

Equation [2] implies that investors' indifference curves with regard to safe or risky SIB-investments are differently sloped. Hence, it is possible to identify geographic *loci* of combinations of (L, r) where indifference curves of risky and safe investments intersect and where investors are indifferent toward the risks associated with their SIB securities:

$$V_s(L, r) = V_r(L, r)$$

Equation [3]

Under "the plausible condition that returns to scale are more important for ... risky project[s] than for safe" (Stiglitz, 1990, p.356) fixing (r) yields

$$\frac{\delta V_s}{\delta L} < \frac{\delta V_r}{\delta L}$$

Equation [4]

Figure 3 displays information on investors' preferences toward risks. Due to the *de facto* bailout regime established by the Bank Restructuring Act, senior holders of SIB claims are compensated for higher risks without facing the risks of losing funds invested. In case of SIB bailouts, they hence only run the risk to forego profits. Consequently, if more funds are available to SIB senior investors at a fixed market rate (r) , incentives exist for the latter to exploit the fact that returns to scale are higher for risky investments as described by *Equation [4]*, and to prefer risky to safe SIB securities.

On the other hand, decreases in the costs of funds (r) make safe SIB securities more attractive that yield fixed returns. Investors who can allocate funds freely hence prefer safe to risky investments as long as benefits from low risks and low costs of funds outweigh benefits from high-risk investments that promise higher returns to scale.

A downward sloping "switch line" (Stiglitz, 1990, p.356) represents those combinations of (L, r) that render SIB investors indifferent with regard to holding safe or risky investments.⁷ The switch line, as well as resulting indifference curves characterized by their peculiar shape, are visualized in Figure 3.

[Insert figure 3 here]

Figure 3: Indifference Curves and Switch Line in Dependence to Volume of funds and Interest Rate

3. Conclusions

In the sections above, I have discussed incentives created by the Bank Restructuring Act for different classes of SIB investors. It will be useful to summarize those incentives and their respective consequences here.

The Bank Restructuring Act affects different investors heterogeneously depending on the nature of the latter's claims. Since the prospective of receiving government bailouts has been reduced for investors who do not hold assets in sys-

⁷ Stiglitz (1990) deduction of the switch line is recounted in the appendix of this paper.

temically relevant units of SIBs, the “risk appetites” of the former should be lower than before the introduction of the Restructuring Act. FMSA’s goal to curb “risk appetites” has been realized with regard to this class of investors.

However, this objective has not necessarily been fulfilled with regard to senior investors who hold assets in systemically relevant units of SIBs. Since the Bank Restructuring Act institutionalized a *de facto* bailout regime, incentives exist for protected investors to exploit upside opportunities without facing the full downside risks. As the theoretical analysis above has shown, incentives for investors to take on additional risks are lower if capital is scarce, but increase whenever capital becomes abundant. On the other hand, decreases in the market rate of capital (r) render safe investments that pay fixed returns above this rate more attractive. Given the opposing nature of both effects, it is not possible to predict risk propensities of SIB senior investors without taking additional factors into account.

What do these results imply for SIBs and their inclinations toward risk?

On the one hand, the Bank Restructuring Act has increased SIBs’ costs of issuing subordinated debt due to reductions of systemic support. This can be illustrated by Moody’s (2011) downgrading of the ratings of subordinated debt tranches issued by 24 German banks in February 2011.

On the other hand, the Bank Restructuring Act currently protects investors that own stakes in systematically relevant units of SIBs. Consequently, the former should be less repugnant toward SIB risks as the current analysis has shown. They can hence be expected to demand lower risk premiums than other SIB investors; i.e. the relative costs occurring to SIBs’ from financing systemically relevant activities have been lowered in comparison to the financing costs of other SIB activities. SIBs are hence induced to expand systemically relevant units at the costs of other businesses. Announcements of SIBs such as Deutsche Bank (2011, pp.142-148) to increase their relative shares of income from traditional banking activities are in line with incentives set by the new regulation.

These incentives entail mixed consequences for the stability of Germany’s financial sector. On the micro-level, SIBs that rely more on income from classic banking activities and depend less on trading-profits face fewer incentives to “raise their own capital in speculative ... markets (Benjamin M. Friedman, 2010, p.11). Erosions of the financial system are less likely under this premise.

The macro-level effects that follow from the incentives brought by the Bank Restructuring Act are less obvious. SIBs can either grow their classic banking businesses organically, or take over banks that already exist. In the second case, the number of banks in the financial sector will shrink while SIB takeovers will increase the market shares of the newly formed institutions. Systemic risks are likely to be higher in centralized financial sectors that are characterized by fewer institutions whose size is larger in both absolute and relative terms (Sachverständigenrat 2010, Gianni Di Nicolo & Myron L. Kwast, 2002).

Hence, the incentives created by the Bank Restructuring Act do not only support current consolidation trends in Germany’s financial sector (Schrooten, 2011). They also counterbalance stabilizing effects that the Bank Restructuring Act created on the micro level. These results, although suggestive, deserve further investigation before it is possible to draw final conclusions on net effect for Germany’s financial stability. As for the time being no studies exist on this subject. Consequently, the current discussion is also a call for additional research.

The results of this study reinforce the view that regulators can decrease risks by curbing promises of systemic support with regard to SIBs and their investors. In case of the Bank Restructuring Act that has been discussed in this paper, ad-

verse consequences result from the fact that the Act has affected different groups of investors heterogeneously. This leads to macro-effects that are bear the potential to offset risk reductions achieved on the micro level.

APPENDIX

The switch line can be derived as follows: Fixing investment scale L , Equation [2] determines that the utility U_i of an investor holding risky or safe SIB securities changes with increases in r by $(-U' L p_i)$. Since L is fixed and $|U' p_s| > |U' p_r|$, decreases in utility are smaller for holders of risky than for holders of safe SIB securities. Starting from a value (r^*) at which the SIB investor is indifferent toward the risk profiles of securities, decreases in r render risky securities more attractive as Figure 4 visualizes.

[Insert figure 4 here]

Figure 4: Effects of Interest Rates on Investor Preferences Toward Risk

Since returns to scale are more important for risky than for safe investments as assumed in Equation [4], increases in L keeping r fixed render risky SIB securities more attractive. Hence, to keep investors indifferent between risky and safe SIB securities, any increases in L must be offset by decreases in r . The switch line is downward sloping.

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FIGURES

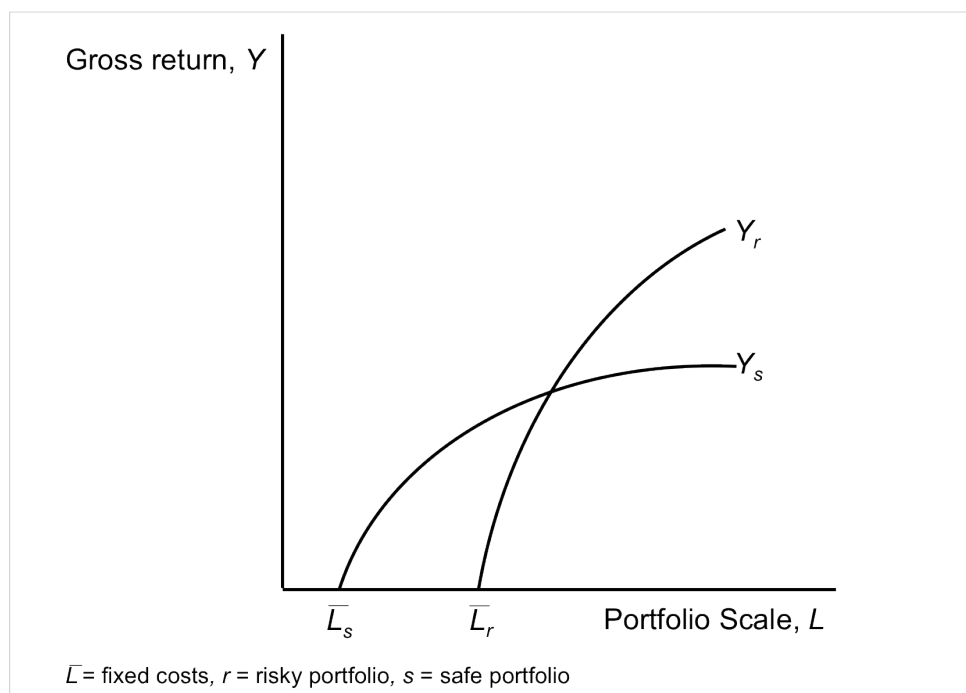


Figure 1: SIB Gross Returns in Case of Success for Safe and Risky Portfolios

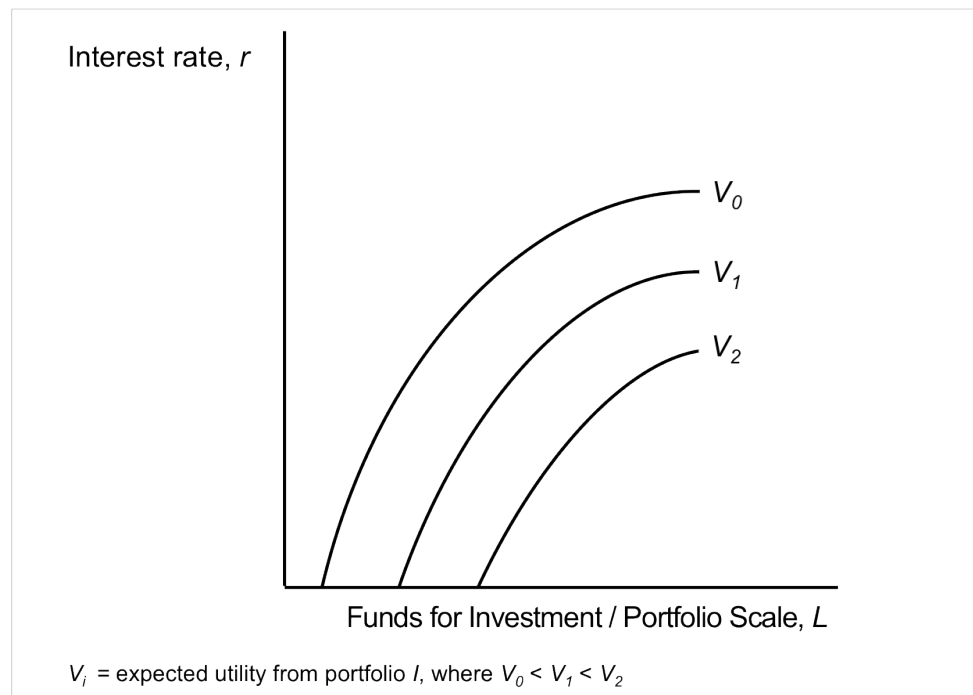


Figure 2: SIB Investors' Indifference Curves with Regard to Scale of Investments and Funding Costs

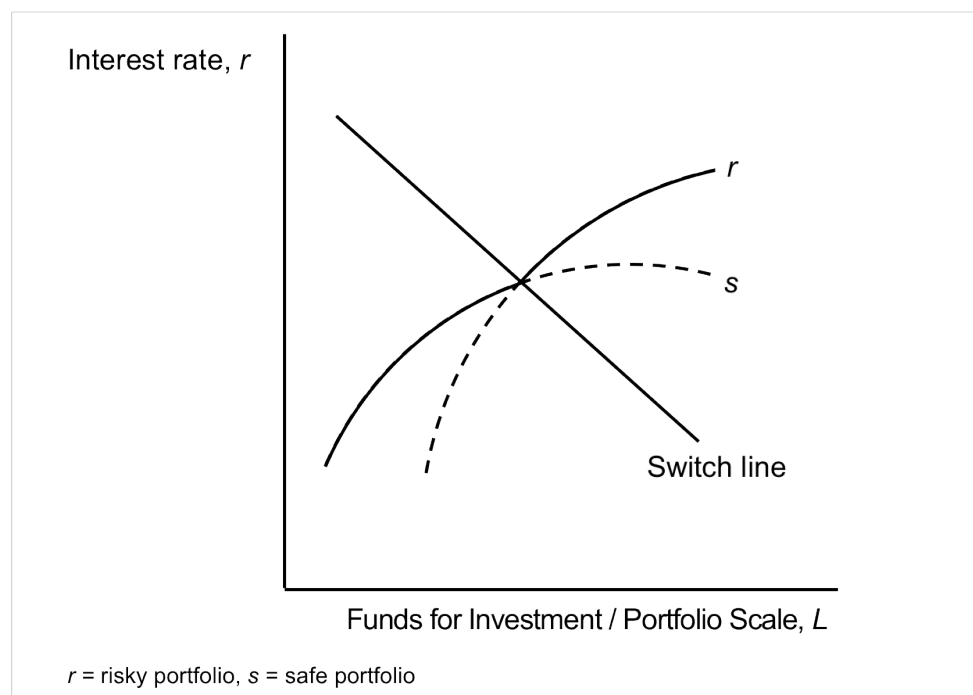


Figure 3: Indifference Curves and Switch Line in Dependence to Volume of funds and Interest Rate

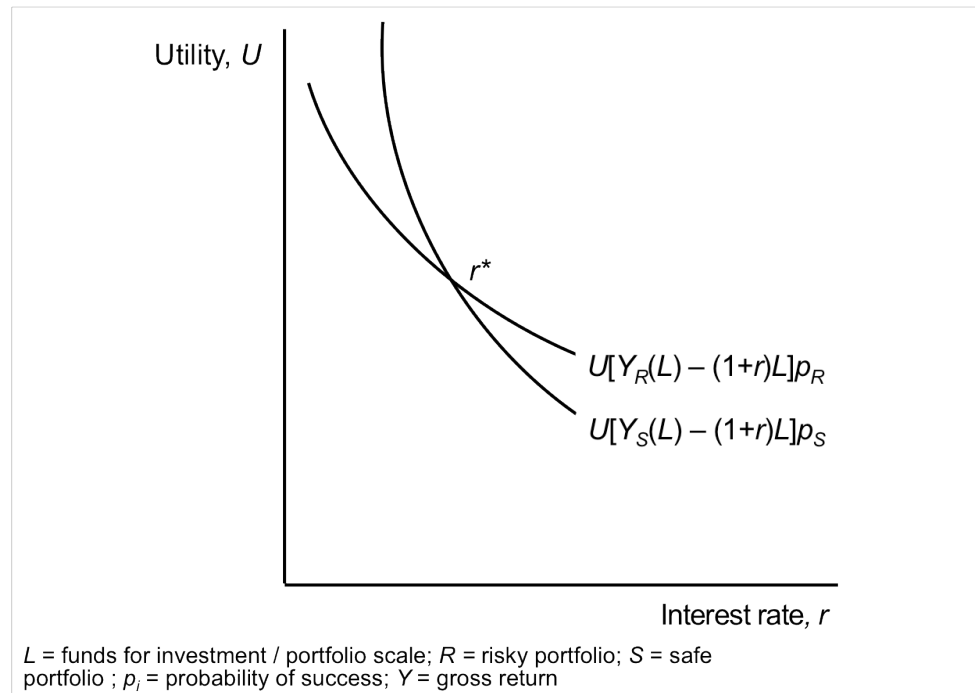


Figure 4: Effects of Interest Rates on Investor Preferences Toward Risk