When Good Intentions Go Wrong: Effects of Bank Deregulation and Governance on Risk-taking[1]

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The context

The motivation of economic liberalization is to foster competition in order to increase allocative efficiency, economic growth and social welfare. This paradigm hinges on the assumption that firms maximize value and that more competitors in a market automatically lead to more competition. However, this view does not take into account the link between regulation and corporate governance, and its influence on firm behavior. When regulatory constraints are removed, the outcome may critically depend on the interaction between corporate governance and firm behavior, particularly if behavior is not primarily driven by value maximization and if the regulation had been designed to inhibit risk-taking.

Deregulation and risk-taking of the cajas: "the Spanish experience"

In a recent study we investigate the effects of the interplay between deregulation and governance on risk taking in the financial industry (Illueca, Norden and Udell 2013). We analyse a large scale natural experiment in banking deregulation in Spain: the 1988 removal of branching barriers on the Spanish savings banks, also known as the caja banks, which led to a nationwide expansion of these banks during the past two decades. We extend and complement the cross-sectional evidence on the link between bank regulation, governance and risk-taking provided by Laeven and Levine (2009).

The story of the cajas banks is compelling because of its spectacular size and because the future of the euro will partly depend on how Spain weathers the crisis. It is also relevant for other countries, most of whom also have savings banks and/or their cousins, co-operative banks. Many countries have liberalized the regulatory constraints on components of their banking systems, often with negative consequences. For example, Germany abolished state guarantees for its *Landesbanken* and savings banks in the early 2000s. There is evidence that the state-owned *Landesbanken* took advantage of their lower funding costs by dramatically increasing their bond issue volumes during the four-year period of transition (Fischer et al. 2012). The proceeds were disproportionately invested in relatively risky projects such as tranches of securitized US subprime mortgages. Moreover, the United States have recently substantially deregulated the credit unions without considering their special governance structure. Other examples include: the spatial and product deregulation of the US savings and loan industry in the 1980–1990s; the failure of the credit cooperatives in Japan in the very early stages of their 1990s banking crisis; the banking deregulation in France in the mid 1980s; and the run on the savings bank sector in Korea in 2011.

Our analysis is based on a large and unique dataset that combines information on the geographic distribution of bank branches, matched lender-borrower financial statements, bank governance characteristics, and borrower defaults. Figure 1 displays the evolution of the bank lending volume to real estate and construction firms and other firms by the deregulated savings banks and the private commercial banks in Spain over the period 1988–2010.

[1] This report is based on Illueca, Norden and Udell (2013).
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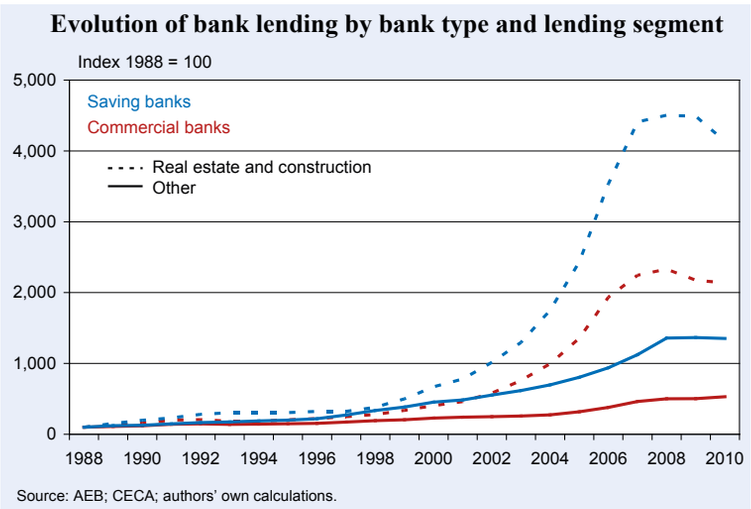
Figure 1



The caja banks increased their lending significantly since 1988 in comparison to the private commercial banks. The effect is even stronger for lending to real estate and construction firms.

We find that the geographic expansion of the Spanish savings banks is associated with a significant increase in ex ante risk taking and ex post default risk. The cajas lent to firms in new markets that were ex ante more risky than the borrowers in their home markets and than those of privately owned commercial banks. We further document that these firms were more likely to file for bankruptcy. These results are established in an analysis that controls for observable firm, bank, province, and time effects and deals with different forms of unobserved heterogeneity. The increase in risk-taking becomes substantially stronger for cajas in which regional governments have a stake in the board of directors, for an expansion to regions that are ruled by the same political party as the home region of the bank, and for the lending to firms in the real estate and construction industry. In several additional empirical tests we rule out alternative explanations for our results (for example, alternative expansion motives, market entry cost effects, competition effects, and offsetting risk with stricter loan terms) and confirm the robustness of our main findings.

The results show that this liberalization led to a differential in risk-taking in the Spanish banking system that was related to the governance problems in the savings bank industry. Good intentions went wrong! Nearly all of the cajas failed and were reorganized as commercial banks with a radically different governance structure and different type of government involvement, as stated in the Memorandum of Understanding signed by Spain and the EFSF in 2012.

What is special about government-owned banks?

Government-owned banks represent about 40 percent of the world's banking industry (La Porta, Lopez-de-Silanes, and Shleifer 2002). Exploring state ownership of banks is important because the nature of a "large owner" is fundamentally different in government-owned/ -controlled banks than private banks for at least three reasons.

Firstly, governments as owners may deviate significantly from value maximization. They often pursue social welfare objectives (for example, Atkinson and Stiglitz 1980; Stiglitz 1993; Burgess and Pande 2005). These include economic development (for example, growth, employment, and fighting poverty), cultural goals (i.e., "social dividends" including charities and civic functions), overcoming market failure, and offering financial services to disadvantaged groups (for example, home owners, farmers, students, and SMEs). These alternative objectives can have negative effects, such as underperformance and inefficient credit allocation because of political influence, agency problems, fraud and corruption (for example, Shleifer and Vishny 1994; La Porta et al. 2002; Sapienza 2004; Dinç 2005).

Secondly, there is no market for corporate control for government-owned banks. Control is "sticky" in the sense that it cannot be easily transferred to another party, which makes these banks vulnerable to government influence and political rent seeking. However, there is one special mechanism that can facilitate a transfer of control of a government-owned bank: politicians can change after an election.

Thirdly, state-owned banks might be subject to influence from local, regional or federal politicians. A shift from local to regional or federal control, which actually happened at the Spanish Cajas in the 1990s, could facilitate empire building and non-value maximizing career and promotion behavior. Furthermore, regional or federal control may lead to increased political influence

because of the higher coordination of the voting rights allocated to politicians.

The institutional background

The savings banks in Spain have existed for approximately 200 years and were established by local governments, churches, and welfare societies to promote savings by middle- and working-classes, and to provide lending to small businesses from the same city or province. Consistent with this history, the cajas are private foundations with no formal owners. They must either retain their profits or invest in social or community programs (i.e., the so-called "social dividends"). By 1975, national law had extended the geographic limits of these banks to the entire provinces in which they were operating. National legislation in 1985 specifically allocated control in terms of voting rights to four categories of stakeholders: depositors (44 percent), local governments (40 percent), founders (11 percent) and employees (five percent). Subsequently, a number of Spanish regions added the regional governments to the list of stakeholders, usually at the expense of the local governments' voting rights. In the late 1980s, following a wave of European liberalization, the cajas lobbied for branching deregulation in order to improve their competitiveness with commercial banks in lending activities. As a result geographic barriers were further extended to the regional level and, finally, geographic barriers were completely removed in 1988. Although all stakeholders were represented on the board, not all of them had the ability to influence the bank's management and the cajas were thus vulnerable to the influence of both local and regional politicians. Depositors, for instance, were usually less involved in the bank's activities because their objectives were already protected by deposit insurance, and because the mechanism used to elect their representatives – a lottery – made it difficult for them to coordinate their interests and actions. For many cajas, the last and most dramatic phase of their geographic expansion coincided with rapid growth in the Spanish economy, an enormous boom in the domestic real estate market and explosive growth in caja lending to real estate and construction firms (for example, see Solé-Ollé and Viladecans-Marsal 2013). The burst of the real estate bubble after the beginning of the global financial crisis, and especially after the failure of Lehman Brothers in September 2008, led to a serious deterioration in loan values and the implosion of the cajas.

Empirical analysis: Ex ante risk at the cajas

Univariate analysis

In the first step we carry out a univariate analysis of financial statement information and other variables of firms that start borrowing from savings banks from other provinces compared to firms that start borrowing from commercial banks or from savings banks from their home region. Using the latter as a comparison group helps to reduce the potential effects of unobserved heterogeneity as we compare only firms that change their bank relationships. We analyse firm characteristics, especially firm default risk, from the year before they start their new bank relationships to ensure that we measure ex ante default risk in a way that is consistent with banks' actual decision-making in the loan approval process. The ZSCORE, an ex ante default risk proxy, is calculated with data from the period before the firms start a relationship with a new bank. A higher ZSCORE indicates lower default risk of a firm. Our approach also ensures that we do not measure the mechanical effects on financial ratios and other variables due to the fact that firms just obtained additional bank debt to finance an increase in total assets.

The univariate analysis provides a variety of interesting results. Firms that start borrowing from savings banks from other provinces exhibit a significantly higher ex ante default risk than firms that start borrowing from savings banks in their home region and/or from commercial banks. All financial ratios are worse for these firms than for the control group. These differences are not only statistically, but also economically significant. For example, the ZSCORE (equity-to-total assets, EQTA) is 2.56 (29.94 percent) for firms that start a relationship with savings banks from other provinces, but 2.82 (34.14 percent) for the comparison group. It can also be seen that the firms that start borrowing from the expanding cajas are less likely to work with a big audit company than the comparison group. We also observe a higher number of banking relationships, indicating that firms that start a relationship with a savings bank from another province are more likely to add new relationships than to replace existing ones. This result is consistent with the view that these firms needed additional bank loans, but have not received the funds from their existing banks. Interestingly, this interpretation is confirmed by the significantly higher sales growth rate of firms that start borrowing from expanding cajas (7.4 percent) than those of other firms (6.2 percent). We also consider the ex ante risk of borrowers that start a credit

relationship with foreign commercial banks since theoretical arguments related to market entry, adverse selection and risk-taking might apply to the lending behavior of these foreign banks as well. However, we find that borrowers of foreign banks are similar to those of domestic privately-owned commercial banks, exhibiting a lower ex ante risk than those of expanding cajas.

Multivariate analysis

In the next step we conduct a multivariate regression analysis of savings banks' risk-taking that considers their governance structure and political influence. For this purpose, we estimate three cross-sectional multivariate logit models, including ex ante firm characteristics, year fixed effects, and industry fixed effects. Model 1 is a binary logit model that analyses which firm characteristics influence the probability of starting a relationship with a savings bank from another province (NEW=1, 0 otherwise). Model 2 is a three-outcome multinomial logit model that analyses the factors that influence the probability of starting a relationship with a savings bank from another province in which the regional government has no stake (NEW_REG=0) or has a stake (NEW_REG=1) relative to the reference category, which includes firms that start borrowing from commercial banks or from savings banks from their home region (NEW_REG=-1). Model 3 is a four-outcome multinomial logit model that analyses the factors that influence the probability of starting a relationship with a savings bank from another province in which the regional government has no stake (NEW_REG_P=-1), with a savings bank from another province in which the regional government has a stake and the political party affiliation of the government in the borrower and bank region is different (NEW_REG_P=0), and with a savings bank under regional control with identical political affiliation in the target region (NEW_REG_P=1) relative to the reference category, which includes firms that start borrowing from commercial banks or from savings banks from their home region (NEW_REG_P=-2). Consistent with the empirical approach used in Table 1, we compare data from the year before firms start borrowing from a new bank to focus on ex ante characteristics. Table 1 reports these regression results.

In Model 1 we find a significantly negative coefficient for the variable ZSCORE. Thus, firms that start a relationship with a savings bank from another province (NEW=1) are ex ante riskier. Model 2 confirms that a lower Z-Score increases the probability of starting a relationship with savings banks from other provinces. However, the magnitude of the coefficient of ZSCORE substantially changes from -0.0264 to -0.1495 for the probability of starting a relationship with a savings bank in which the regional government has a stake (NEW_

Table 1

Multivariate analysis of savings banks' risk-taking

	(1)	(2)	(3)
Reference group	NEW=0	NEW_REG=-1	NEW_REG_P=-2
Alternative group	NEW=1	NEW_REG=0	NEW_REG_P=-1
	Coefficient	Coefficient	Coefficient
$ZSCORE_{t-1}$	-0.1052 ***	-0.0264	-0.0262
INTERCEPT	-2.2627 ***	-2.8084 ***	-2.8111 ***
Alternative group		NEW_REG=1	NEW_REG_P=0
		Coefficient	Coefficient
$ZSCORE_{t-1}$		-0.1495 ***	-0.1179 ***
INTERCEPT		-3.4548 ***	-4.5837 ***
Alternative group			NEW_REG_P=1
			Coefficient
$ZSCORE_{t-1}$			-0.1826 ***
INTERCEPT			-4.0263 ***
Firm controls	YES	YES	YES
Year fixed effects	YES	YES	YES
Industry fixed effects	YES	YES	YES
Observations	13,010	11,879	11,861
Adj. McFadden R^2	0.1031	0.0820	0.0769

Note: ***, **, * indicate statistical significance at the 1%, 5%, and 10%-level.
Source: The authors.

REG=1, middle part). In Model 3 we find that there is an additional significant impact, when savings banks expand to regions that are ruled by governments from the same political party (NEW_REG_P=1, lower part). The coefficient of ZSCORE amounts to -0.1826. These results suggest that involvement of regional governments, as well as their political party affiliation, is related to the cajas' expansion and risk-taking behavior.

To address the issue for unobserved heterogeneity within firms over time, we examine firms that start borrowing from new banks multiple times. For second-time additions, we find that firms that start borrowing from savings banks from other provinces are significantly riskier (Z-Score: 1.66) than those that start borrowing from commercial banks or from savings banks from their home region (Z-Score: 1.91). This result confirms the risk-taking behavior of savings banks documented above for the first-time addition.

In the final step we estimate three censored probit models in which we control for the characteristics of the new markets to which the savings banks expand and key bank characteristics. For each model, we jointly estimate a selection equation and an outcome equation. The selection equation reflects the probability that a savings bank expands to a certain out-of-home-market-province. Hence, it includes bank characteristics such as bank size, capital-to-assets ratio, deposit-to-assets ratio, loan-to-assets ratio and return on equity as well as province-specific characteristics as explanatory variables; such as the log GDP per capita, the log of the population, and a dummy variable indicating whether a province is contiguous with the savings bank's home market. The left-hand side of the outcome equation is the same as in Models 1-3 of Table 1. The right-hand side includes the firms' Z-SCORE and various further characteristics, and year and industry fixed effects. The results confirm our previous findings on the risk-taking behavior of savings banks.

Evidence on ex post risk at the cajas

An important question is whether the significant increase in ex ante risk at the cajas documented above has also resulted in higher ex post risk. There are several pieces of evidence that confirm that this is indeed the case.

Firstly, the European Union's Committee of European Banking Supervisors initiated stress tests of large European banks that were considered systemically important. Of the eight (seven) European banks that failed to meet the capital requirements in the 2011 (2010) stress tests, four (five) were Spanish savings banks and one was a subsidiary of a savings bank, whereas the biggest Spanish privately-owned banks performed well (Financial Times, July 24–25, 2010 and July 17, 2011). This does not prove that the ex post risk of the cajas banks was due to their expansion, but it is certainly consistent with it.

Secondly, many cajas became financially distressed during the financial crisis of 2008–2009 and were temporarily rescued with capital infusions from the bank restructuring fund (FROB) of the Bank of Spain and through mergers with other savings banks (note: Bankia resulted from such merger). The stated reasons for these distress events were losses associated with the financial crisis, the burst of the real estate boom in Spain, and the fast geographic expansion of the caja banks over the past two decades. Ultimately, 43 cajas were involved in a restructuring process by July 2012 and the number of cajas has dramatically decreased from 45 to 12. All cajas were forced to change their governance structure and to convert into commercial banks, as stated in the Memorandum of Understanding signed by Spain and the EFSF in July 2012. This effectively marked the end of the almost two century-long history of the caja banks in Spain.

Thirdly, in order to directly analyse ex post risk, we examine data on borrower defaults (as measured by firm bankruptcy filings) during the period 1997–2009 to study in more detail whether there is a relation among savings banks' geographic expansion, their governance, and ex post risk. In the absence of specific data on loan defaults, analysing firm bankruptcy filings as a proxy has the advantage that these data are reliable, objective, and less likely to be distorted by financial reporting standards and accounting rules. We analyse firm default by estimating cross-sectional logit models with the likelihood of default as the dependent variable and a firm's average ZSCORE (from all years for non-defaulters and from the years prior to default for defaulters), various governance and expansion characteristics of savings banks as explanatory variables, and industry and year fixed effects. The governance and expansion characteristics are indicator variables that take the value of one if the firm starts borrowing from a savings bank from a different province (NEW), if the firm starts borrowing from a savings bank from a different province in which the regional government has no stake (NEW_NOREG), if the firm starts borrowing from a savings bank from a

Table 2

Analysis of borrower defaults

Dep. Var.: DEF	(1)	(2)	(3)
	Coefficient	Coefficient	Coefficient
AVG_ZSCORE	-0.8384 ***	-0.8379 ***	-0.8377 ***
NEW	0.2424 ***		
NEW_NOREG		0.1397 ***	0.1399 ***
NEW_REG		0.2813 ***	
NEW_REG_NOP			0.2268 ***
NEW_REG_P			0.3371 ***
INTERCEPT	-0.1081	-0.0998	-0.1001
Firm characteristics	YES	YES	YES
Industry fixed effects	YES	YES	YES
Year fixed effects	YES	YES	YES
Observations	67,116	67,116	67,116
Adj. McFadden R^2	0.1159	0.1159	0.1160

Note: ***, **, * indicate statistical significance at the 1%, 5%, and 10%-level.
Source: The authors.

different province in which the regional government has a stake (NEW_REG), if the firm starts borrowing from a savings bank from a different province in which the regional government has a stake and the ruling political party of the borrower's and the bank´s region are not the same (NEW_REG_NOP), and if the firm starts borrowing from a savings bank from a different province in which the regional government has a stake and the ruling political party of the borrower's and bank's region is the same (NEW_REG_P). Table 2 reports the results.

The results are strikingly clear. We find that the coefficient of ZSCORE is highly significant and negative, indicating that our measure of ex ante risk that we used in all previous analyses is indeed related to borrower default events (recall that higher values in the ZSCORE indicate lower default risk). The coefficient of NEW in Model 1 is significantly positive, indicating that firms that start borrowing from savings banks from other provinces exhibit a higher likelihood of default. The results for Model 2 show that the effect becomes even stronger if regional governments have a stake in the expanding savings banks (NEW_REG), while the effect disappears if regional governments have no stake (NEW_NOREG). The results for Model 3 again indicate a strong and significant effect when regional governments have a stake and the expansion happens in regions that are ruled by the same political party as the savings bank's home region (NEW_REG_P). Our results are also consistent with the earlier study of Jimenez and Saurina (2004) who analysed the ex post risk of bank loans to Spanish firms and document that loans granted by savings banks display a higher default rate. Our findings are also in line with the broader literature on the intertemporal growth-risk nexus in bank lending (for example, Dell'Ariccia and Marquez 2006; Foos, Norden and Weber 2010). This literature shows that rapid loan growth of banks is associated with a subsequent built-up of risk, indicated by gradually increasing loan losses.

We also re-estimate all models for firms in the "construction" and "real estate development" industries. We did not consider these firms in any of our previous analyses because our focus is on risk-taking in commercial lending in general, and not on real estate related industries. It turns out that the results are even stronger than those reported in Table 2. We note that, in addition to the collapse of the housing market and the global financial crisis, we find ample evidence that the increase in risk-taking of savings banks and political influence of regional governments was particularly strong in these two industry sectors.

In summary, our analysis of ex post risk confirms our previous results, indicating a statistically and economically significant link between savings bank expansion in commercial lending, their governance structure, and risk-taking behavior.

Conclusions

We study the effects of the interplay between geographic deregulation and corporate governance on the lending behavior of the government controlled sector of the Spanish banking system, the caja banks. Our principal result is that the geographic expansion of Spanish cajas is associated with a significant increase in ex ante risk-taking and ex post default risk. This finding becomes substantially stronger for savings banks in which regional governments have a stake in the board of directors, for expansion into regions that are ruled by the same political party as the home region of the bank, and for firms in the real estate and construction industry. In various additional tests we rule out alternative explanations and confirm the robustness of our findings.

Our study has two clear policy implications. Firstly, economic liberalization should take into account the institutions' (or industry's) governance structure and its impact on economic behavior, especially risk-taking. Secondly, liberalization that unleashes growth might lead to undesirable outcomes if the former regulation was designed to inhibit risk-taking or to maintain minimum safety standards.

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