Collaterals, Bank Monitoring and Performance: the Case of Newly Established Wine Farmers

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Summary

This research aims to identify the incentives associated with collaterals in an asymmetric information context and in situations where the bank is the main financial partner of the entrepreneur, which is typically the case for most farms, especially in the wine sector. On the one hand, collaterals may reduce the risk of overinvestment by entrepreneurs and so reduce the risk of repayment default. On the other hand, contracting collaterals may lead the bank to reduce the monitoring effort. In this paper we test these two hypotheses, taking into account the fact that entrepreneurs can benefit from a banking relationship or not. Our results confirm that incentives associated with collaterals depend on bank monitoring, and emphasize the uniqueness of land mortgages. Our results also confirm that the revenue constraint is binding and thus makes critical the question of financial resources for newly established wine farmers.

Key-words: collaterals, incentives, bank monitoring

JEL: G32 G33 G35

Like most farms, wine estates rely heavily on debt to finance their business. The contract between the banker and the farmer determines the latter's ability to invest and the cash-flow disposal in cases of distress. One major point of this contract is the amount of collateral pledged to the banker by the entrepreneur. The ability to collateralize is especially high in the farm sector as there is a market for land as well as a resale market for machinery. This ability to collateralize may smooth financial constraints as the bank can recover the risk with collateralization. Nonetheless, the nature and the amount of collaterals pledged to the banker are sharply bargained by entrepreneurs as this is a way for the banker to enforce control rights over "their" business. As a result, collateralization varies widely among entrepreneurs: some accept to pledge their lands against credit, others prefer personal guarantees, and a few obtain loans without having to pledge collaterals.

The effect of collaterals on the risk taken by entrepreneurs depends on the effect of such collaterals on both the entrepreneur and the banker. On the one hand, in a context of asymmetric information, collaterals may contribute to signal the less risky projects (Bester, 1986) or lead the entrepreneur to adopt a "safe" behavior (Boot and Thakor, 1997). On the other hand, when the banker reduces asymmetric information with monitoring effort, collateral can lead the banker to reduce this effort (Manove, Padilla, and Pagano, 2001) and thus lead the banker to finance projects that are not profitable or are too risky. Following Manove, Padilla, and Pagano, we name this effect the *lazy-bank effect*. The *disciplinary effect* of collaterals is relevant in a context where the banker has no *voice in* the firm's affair, i.e., the contract between the bank and the entrepreneur is an *arm's length contract* instead of *a lending relationship* in the sense of Petersen and Rajan (1994). In this context, collaterals serve to solve the informational problem. Reversely, the "lazy bank" effect of Manove, Pagano, and Padilla (2001) exists only if the bank is expected to monitor the entrepreneur. Therefore, we expect that the *disciplinary effect* of collaterals dominates in a context of a weak banking relationship and that the *lazy-bank effect* dominates when this relationship is expected to be strong. Our research objective is to test these two hypotheses. One major point is to understand how collaterals and bank monitoring interact.

To achieve this aim, we focus on the impact of collaterals, bank monitoring, and their interaction on two performance variables: the entrepreneurs' revenue, or cash out, and the repayment delay, which is a proxy of default. These two variables play an important role in the bank's point of view. Indeed, in contrast to financial statements, they are immediately observable and, as such, constitute early signals of financial distress. There exist different

types of collateral. Some are linked to the firm's assets, such as land mortgages or other business collaterals (equipment, stock, etc.), while personal guarantees imply that the entrepreneurs pledge a part of their personal wealth. This distinction is important as it determines the incentive properties of these collaterals (Elsas and Krahnen, 2002). Our data give us the possibility of distinguishing the different collaterals.

Moreover, we propose a unique proxy for the bank relationship. This proxy is based on the presence of financial statements in the files that the bank agents use to contract with the entrepreneurs. These files always include the business plan and some commentaries of the agent on the policy to adopt toward the entrepreneur. However, about one half of these files include financial statements for the period following the grant of the first credits. In our view, collecting and keeping financial statements may reveal the intent to monitor. As a result, we consider that entrepreneurs are financed through a contract with monitoring when the bank holds financial statements and through a contract without monitoring when the bank does not hold such statements. This approach of bank monitoring (or, equivalently, bank relationship) has the advantage of being objective and of eliminating selection bias that the size[1], the duration (Petersen and Rajan, 1994; Degryse and Van Cayseele, 2000; Chakraborthy and Hu, 2006), or declarative approach (Elsas, 2005) could imply.

Our empirical results confirm the distinguishable incentives of collaterals according to the type of contract linking the bank and the entrepreneur—arm's length contract or bank relationship. They highlight the uniqueness of land mortgages. Indeed, we find evidence of incentive properties only for this type of collateral. The significant impact of land mortgages on repayment delay confirms the *lazy-bank effect.* Our results give less credit to the *disciplinary effect*. However, we are not sure that the *lazy-bank effect* and the *disciplinary effect* are not together at work for entrepreneurs who benefit from a bank relationship. Moreover, the very significant effect of the revenue constraints on the level of cash out and on the higher level of financial risk highlights the financial constraint facing the newly established wine growers. This implies a critical role for their financing partners (and especially their bankers).

[1] To get a precise idea between the size and the bank agents' willingness to monitor the farm, see Gloy, Gunderson, and Ladue (2005).

Our paper is organized as follows. We propose a brief literature review and pose the hypotheses in the section 1. The second section describes the data and the methodology, and the third section presents the results.

1. Asymmetric information and collaterals' incentives

a) Collaterals' incentives in a contract with no monitoring

The bank financing of newly established wine farmers poses specific informational problems. First, the banker does not know the project quality or the entrepreneur's ability to deal with the project. Lending to farmers is subsidized through very a low interest rate fixed by public policies. This makes a loan interesting even for bad projects. Moreover, investing in tangible assets is a potential way to improve the future access to finance (Almeida and Campello, 2007). This is particularly true in the case of farms because of the high tangibility of assets and the investment flexibility that Barry (2001) highlights. As a result, the banker faces entrepreneurs willing to benefit from favorable credit conditions and who tend to invest more than what is optimally required. This is a critical adverse selection problem that the banker can circumvent in three ways: credit rationing[2], screening, or designing contracts with proper incentives. For Bester (1985), collaterals provide a way for self-selection by entrepreneurs. Indeed, less risky entrepreneurs may be willing to signal themselves with pledging collaterals.

Second, moral hazard is also prevalent through the entrepreneur's ability either to discretionarily take cash out or to overinvest. Even if debt is a specific financial contract to solve this problem—which is the fundamental of the financial intermediation theory as stated by Diamond (1984)—taking out more cash than what is Pareto-optimal is potentially a rational behavior from entrepreneurs that benefit from an immediate consumption against losses that they share with the banker. One second moral hazard problem is overinvestment. As for adverse selection, the banker has three ways to circumvent moral hazard: credit rationing, monitoring, or designing contracts with proper incentives. For Bester (1996), collaterals discourage voluntary default. For Boot and Thakor (1997), collaterals are used to reallocate risks and so prevent overinvestment.

b) Bank monitoring and collaterals

[2] See De Meza and Webb (2002).

For Petersen and Rajan (1994), "through close and continued interaction, a firm may provide a lender with sufficient information about, and *a voice in* the firm's affairs so as to lower the cost and increase the availability of credit". In this case, the bank may benefit from a good knowledge of the entrepreneur's competencies, cash-flow policy, and project risks. For the entrepreneur, this reduces liquidity risks as the banker is able to identify the good projects. In other words, a strong *bank relationship* is expected to smooth the financial constraints.

However, the bank does not necessary implement a relationship because it implies some costs[3]. For the banker, there is a size effect, and so large farms are more likely than small ones to benefit from a relationship (Gloy, Gunderson, and Ladue, 2005). Diamond (1991) shows that the decision to monitor depends on the adverse selection and the moral hazard linked to the entrepreneur type the bank has to finance[4]. Monitoring or not depends on a strategic cost-benefits trade-off that is not easy to characterize empirically.

The question here is how monitoring interacts with collaterals. A first answer is that the collaterals' incentives may make monitoring useless. In this case, collaterals and monitoring are substitutes because collaterals incite entrepreneurs to make the best decisions. This is the *disciplinary effect* formalized by Boot and Thakor. This supposes that collaterals imply good performance from the entrepreneurs financed through a contract without monitoring (and eventually, contribute to the good performance from entrepreneurs financed via *a lending relationship*).

A second answer is that collaterals may limit banker interest in monitoring. This is the *lazy-bank effect* formalized by Manove, Padilla, and Pagano (2001). This has no effect when the entrepreneurs are supposed to be financed with an arm's length contract, but it can reduce the monitoring quality for entrepreneurs supposed to be financed via a *lending relationship*. In the latter case, collaterals may induce bad performance.

A third answer is that collaterals may be associated with monitoring because collateralization is a way for bankers to grasp information on the firms. This is what Elsas (2005) and Ono and Uesegi (2005) deduce from their empirical results in, respectively, the German and the Japanese cases. An alternative explanation for this result may be that collaterals incite the

[3] For a detailed inventory of monitoring costs, see LaDue, Gloy, and Cuykendall (2005).
[4] More specifically, he shows that the monitoring is more likely when it provides incentives to act optimally and is not only a screening device.

banker to monitor, as shown by Rajan and Winton (1995). This setting does not suppose any relations between collaterals and performance.

The first and the second answers imply two testable hypotheses on the collateral effect on performance (we will see that the third answer is useful in interpreting some results of our empirical findings):

- collaterals lead the entrepreneur to safe behavior when the bank relationship is weak, which is what we call the *disciplinary effect* of collateral;
- collaterals reduce the bank monitoring and thus increase the probability of financing risky projects when the bank relationship is strong, which is what Manove, Padilla, and Pagano (2001) call *the lazy-bank effect*.

2. Data and methodology

a) Data and general statistics

We constructed a firm-level cross-section data set through a survey financed by and realized in partnership with Crédit Agricole, the main French agricultural bank. Crédit Agricole wanted to obtain a picture of the financial health of the recently established wine farmers[5] to help them in determining their way of dealing with these entrepreneurs. We collected technical and economic data, projected financial statements (at the time of the settlement), financial statements, and bank account information on 272 newly established wine growers, including repayment delays and the cash flows crediting the personal bank account of the entrepreneurs[6]. Moreover, we collected very disaggregated data on the debt contract such as the purpose of the loans or the type and the amount of collaterals. Such a level of disaggregation is quite rare, and it gives us a unique opportunity to study the incentive properties of collaterals, given that this is crucial to distinguish the effect of collaterals based

[5] Toward this aim, we selected a sample of "Jeunes Agriculteurs," which is a status giving the right to apply for investment and revenue subsidies aiming at encouraging farming. This status is granted to newly established farmers according to certain criteria. Our sample contains exclusively entrepreneurs with this status as this is our unique way of differentiating them in the bank data base.

[6] Assessing the real income of farm households is generally puzzling. Here, we observe directly the cash coming into the entrepreneur's personal bank account. This separation between the personal and the professional bank account is a general practice whatever the legal status of the firm. In our view, this is a way for the bank to monitor the amount of cash that the entrepreneurs take out. This provides us with a direct measure of the farmers' incomes.

on assets coming from outside the firm or from inside the firm (Elsas and Krahnen, 2002). In our setting we were able to distinguish the land mortgage (inside the firm), the personal guarantees (outside the firm), and the pledge of equipment (inside the firm).

The general picture shows entrepreneurs who rely particularly on debt to finance heavy investments. According to our data, the investment reaches 10 000 Euros per acre on average, with a debt of 8 000 Euros per acre and sales of 11 000 Euros per acre. This high level of investment and debt is explained mainly by a life cycle effect: the newly established entrepreneurs modernize the farm and sometimes increase their production area. Moreover, investment is pushed by governmental subsidies devoted to the *Jeunes Agriculteurs*. The high level of debt may explain the relatively high level of entrepreneurs who are late in their debt repayment, which reaches 15%.

The bank is likely to make proper use of collaterals. Sixty-seven percent of the debt of entrepreneurs late in their repayment is covered, as against 55% for safe entrepreneurs. To a certain extent, the bank efficiently preserves its interest in limiting the *Loss Given Default*. Moreover, 29% of the bank contracts include land mortgages. Among the entrepreneurs with land mortgages in their contracts, 25% are in financial distress as against 12% for the others[7]. Among the entrepreneurs with personal guarantees in their contract (60% of the population in our sample), 18% are in financial distress as against 12% for the others, but this difference is not statistically significant. It should be noted that these statistics are not sufficient to argue for a causality link between collaterals and risks.

b) The variables

i. Dependent variables

As we collected our data with the bank, we focused on performance variables observed by the bank: the repayment delay and the entrepreneurs cash out for personal consumption. Our data did not enable us to take financial statement variables, because the last available financial statements date from one or two years before the data collection and so could immediately follow the entrepreneurs' first round of investment, whereas repayment delay and cash out follow this time from two to seven years. This convenient choice is also coherent with our principal-agent approach where the banker is the principal. Indeed, Rougès (2007) shows that

[7] The difference is statistically significant at the 1% p-value (Chi2).

financial statements are often published too late to be a performance alert for bankers. Instead, the bank accounts give the first signals of financial distress.

Repayment delay does not necessarily mean that the firm experiences serious financial distress. However, even if the entrepreneur and the bank can quickly fix the problem with a renegotiation of debt, repayment delays signal that the entrepreneur does not benefit from a large financial slack. In this respect, the repayment delay is a relevant proxy of financial distress. In our sample, 15% of the entrepreneurs show repayment delay. The entrepreneurs with land mortgages are more often in financial distress, with 25% of them showing repayment delay as against 12% for the others. The same holds for entrepreneurs with short-term debt, with 32% showing repayment delay. In the multivariate analysis we use the repayment delay variable (*RD*), which is a binary variable equal to zero if the firm does not present repayment delay and one if it is the case.

In addition to the analysis of the repayment delay, we focused on the entrepreneurs' cash out, measured by the cash crediting the entrepreneur's personal account during the year preceding the data collection. Again, this does not provide us with a perfect measure of the entrepreneurs' revenue as some personal bank accounts include debt devoted to professional activities. Moreover, some are joint bank accounts with the life partner and so include the partners' wages. We partly control this bias in the multivariate analysis by introducing a binary variable on the fact that the partner has a salaried activity outside the farm or not. In addition, we are not sure that the entrepreneur does not use a part of the professional bank account for personal consumption. Descriptive analysis shows, however, that the average annual revenue is about 22 000 Euros (see Table 7), which corresponds to what we observe in French farming. We also find a very close value when we calculate the cash-flow per capita with the more recent financial statements. In our view, this gives credit to our measure of the cash out as a relevant proxy for the entrepreneur's revenue. We name this variable *CO*, which is a continuous variable truncated at the zero-level, expressed in thousands of Euros.

ii. Explanatory variables

Collaterals

In section 1, we did not differentiate the types of collateral. However, some models deal with collaterals associated with assets outside the firms (Bester, 1985; or Boot and Thakor, 1994) and others with assets inside the firms (Rajan and Winton, 1995). As previously stated, we are able to distinguish personal guarantees, land mortgages, and business collaterals. This enables

us to discuss the inside/outside dimension or the informative/not informative properties of the different collateral types regarding to their impact on performance.

We name the land mortgage variable *LM*, which is the proportion of debt covered by land mortgage, and the personal guarantee *PG*, which is the proportion of debt covered by personal guarantees. We name the proportion of debt covered by equipment collaterals *BC*.

The bank relationship

In section 1, we found the bank relationship to be somewhat unobservable. How do we observe the multiple interactions between the entrepreneurs and the bankers? How can we be sure that these interactions imply information sharing? The size of the firm provides a good proxy for the strength of the bank relationship. Indeed, as seen in the survey of LaDue, Gloy, and Cuykendall (2005), the banker is likely to invest little time in small businesses as the profitability of the banking relationship is not necessarily worth it. However, size is not necessarily the best proxy for the strength of the bank relationship. Petersen and Rajan (1994) use the duration of the relationship, but the same criticism can be addressed to this proxy. Cole (1998) and Elsas (2005) approach the bank relationship by asking directly the entrepreneurs and the bankers, respectively. This entails the problem of the declarative approach: are we sure that the entrepreneur or the banker defines the bank relationship in the same way that the researchers do? For example, what about a bank that tightly monitors the firms and is perceived as a constraint rather than a partner? Kano et al. (2010) propose a synthetic proxy of relationship obtained with a component analysis of the different formal contract and services other than debt that can relate the entrepreneurs and the bank.

In our setting, we consider an original and unique proxy of bank relationship linked to the data collection process. Indeed, thanks to a partnership with the bank, we collected our data in the bank agencies from the file that the bank agent uses to determine his decisions on how to finance the entrepreneurs. About one half of these files include financial statements for the period following the grant of the first credits. As stated earlier, we view the collection and keeping of financial statements as revealing the intent to monitor. Thus, we consider entrepreneurs to be financed through a contract with monitoring when the bank does hold financial statements and through a contract without monitoring if otherwise. This original approach of bank monitoring (or, equivalently, bank relationship) has the advantage of being objective and does not imply selection bias. We name this variable *BM* for “Bank

Monitoring". This is a binary variable equal to one if the bank holds the financial statements in the information file and zero if it does not.

The collateral and monitoring interaction variable

Section 1 showed that bank contract theorists expect different effects of collaterals on performance. We have explained some of these differences with the interaction between collaterals and monitoring. Collateral can act as a substitute, a disincentive, or an instrument of monitoring. As a result, we propose to focus on the interaction between collaterals and monitoring: (*BM*LM),* (*BM*PG*) and (*BM*BC*).

iii. Control variables

We group the control variables into three categories: the financial risk variables (*FR*), the revenue constraint variables (*RC*), and the context variables (*CN*).

Among the financial risk variables, we distinguish the current leverage, which relates the debt to sales, and the credit availability, which relates the real debt to the expected debt agreed in the business plan at the first time of the investment[8]. Highly leveraged firms are expected to be more risky. The case of entrepreneurs to whom the banker agrees to more credit is more ambiguous. Indeed, if the bank monitoring is effective, the credit availability may be linked to good performance. Therefore, credit availability may not have the same impact for entrepreneurs financed via a contract with monitoring and for entrepreneurs financed through a contract without monitoring. The introduction of these variables as control variables should prevent the risk of confusing leverage effects and collateral effects on the repayment delay likelihood.

The revenue constraint is a fundamental point of the entrepreneur's finance. Kyotaki and Moore (1997) demonstrate that the entrepreneur's budget constraints may bind during the period of first investments. This implies that the level of the constraint, depending mainly on the familial situation of the entrepreneur, has a direct impact on the firm's financial risks and on the investment ability. Thus, we need a proxy for personal financial needs. We take the age of the entrepreneur. Indeed, in our sample, most entrepreneurs are relatively poor in liquid capital. However, the youngest entrepreneurs often live in their parents' home and the oldest

[8] To a certain extent, this variable is a direct measure of *ex post* credit rationing, when the bank finances less than expected for the entrepreneur's project.

have often children. This age effect on the propensity to take cash out may vanish if the partner of the entrepreneur gets a wage from work outside the farm. Therefore, we introduce the binary variable named "partner wage". Moreover, we introduce the personal debt of the entrepreneur, which should constraint him to take out more cash than the desirable amount. We expect a positive effect of the household financial needs on both cash out and repayment delay.

Our economic variables encompass some variables that may have an impact on the firm's performance, such as the year of settlement, in order to fix the growth cycle effect. We present summary statistics for the independent variables in Table 1. We see the great variability of coverage either with land mortgages or personal guarantees through the high standard deviation for these two variables. Actually, these variables are often equal to zero.

Table 1. Summary Statistics for Independent Variables

All variables are in percentage except for age (years), personal debt (thousand euros), yield (hl per acre), and years of settlement (years)

	Variable	Obs	Mean	Std. Dev.
Collaterals	*LM*, Land Mortgage to total debt (%)	254	17	29
	PG, Personal Guarantees to total debt (%)	254	36	37
	BC, Business Collaterals to total debt (%)	254	13	24
Financial Risks	*D*, Debt to sales (%)	228	92	117
	Av, Credit availability (real to expected debt) (%)	250	97	73
	Ov, Overdraft to Sales (%)	258	3,6	5,3
	STD, Short-term debt to sales (%)	255	9,0	28,7
	Inv, Starting cash-flow to sales (%)	249	-27	49
Revenue Constraint	*Age* (year)	272	28	5
	PD, Personal Debt (thousand of Euros)	242	39	65
Context	*Y*, Yield (hl per acre)	271	56	15
	Years, Years of settlement (years)	272	4,7	1,7
	VI, Vertical Integration	264	1,57	0,74

c) Regression equation

Our methodology consists in the regression of cash out and repayment delay on collaterals and the collateral-bank relationship interaction variable.

The regression equations take the following forms:

$$RD = \beta_1^{RD} LM + \beta_2^{RD} LM * BM + \beta_3^{RD} PG + \beta_4^{RD} PG * BM + \beta_5^{RD} EC + \beta_6^{RD} EC * BM + \beta_7^{RD} FR + \beta_8^{RD} RC + \beta_9^{RD} CN + \alpha^{RD}$$

$$CO = \beta_1^{CO} LM + \beta_2^{CO} LM * BM + \beta_3^{CO} PG + \beta_4^{CO} PG * BM + \beta_5^{CO} EC + \beta_6^{CO} EC * BM + \beta_7^{CO} FR + \beta_8^{CO} RC + \beta_9^{CO} CN + \alpha^{CO}$$

According to our two assumptions, we expect that

- $\beta_1^{RD}, \beta_1^{CO}, \beta_5^{RD}, \beta_5^{CO} \approx 0$ as land mortgage is a collateral associated with assets and thus has no consequences on the entrepreneur's behavior;

- $\beta_2^{RD}, \beta_6^{RD} < 0$ and $\beta_2^{CO}, \beta_6^{CO} < 0$ as land mortgages may have relaxed the bank monitoring effort and so increase the risk of investment in a bad project;

- $\beta_3^{RD} < 0$ and $\beta_3^{CO} < 0$ as personal guarantees, being collateral not associated with assets, may imply a disciplinary effect when there is no monitoring.

3. Results

We focus initially on the role of collaterals in repayment delay (see Table 2). The regression reveals no impact of collaterals when we do not consider interaction with monitoring (model 1). When we take into account the interaction with monitoring, the variable interacting land mortgages and monitoring increases the risk of repayment delay, while collateral without monitoring decreases this risk. While the first result pleads for the lazy-bank effect, the second is not expected. This contradicts the idea that land mortgages may not have an effect on the entrepreneur's behavior as they are backed by the firm's assets and not the entrepreneur's wealth. The regression does not reveal any effect of personal guarantees and equipment collaterals on repayment delay. In model 3, we suppress these two variables. This reinforces the significance of the interaction between land mortgage and monitoring as a risk factor of repayment delay. As a result, the regression pleads for our second hypothesis: the collaterals reduce the bank monitoring and thus increase the probability of financing risky projects when the bank relationship is supposed to be strong.

The control variables highlight the "obvious" role of debt and short-term debt in financial risks. More originally, the results show that when the banker monitors, the entrepreneurs who benefit from more debt relative to the debt agreed in the business plan are the less risky. In other words, the availability of credit reduces the default risk in the context of a lending relationship.

The regression emphasizes the role of the revenue constraint. The more the entrepreneurs have to meet household financial needs, the riskier they are. The very significant effect of age is unambiguous on this point.

Table 2: Collaterals and repayment delay

This table shows the result of three logit regression of repayment delay, a binary variable, on collaterals. Repayment delay is a proxy of default. We proceed in three steps. First, we do not consider the interaction between collaterals and monitoring. Second, we consider these interactions for all types of collaterals. Third, we eliminate personal guarantees and equipment collaterals that have no effect on repayment and so undermine the quality of the regression.

			Repayment delay		
		Expected sign	*Model (1) Without monitoring interaction*	*Model (2) With monitoring interaction*	*Model (3) Focus on land mortgage*
Monitoring	*BM*	-	1.10213*	.6673997	.6475379
Collaterals	*LM*	0	-.0069824	-.0359463*	-.0356076*
	*LM*BM*	+		.0432548*	**.0445214****
	PG	-	-.0035898	-.0001221	
	*PG*BM*	0		-.0054962	
	BC	0	.2588994	-.0488894	
	*BC*BM*	+		.919169	
Financial risks	*D*	**+**	**.0066444*** **	**.0098734*** **	**.0098553*** **
	*Av*BM*	**-**	**-.0089007****	**-.0108092****	**-.0114321****
	STD	**+**	**.0575761*** **	**.0593549*** **	**.0563981*** **
Revenue constraints	*Age*	**+**	**.1371577*** **	**.1320975*** **	**.1285807*** **
	Partner Wage	-	-.4366831	-.4694889	-.4655607
	Personal debt	+	-.0004175	-.0008855	-.0007733
Context	*Size*	0	.0020063*	.0022317*	**.0022722****
	Years	0	.189955	.237709	.1983944
Intercept			**-7.713391*** **	**-7.797043*** **	**-7.511966*** **
Number of obs			205	205	205
LR chi2			(12) 44.86	(15) 51.52	(11) 50.38
Prob > chi2			0.0000	0.0000	0.0000
Pseudo R2			0.2355	0.2704	0.2644

***, **, * indicate statistical significance at the 1%, 5%, and 10% test levels, respectively.

Table 3 gives the result of the regression of cash out on collaterals. As shown earlier, this confirms the special role of land mortgages and the non-significant role of personal guarantees and equipment collaterals. This also shows that land mortgages have a negative impact on revenue for entrepreneurs financed via a contract with monitoring. In our view, this stems from the lack of screening linked to a project backed by land mortgages when the entrepreneurs are supposed to be financed via a contract with monitoring. The fact that this effect is linked to monitoring makes irrelevant the disciplinary effect, which may explain why entrepreneurs take less cash out when they have contracted collaterals. If this is the case, why does the effect not prevail for entrepreneurs financed through a contract without monitoring,

unless the disciplinary effect is more effective when the entrepreneurs know they are being observed?

The control variables give interesting results. The debt level doesn't imply less cash out, while short-term debt does so very significantly. Moreover, credit availability implies higher cash out (see model 6) for entrepreneurs who benefit from a bank relationship. The regression gives prominence to the revenue constraint: the older the entrepreneurs are, the more they take cash out. Moreover, the outside revenue of the partner has a very significant negative impact on the cash out. This means that when the entrepreneurs have the choice, they don't take cash out. In other words, the revenue constraint is binding.

Finally, the repayment delay regression shows that the size of the firm increases the risk of repayment delay as well as the level of cash out. In our view, this shows that financial conditions increase with the size of the firm: the entrepreneurs benefit from a larger liquidity slack and the banker is ready to take more risks.

Table 3: Collaterals and cash out

This table shows the result of three tobit regression of cash out, a variable censored to zero, on collaterals. We use White's Estimators to circumvent a slight problem of heteroskedasticity (Breush Pagan's test). We proceed in three steps. First, we do not consider the interaction between collaterals and monitoring. Second, we consider these interactions for all types of collaterals. Third, we eliminate personal guarantees and equipment collaterals that have no effect on repayment and so undermine the quality of the regression.

			Cash out		
		Expected sign	*Model (4) Without monitoring interaction*	*Model (5) With monitoring interaction*	*Model (6) Focus on land mortgage*
Monitoring	*BM*	+	-4.645234	5.39674	-1.548808
Collaterals	*LM*	0	-.1441655	.0062609	.0120313
	*LM*BM*	-		**-.3120492****	**-.2642988****
	PG	-	-.0460935	-.0180228	
	*PG*BM*	0		-.0602877	
	BC	0	-7.690011	-.4603407	
	*BC*BM*	-		-16.13518	
Financial risks	*D*	-	.0225537	.0131827	.0124162
	*Av*BM*	+	.0578478	.0590625	**.0722357****
	STD	**-**	**-.4453062*****	**-.4334899*****	**-.4261782*****
Revenue constraints	*Age*	**+**	**1.724654*****	**1.915754*****	**1.899393*****
	Partner Wage	**-**	**-16.27422*****	**-15.66612*****	**-15.74254*****
	Personal debt	**+**	**.0803659****	**.0802851****	**.0798453****
Context	*Size*	**0**	**.0443387****	**.0446997*****	**.0412432****
	Years	0	-.3125411	-.4708977	-.3165166
Intercept			-23.34551	-32.20404*	**-32.64715****
Number of obs			156	156	156
F			(12, 144) 2.28	(15,141) 2.14	(11, 145) 2.72
Prob > F			0.0112	0.0110	0.0032
Pseudo R2			0.0306	0.0334	0.0324

***, **, * indicate statistical significance at the 1%, 5%, and 10% test levels, respectively.

4. Conclusion

Our research shows that the effect of collaterals on performance depends on the prevalence or not of bank monitoring. When there is no monitoring a *disciplinary effect* may imply that the entrepreneurs take less risk when the bank contract includes collaterals. With monitoring, the *lazy-bank effect* can overcome the disciplinary effect. Our empirical test shows that the *lazy-bank effect* is significant when we focus on the interaction between monitoring and land mortgages. There is no such evidence for the *disciplinary effect* of land mortgages. Indeed, we see a negative relationship between land mortgages and default risk, but the result is significant only at the 10% level.

Note that we interpret the combined results of default risk and low level of cash out as evidence that risky and low-quality projects may have been chosen because of a lack of screening from the bank. However, a disciplinary effect could explain the low level of cash

out. In this case, the land mortgage makes risky projects feasible because the bank knows that the entrepreneurs have to tightly manage their project, especially the cash flow reserve.

In addition, our analysis confirms that the revenue constraint of newly established entrepreneurs is binding. In other words, all of the entrepreneurs are financially constrained. As a result, entrepreneurs in wine estate have to expect extremely low earnings during the three to five years following the beginning of the project. This can explain the decreasing number of entrepreneurs in the wine sector. For the main financial partner of the entrepreneurs in the wine sector, i.e. the bank, some solutions have to be found to solve what seems to be a generalized undercapitalization problem.

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