Financial Flexibility: At What Cost?*

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ABSTRACT

Firms strategically borrow in different locations. Approximately one quarter of Peruvian companies with operations in multiple areas source their financing from more than one province, and only about half of these firms' credit comes from their headquarters province. Using mining windfalls as shocks, we show that firms exploit geographical financial flexibility by concentrating their borrowing in booming locations. Firms are less likely to initiate borrowing in new markets when their current borrowing provinces are thriving. The pursuit of flexibility in borrowing markets, however, degrades a firm's relationships with its existing lenders, thereby heightening its risk of future financial distress.

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Achieving financial flexibility is a key policy goal for firms. Survey evidence (Graham and Harvey 2001), theoretical models (e.g., Gamba and Triantis 2008) and empirical studies (Denis 2011 provides an overview) have all emphasized the importance to corporations of having ready and inexpensive access to credit. In this paper we examine one aspect of optionality in financial choices: the ability of firms operating in multiple areas to strategically focus their borrowing in thriving local markets. As a consequence of this option-driven approach, we show that firms' financing activities are best explained not by the average credit conditions across the markets in which they borrow but rather by the conditions in their most prospering locales. We also find, however, that the pursuit of geographic financial flexibility can come at a cost. Firms that initiate borrowing in new flourishing markets neglect their existing banking relationships and, as a result, experience higher risks of eventual financial distress. A firm's agility in accessing financing in different markets on attractive terms must therefore be understood to carry the consequence of degrading important connections to their current set of lenders.

We study a sample of Peruvian firms over the period 2001-2012. These firms have business operations in multiple provinces. We first document that 25.5% of the firms borrow in more than one province at some point during our sample period. Specifically, these firms hold loans extended from bank branches located in different provinces. That is, we find that for many quite small firms (the median number of employees at multi-province borrowers is eight), seeking flexibility in the areas in which they borrow is an important aspect of their financial policy. Moreover, as displayed in Figure 1, total lending to multi-province borrowers accounts for roughly 15%-25% of all commercial lending nationally. For firms that engage in multi-location borrowing, only 50% of their financing comes from banks in the province where the firm headquarters is situated.

Multi-location borrowing is not simply a firm strategy to gain access to a wider set of banks. We find that more than 80% of multi-location borrowers take loans from a bank outside their headquarters region that does, in fact, have a branch within the firms' headquarters province. We also find no evidence that firms concentrate their most troubled debt in banks in non-headquarters provinces.

Why, then, do firms borrow outside their headquarters regions? To better understand the attractiveness of borrowing in different provinces, we explore the impact of changes in commodity

prices on the provision of credit. Peru is a natural resource-driven country and mining is a critical sector. For each province we calculate annual local mining windfalls arising from international commodity price changes multiplied by the mining production of these commodities for all the mines located near the provincial centroid. We show that these mining windfalls stimulate local borrowing booms for both single and multiple location firms (across a variety of industries, not only in the mining sector), and we view them as generating plausibly exogenous shocks to local financing conditions.

We study the drivers of multi-location borrowing by analyzing how it is influenced by mining windfalls in different areas. One argument is that a positive shock in one of a firm's regions will enhance the firm's overall financial strength and creditworthiness and lead to additional borrowing in other regions as well. A counter-argument is that if one of a firm's regions is enjoying a boom with freely available credit, then the firm will concentrate its borrowing in that region and borrow less in other areas. We find that local financing increases in the local mining windfall but decreases in the mining windfall of the other provinces in which a firm operates. This is evidence that firm borrowing in one area serves as a substitute for borrowing in other regions. We find that this effect is concentrated in the firm's existing bank relationships: local mining windfalls lead to more borrowing from existing local lenders and less borrowing from existing lenders in other provinces.

Firms thus appear to flexibly source their financing by borrowing in better-performing areas and reducing the credit they seek in distressed regions. We examine the sensitivity of a firm's borrowing in one province to shocks experienced in its other borrowing provinces. We find that the province that supplies the largest share of a firm's overall debt is the province that is most affected by mining windfalls in other regions. This demonstrates the buffering role served by the province in which the firm borrows most.

If firms are borrowing in their most favorable locales, then their overall financing patterns should be explained by the most positive mining windfall they receive in any of their borrowing provinces, rather than by the average shock across provinces. We show that this is, in fact, the case. The span of a firm's borrowing activities (i.e., the firm's maximum number of simultaneously borrowing provinces) is increasing in the volatility of its maximum windfall and is not affected by its average windfall (nor by the standard deviation of its average windfall over time). Higher

variation in its maximum windfall also increases the number of new banking relationships a firm initiates. These results emphasize that a firm's ability to strategically seek financing in the most appealing market is a central determinant of its overall borrowing.

We analyze how firms widen their geographic financing options by studying their decisions to initiate borrowing in new provinces in which they operate but do not currently receive credit. Under our real options understanding of the role played by multi-location borrowing, we should expect firms to start borrowing in new locations when the provinces in which they are currently receiving financing are not prospering. On this view, the attractiveness of borrowing in a new market will be determined by the most positive windfall across a firm's current borrowing provinces. We find support for this argument by showing that the greater the maximum windfall in the firm's borrowing provinces, the less likely the firm is to initiate borrowing in a new province. This is true both over the short term (following month) and the medium term (following year). Firms seek out new locations in which to borrow when none of their current locations is doing particularly well. It is precisely when their existing credit markets are in decline that it is most important to firms to seek out the flexibility to borrow in new areas.

Given that geographical financial flexibility offers the benefit to firms of granting them access to whichever local credit market is most attractive in the current period, why do not all firms borrow in multiple areas? In other words, what are the costs, if any, of pursuing flexibility in the location of borrowing? We examine this question by seeking a plausibly exogenous determinant of a firm's decision to initiate borrowing in a new area. We consider only the sample of firms that do not presently borrow in all their operating provinces; these are firms that could initiate borrowing in a new operating province. We argue that if a firm of this type experiences a maximal monthly windfall over the previous year in every one of its operating provinces, then it will certainly experience a windfall in a province in which it did not previously borrow, and the firm is therefore more likely to initiate borrowing in a new province. This firm will be exposed to attractive borrowing conditions in new markets. We show that, controlling for the maximum and average windfalls to which it is exposed in its currently borrowing provinces, it is indeed the case that firms that experienced windfalls in all their operating provinces in the previous year are more likely to subsequently initiate borrowing in a new province.

We therefore propose that experiencing a windfall in each operating province can serve as an instrument for initiating borrowing in a new province. Using this instrument, we find that firms that expand the set of provinces in which they borrow later experience more severe loan delinquencies and are more likely to have loans become subject to judicial collection. In other words, a causal effect of expanded geographical financial flexibility is an increased risk of financial distress.

We confirm the soundness of these results by considering a set of different firms that do currently borrow in all their operating provinces. For these firms, experiencing a maximum windfall in each operating province cannot possibly expand their borrowing across operating provinces. We should therefore expect to see no relationship in this sample between our measures of financial distress and whether a firm experiences a maximum windfall in every operating province and, indeed, we find none. That is, experiencing maximal windfalls across all operating provinces leads to higher risks of financial distress only for the set of firms for which it also leads to an expanded geographical scope of borrowing. This bolsters the claim that borrowing in new areas causally leads to higher risk of distress.

These results suggest that the pursuit of financial flexibility can generate costs for firms, and we proceed to investigate the underlying mechanism. Specifically, we analyze one component of these costs by showing that firms that begin to borrow in new areas attenuate their relationships with their existing lenders, which have been shown to be important in many contexts (Petersen and Rajan (1994), Berger and Udell (1995), Cole (1998), Degryse and Van Cayseele (2000), Bharath et al. (2009) and Xu et al. (2017)). Specifically, firms are significantly less likely to obtain new loans from their previously largest lender in the two years following the initiation of borrowing in a new province. We hypothesize that the largest lender is the creditor that is most likely to supply emergency financing to a firm, and we link firms' increased risks of severe delinquency to their worsened relationships with their most important creditor. Firms that start borrowing in new areas are less likely to subsequently receive loans from any of their existing lenders, but the effect is most severe for the largest initial lender.

The initiation of borrowing in a new province leads to more than just a temporary disruption in a firm's relationships with its current set of lenders; we find that it is also associated with a significantly higher risk of permanent relationship termination with both the main initial lender

and with the full set of existing creditors. Firms that achieve geographical borrowing flexibility attain access to financing opportunities in multiple areas, but we show that this comes at the cost of degraded relationships with their previous lenders and heightened risks of default.

Our findings describe the importance of expanding the geographical locus of borrowing as a central flexibility goal of financial policy for a wide class of firms including some rather small businesses. Our work complements research that has emphasized the role of flexibility in determining firms' cash holdings (Faulkender and Wang 2006 and Ang and Smedema 2011), debt policies (Kahl et al. 2008, DeAngelo, DeAngelo and Whited 2011, Denis and McKeon 2011 and DeAngelo, Goncalves and Stulz 2017) and equity payouts (Jagannathan, Stephens and Weisbach 2000 and Hoberg, Phillips and Prabhala 2011).

Our study also relates to work depicting the strategic borrowing of multinational firms across a variety of countries, with the level of within-country borrowing dependent on features of the local financing environment (Desai, Foley and Hines 2004 and Jang 2017). Our study, by contrast, considers multi-province borrowing by small and medium-sized firms active in only one country with a broadly uniform regulatory environment. Moreover, we introduce the idea that seeking geographic financial flexibility can damage existing banking relationships and lead to higher risk of financial distress, a cost that has not been emphasized in previous analyses.

Our work complements prior research describing the impact of local shocks on the lending activities of banks (Gilje, Loutskina and Strahan 2016 and Bustos, Garber and Ponticelli 2016). Unlike these papers, we focus on firms rather than banks. We document a different effect: the banking papers show that a positive local shock leads banks to lend more in other areas, whereas we find that these shocks lead multi-location firms to borrow less elsewhere. In some sense these two forces are in tension and have opposing effects on the location of borrowing. Banks that respond to a positive local shock in one area (Area A) by increasing their lending in another location (Area B) are likely providing more loans in Area B to firms that do not operate at all in Area A. The interplay of bank lending and firm borrowing decisions across different geographies can thus be rather complex.

Our results documenting and analyzing multi-location lending also have connections to the literature on internal capital markets. We examine geographical patterns in financing provided

by banks while internal capital markets research has largely concentrated on investment decisions (Ozbas and Scharfstein 2010), the internal allocation of capital to divisions and internal capital transfers within firms (Buchuk et al. 2014). The idea that internal capital markets allow firms to engage in winner-picking by investing in the most attractive division (Stein 1997, Matsusaka and Nanda 2002 and Ersahin et al. 2016) resonates with our argument that multi-location borrowing generates a real option to borrow in the most prosperous region. We study firms borrowing in different markets rather than borrowing by multiple business units or subsidiaries of large firms (Kolasinski 2009). We differ from the internal capital markets literature in both our emphasis on the geographic real option in financing and in our study of the relationship costs of borrowing in multiple areas.

Our findings contribute to the growing understanding that flexibility is a central objective of corporate financial policy. We emphasize, however, that flexibility is a multi-dimensional attribute. Firms that obtain greater geographical flexibility by borrowing in more local markets may, at the same time, degrade existing creditor relationships and thereby impair their ability to borrow in times of need.

1 Data

We analyze monthly business bank loan data from Peru for the period January 2001-June 2012. The data are obtained from *Superintendencia de Banca, Seguros, y AFPs* (SBS) and are labeled the RCD (*Reporte Crediticio de Deudores*) database. For each Peruvian financial institution, the database includes the monthly loan balances of every business borrower regardless of its size. For our study, we exclude firms that throughout their whole history are recorded by SBS as only receiving micro-credit. The RCD includes information about the financial institution branch's province were the loan was granted. There are 196 provinces in Peru.

For firms on this loan database that have a tax ID number granted by the *Superintendencia Nacional de Administración Tributaria* (SUNAT), we obtain from the SUNAT website the address of all their establishments (including headquarters) within Peru. Firms with establishments in more than one province are labeled multi-province firms. Among these multi-province firms, some engage

in borrowing in different provinces over their history on the bank registry. We label these firms "multi-province borrowers" during all periods after their first multi-province borrowing activity is observed until they terminate borrowing in a multi-province fashion. We also observe that some firms that are not multi-province according to SUNAT engage during some periods in multi-province borrowing; we exclude from the database those periods of those firms for clarity. Our final data set includes 427,301 firms, of which 5,985 are multi-province firms that engaged in some multi-province borrowing and 17,508 are multi-province firms that did not engage in multi-province borrowing between 2001 and 2012. To describe the real activities of some (8,561) of the multi-province firms on our final data set, we match them with a cross-sectional census of firms available only for 2007, obtained from *Ministerio de la Producción*.

We also employ information on the geocoded location and monthly production of mines in Peru. The *Ministerio de Energía y Minas* website supplies information on the production and location of all 918 mining concessions between 2001 and 2012 that produced the leading minerals of Peru (i.e., cadmium, copper, gold, iron, lead, molybdenum, silver, tin, tungsten, and zinc), which is enhanced with geocoding tools obtained from *Instituto Geólogico, Minero y Metalúrgico*. We employ that geocoded information to match the centroid of each province in Peru with all mines within a certain distance in miles, as we describe in Section 2. Finally, international end-of-month prices on each mineral produced by Peruvian mines are obtained from Bloomberg.

2 Empirical Specification

We begin our empirical analysis with an examination of the frequency of multi-province borrowing. We also provide a description of the financing patterns of multi-province borrowers, illustrating where they borrow and the types of lenders from which they receive credit.

We next turn to a causal analysis of the motivation for multi-province borrowing. We make use of natural resource price changes in order to examine the impact of exogenous shocks on the borrowing behavior of our firms. Mining is a large and important sector in Peru (e.g., Sinnott, Nash and de la Torre (2010)), and natural resource price changes are likely to have broad economic effects. These price changes may also be regarded as plausibly exogenous for almost all firms, as

metal prices are determined at the international level.

For every mine j, we denote the month $t-1$ production of metal k by that mine by $q_{j,k,t-1}$. The average price of metal k in month $t-1$ is given by $p_{k,t-1}$. For each mine every month we define

$$Mine\_Specific\_Windfall_{j,t} = \sum_{k} (p_{k,t} - p_{k,t-1}) q_{j,k,t-1}.$$

That is, the mine-specific windfall describes the impact of metal price changes on the value of the entire production of the mine. We hold fixed the mine's production at the month $t-1$ level in order to capture only the effects of price changes, rather than the possibly endogenous quantity fluctuations.

We define mining windfalls at the provincial level by summing the monthly mine-specific windfalls of all mines within a radius of x kilometers from the centroid of the province, where x takes the value of 75 miles, 100 miles or 125 miles in various specifications. That is, for province u

$$Mining\_Windfall_{u,t,x} = \sum_{\textit{all mines } j \textit{ within } x \textit{ miles of province } u \textit{ centroid}} Mine\_Specific\_Windfall_{j,t}.$$

We are interested in the impact of a mining windfall on the borrowing of local firms. For firm i in province u we will therefore estimate

$$log\left(\frac{1 + newborrowing_{i,u,t}}{1 + loanbalance_{i,u,t-1}}\right) = \alpha Mining\_Windfall_{u,t,x} + \xi_i + \lambda_t + \delta_u + controls + \epsilon_{i,t}, \qquad (1)$$

where ξ_i, λ_t and δ_u are fixed effects at the firm, year-month and province levels, respectively. As described in (1), we scale the extent of new borrowing by the firm's previous loan balance in the province. We double cluster all standard errors by province and firm.

3 Results

3.1 Which Multi-province Firms Engage in Multi-province Borrowing?

We begin with a general description of some of the differences between multi-province firms that engage in multi-province borrowing and those that do not. For this description we use the cross-sectional characteristics only of those firms covered by the 2007 Census. In Table 1, Panel A we provide summary statistics on both multi-province and single-province borrowers.

Two patterns stand out. First, the multi-province borrowing firms tend to be older and larger (in terms of sales, employees, fixed assets and inventory) than multi-province firms that borrow only in a single province. (Overall, many of these firms are quite small, as the untabulated median number of employees for multi-province borrowers is eight and for single-province borrowers is six.) Thus, one potential argument is that multi-province borrowing is part of the development process of a firm as it ages and expands. There may be fixed costs of borrowing in multiple regions that firms are only willing to bear once they reach a certain minimum size. Second, multi-province borrowers are not more profitable, nor are their operating units more distant from each other. The descriptive statistics do not, of course, allow for causal interpretations but they suggest that there may be a variety of determinants of multi-province borrowing that we will explore in our analysis below. Table 1, Panel B provides summary statistics of multi-province borrowing by sector using all firms on the loan registry. There is some variation across sectors in the frequency of multi-province borrowing, but it is not uncommon in any sector.

3.2 Borrowing Patterns of Multi-province Borrowing Firms

In Table 2 we describe the broad financing policies for the set of firms with any history of financing in multiple provinces using the credit registry. The first point is that many of these firms engage in multi-province borrowing on an on-going basis: in any given month, there is a 57% probability of multi-province borrowing, most often in 2 provinces. We find that new borrowing is common in both HQ (headquarters) and non-HQ provinces, and in both provinces with the largest outstanding loan balances for a firm and in other borrowing provinces. In other words, for these firms, multi-province

borrowing is frequent and found across a variety of jurisdictions.

Borrowing is not dramatically concentrated in HQ provinces: firm borrowing in HQ provinces is on average only 50% of the firm total. The province in which a firm has its largest outstanding balance is responsible on average for 81% of total firm borrowing, and this is the HQ province in 52% of cases. Multi-province borrowing does not simply arise from spillovers across neighboring provinces: considering the sample of multi-province borrowers borrowing across exactly two provinces, we find that in only 14% of these firms does the borrowing take place in adjacent provinces. For this group of firms, the average distance between the centroids of their provincial borrowing locations is 238 miles.

Firms rarely borrow from the same bank in multiple locations; only 1% of multi-province borrowers have same-bank and different-province debt in a given month. That is, firms are borrowing in multiple locations from different banks. This suggests the possibility that multi-province borrowing is motivated by a desire on the part of firms to get access to new lenders who are only present in other locations. This hypothesis, however, is not supported by the data: when firms borrow in non-HQ or non-largest debt provinces, the banks providing these loans also do business in the HQ or largest-debt province 82% of the time.

Are banks perhaps concentrating their troubled (delinquent) loans in one province of the firm? We do not find much evidence for this. For both HQ and non-HQ debt, the share that is troubled is 9%. The largest borrowing province has a troubled share of 8.33% compared to 9.96% for the non-largest province. The latter difference is statistically significant at the 1% level but not large in magnitude.

The broad picture that emerges from these descriptive statistics is that multi-province borrowing is a common practice in our sample of firms that is used by these firms to borrow from multiple banks, even when they have access to the same set of banks in their HQ provinces.

3.3 Mining Windfalls and Borrowing

In order to better understand the causal drivers of multi-province borrowing, we examine how this borrowing responds to local shocks. As described in Section 2, we estimate mining windfalls

in different provinces and trace their impact on borrowing. We emphasize here that our sample consists of firms from a variety of industries, not just mining firms. In a resource-driven economy like Peru's, mining windfalls may be expected to affect a broad spectrum of firms.

The first question is whether mining windfalls have any impact on local borrowing. To provide evidence on this, we estimate equation (1) by regressing for each firm the log of one plus its new local borrowing, scaled by the log of one plus its previous total local loan balance, on the local mining windfall, firm, province and year-month fixed effects and a control for the province population in the previous year. We begin by considering the sample of all firms –regardless of whether they operate in one or multiple provinces– and we include in the windfall calculation all mines within 100 miles of each provincial centroid. For multi-province firms, we treat local borrowing in each province as a separate observation. We find, as shown in the first column of Table 3, that the local mining windfall has a positive and significant impact on firm borrowing (coefficient=1.156 and t-statistic=2.62); we double cluster standard errors at both the province and firm levels. A one standard deviation of 0.014 in the mining windfall increases a firm's borrowing by 1.7%. This is evidence that metal price increases lead to greater local financing.

Our main focus is on multi-province borrowing firms, so we split the sample into single-province borrowers (firms that throughout the sample period borrow only in one province) and multi-province borrowers. In the second column of Table 3 we show that single-province firms borrow more when subject to a positive mining windfall (coefficient=1.085 and t-statistic=2.36). In the third and fourth columns of the table we show that this conclusion is robust to including mines within 75 and 125 miles of provincial centroids, respectively. In the fifth column of Table 3 we show that multi-province firm borrowing is also sensitive to local mining windfalls (coefficient=2.290 and t-statistic=2.55). Results in the sixth and seventh columns of Table 3 show this is true for various geographic restrictions on the set of included mines.

Table 3 establishes that mining windfalls generate financing shocks for a broad set of firms and for multi-province borrowing firms, in particular. We now turn to an analysis that uses these windfalls to explore the borrowing strategies used by multi-province borrowers.

3.4 Multi-province Borrowing

The results described in Table 3 establish that mining windfalls lead to increased local financing for multi-province borrowing firms. What impact does a mining windfall affecting one province of a multi-province firm have on its borrowing in other provinces? There are two natural hypotheses. The first is that windfalls generate local financing surpluses and these surpluses strengthen multi-province firms as a whole and enable them to borrow more in other regions, as well. Under this hypothesis, windfalls in any area in which the multi-province firm operates and borrows should lead to greater financing in other provinces, as well.

The second hypothesis is that firms have relatively stable demand for financing and that they borrow strategically in different markets to fulfill that demand. If one province in which a firm is active receives a mining windfall generating a local financing surplus then the firm will reduce its borrowing in other provinces.

We test these hypotheses by regressing for each multi-province borrowing firm the log of one plus its new local borrowing, scaled by the log of one plus its previous total local loan balance, on the local mining windfall, the average mining windfall in the other provinces in which the firm borrows and the previous controls. The result, displayed in the first column of Table 4, is that local borrowing increases in the local mining windfall (coefficient=4.06 and t-statistic=2.54) and decreases in the average windfall in the other provinces in which the firm borrows (coefficient=-2.01 and t-statistic=-2.24). The negative and significant coefficient on the average windfall in a firm's other provinces is clear support for the second hypothesis discussed above; when a firm experiences a local financing surplus in one province, it reduces its borrowing in other areas. This supports the view that the firm essentially considers the availability of financing surpluses as a local option to be exploited when conditions are favorable. Multi-province borrowing firms make use of flexibility in the location of their financing, borrowing opportunistically in the provinces subject to positive shocks.

How do firms exploit local financing surpluses? Specifically, do they proceed by expanding existing financing relationships or by initiating new relationships in areas experiencing windfalls? We split each firm's new financing into new financing received from banks with which the firm has

a pre-existing relationship and new financing received from banks from which the firm had not borrowed before. As displayed in the second and third columns of Table 4, we find that the entire impact of mining windfalls on financing arises through the channel of existing relationships. New financing from existing relationships increases in the local windfall and decreases in the average windfall of other borrowing provinces, while new financing from new relationships is not significantly related to either local windfalls or other province windfalls.

The overall picture that emerges from Table 4 is that firms borrow more from existing banking relationships in provinces subject to positive shocks and reduce their lending from these existing relationships when other provinces are prospering. Firms create flexibility in the geography of their financing through changes in the amounts borrowed from the firm's current set of lenders.

3.5 Cross-sectional Heterogeneity in Multi-province Borrowing

We now consider which borrowing provinces serve the most important role in bolstering the firm's flexibility by buffering the shocks of other borrowing provinces. That is, which provinces of a firm exhibit the greatest sensitivity of their borrowing to the mining windfalls experienced by other provinces? We regress the scaled new borrowing in a given borrowing province on its own mining windfall, the mining windfall of other provinces, an interaction between the windfall of other provinces and various characteristics of the given province, controls for these characteristics and the previous set of fixed effects and controls. The variable of interest in this specification is the interaction term: it describes the extent to which the given province of the firm is differentially responsive to the shocks of other borrowing provinces.

In the first test we interact the mining windfall of other provinces with the given province's share of the overall firm debt load. We find, as described in the first column of Table 5, that provinces with a greater share of firm debt are more negatively affected by the windfalls of other provinces (the coefficient on the interaction is -13.18 and the t-statistic is -4.97). We interpret this result to show that it is the larger borrowing provinces of a firm that are most used to create flexibility. Smaller borrowing provinces' financing depends mainly on their own windfalls, while larger borrowing provinces are highly responsive to shocks experienced by other provinces of the firm. This suggests that larger borrowing provinces serve as centralized financing buffers for firms.

In the second column of Table 5 we show that this finding holds if the size of the borrowing provinces is measured in absolute terms by the log of cumulative borrowing since the beginning of the unit's borrowing in that province, just as it does for the relative measure of borrowing size used in the first column.

Does the nature of the different local banking markets in which a firm borrows affect its propensity to engage in financial buffering? We consider whether provinces serving as money centers with high banking density (defined as the total number of banks operating in a province divided by the total number of banks in the country) are better placed to act as buffers. In the third column of Table 5, we find that this is not so. Firm provinces with higher banking density are not significantly more likely to serve as buffers (the coefficient on the interaction term is positive, not negative, and is, in any case, insignificant; the t-statistic is 1.57).

The results in Table 5 thus show that the buffering role a province plays in a firm's financial policy is determined not by the province's overall banking density, but rather by the amount of borrowing the firm itself receives in that province. In other words, buffering does not depend on the province-level depth of the banking market; firms buffer in the markets in which their own banking relationships are strongest.

3.6 Firm Financial Policy and Variation in the Maximum Windfall

The results presented in Table 4 show that multi-province borrowing firms exploit geographical financial flexibility, borrowing more in the provinces that are subject to relatively positive shocks. This suggests that firms opportunistically seek out the best environments for borrowing. If that is true, then it will be primarily the firm's areas with the most positive shocks that are the ones determining the changes in its financing strategy.

We test this hypothesis by constructing a variable labeled the "variation of the maximum windfall" that is the standard deviation of the monthly maximum windfall experienced in any of a firm's provinces in which it borrows; this standard deviation is calculated over the prior 12 months. This variable describes how much variation there is in the highest monthly windfalls for a firm. If, as we argued above, a firm's borrowing depends mainly on its best opportunities, then the variation

of the maximum windfall should have an important effect on how a firm receives financing. In particular, as the variation of the maximum windfall increases, the firm should borrow in more provinces, as it strategically shifts its borrowing to take advantage of the time series changes in the attractiveness of local financing markets.

We test this hypothesis by regressing the maximum number of simultaneous borrowing provinces over the subsequent 12 months on the variation of the maximum windfall. We include as controls the (weighted by loan balance) current average mining windfall of all provinces, the (weighted by loan balance) average standard deviation of windfalls in each province in which the firm borrows and the standard deviation of the weighted average mining windfall of the firm (with weights equal to the loan balance), where all of these standard deviations are measured over the last 12 months. These controls ensure that the variation of the maximum windfall reflects variation in the best borrowing province, not simply general variation across all the firms' provinces. We also control for firm, province and year-month fixed effects. The result, detailed in the first column of Table 6, is that the variation of the maximum windfall has a positive and significant effect (coefficient=3.52 and t-statistic=3.03) on the maximum number of borrowing provinces. The coefficients on average windfall, weighted average standard deviation of windfalls and standard deviation of the weighted average windfalls are all insignificant. Firms engage in borrowing in more provinces when there is greater variation in the maximum windfall. This is consistent with a geographically flexible borrowing strategy.

We next consider the relationship between variation in the maximum windfall and a firm's propensity to make connections with new banks. In column 2 of Table 6 we show results from regressing the number of new banking relationships initiated in the subsequent 12 months on variation in the maximum windfall and the previous controls. We find that the variation in the maximum windfall has a positive and significant impact (coefficient=3.66 and t-statistic=2.90) on the number of new banking relationships. Firms that experience high variation in their maximum windfall seek out new relationships as the most attractive opportunities shift. The other measures of windfall standard deviation again do not have significant effects. Greater variation in the maximum windfall does not lead to more severing of bank relationships, as shown in the third column of Table 6. Greater variation in its best borrowing province windfall gives a firm more scope to seek flexibility in borrowing in different areas, which we find it does through initiating and maintaining

more lending relationships.

3.7 Initiating Multi-Province Firms' Borrowing in Existing Provinces

The analysis of Table 6 establishes that a key determinant of a multi-province firm's borrowing practices is the greatest mining windfall in all the provinces in which it borrows. In this section we consider whether a multi-province firm's decision to initiate banking in a province where it operates without borrowing is also influenced by the windfall in its best performing (i.e., highest windfall) province.

We consider the set of firms with operating branches in multiple provinces that are currently not borrowing in at least one of those provinces. For the set of unbanked firm locations, we ask whether the probability of initiating new borrowing in that province is related to the highest windfall experienced in the firm's existing set of borrowing provinces. We regress an indicator for initiating new borrowing in the unbanked province in the next 12 months on the maximum windfall in any of the firm's current borrowing provinces, and we include firm, province and year-month fixed effects as controls. We find that a higher maximum windfall across banked provinces reduces (coefficient=-0.04 and t-statistic=-4.42) the probability of subsequently initiating borrowing in an unbanked province of the firm, as shown in the first column of Table 7. Firms that have enjoyed favorable shocks in their current borrowing environments are less likely to seek out new locations in which to borrow. Geographic flexibility is less useful to a firm when its current best-performing borrowing province is thriving.

The average mining windfall of a firm, however, increases (coefficient=0.09 and t-statistic=5.26) the probability of initiating banking in a new province, as shown in the second column of Table 7, even though the maximum windfall significantly reduces this probability. An increase in the average windfall may provide broad benefits to a firm, leading it to expand in various ways, including borrowing in new areas. An increase in the maximum windfall across its existing borrowing provinces, however, makes it more attractive to the firm to borrow in its current most favorable borrowing market. Even though an increase in the maximum windfall typically increases the average windfall, the result in the first column shows that the net effect of the maximum windfall on borrowing in new markets is negative. Controlling for the average windfall yields an

even more negative coefficient on the maximum windfall (coefficient=-0.11 and t-statistic=-6.44), as is displayed in the second column of Table 7.

The first two results in Table 7 describe the medium-term initiation of borrowing in an existing unbanked province of the firm over the next 12 months. In column 3 of Table 7 we detail the results from regressing an indicator for initiating borrowing in an unbanked province in the next month on the maximum windfall. Again, we find a negative and significant effect (coefficient=-0.01 and t-statistic=-3.26), indicating that the maximum windfall reduces the probability of borrowing in new regions over both the short- and medium-terms. When we include the average windfall we find, as documented in the fourth column of Table 7, that it has no impact on the probability of a short-term initiation of borrowing in a new province, while the coefficient on the maximum windfall remains negative and significant (coefficient=-0.01 and t-statistic=-2.29). It may be that the general benefits of large average windfalls require some time to be reflected in new borrowing activities.

The findings in Table 7 show that at both the one- and twelve-month horizons higher maximum shocks in a firm's existing borrowing regions discourage the firm from seeking out flexibility by borrowing in new markets. This is despite the fact that in the medium term, higher average shocks across a firm's local borrowing markets do lead it to expand its borrowing to new areas. The conditions in a firm's most favorable borrowing market have a large impact on its willingness to borrow elsewhere; a firm's ability to borrow in its best financing market grants it a crucial flexibility and is a central determinant of its overall borrowing strategy.

3.8 The Costs of Financial Flexibility

The results in Tables 3 and 4 show that firms borrow in their most strongly performing markets, and Table 7 demonstrates that firms expand their borrowing to new markets when their current best-performing market is not experiencing great success. Tables 3 and 4 thus make clear that firms do exploit geographical flexibility in financing, but Table 7 suggests that firms are judicious in pursuing this flexibility. Why would firms ever refrain from pursuing geographical flexibility in borrowing? In this section we analyze the potential costs of this form of financial flexibility.

3.8.1 Firms that do not currently borrow in all their operating provinces

We begin by considering again the set of firms that do not borrow in all their operating provinces. These are firms that could potentially pursue additional flexibility by initiating borrowing in an existing operating province. For this set of firms we consider the determinants of whether the firm will initiate borrowing in a new province, conducting the analysis at the firm-month level. The results in Tables 3, 4 and 7 indicate that a province is likely to be most attractive as a borrowing location to a firm when that province experiences the greatest windfall of all the firm's provinces. As a result, we would expect that a firm that experiences its greatest monthly windfall over the past year in each of its operating provinces would be more likely to borrow in all its operating provinces, and hence to initiate borrowing in a new province, relative to a firm that does not experience a windfall in all its operating provinces.

We thus propose that an indicator for whether a firm experienced maximum windfalls in each of its operating provinces in the last year may serve as a potential instrument for whether the firm initiates a banking relationship in a new province over the subsequent year. We test for the suitability of this instrument by regressing the indicator for initiating borrowing in a new province on an indicator for whether the firm experienced maximum windfalls in each of its operating provinces, and including controls for the level of the maximum windfall in its borrowing provinces over the last year, the average windfall across all a firm's borrowing provinces, and firm and year-month fixed effects. We show in the first column of Panel I of Table 8 that the coefficient on the indicator for experiencing a maximum windfall in all operating provinces is positive and significant (coefficient=0.02 and t-statistic=5.08). It is indeed the case that having maximum windfalls in each operating province leads to borrowing in a new province for this set of firms that did not previously borrow in all their operating provinces.

We now turn to the question of the impact of initiating borrowing in a new province on various firm performance outcomes, which we will explore using the instrument of maximum windfalls experienced in each operating province. Is the exclusion restriction likely to be satisfied for this proposed instrument? From the standpoint of general plausibility, given that we are controlling for the overall maximum windfall and the average windfall across all borrowing provinces (and firm and time fixed effects), there is not a clear reason why experiencing a maximum shock in each

operating province should have a direct effect on firm performance; we are already controlling for the largest and average shocks. We provide more evidence on this question in Section 3.8.2 below, in our analysis of firms that already borrow in all their operating provinces.

The first performance measure we consider describes the classification of a firm's loans. Each borrower in Peru is assigned a classification score by its lender from zero to four based on its delinquency status: borrowers with current loans are given a score of zero, while borrowers with written-off loans are assigned a score of four. Greater delinquency is thus associated with higher scores. For each firm we calculate a weighted average loan classification by weighting by loan balances across different lenders. The result in the first column of Panel I of Table 8 shows that the instrument of maximum windfalls experienced in each operating province leads to the initiation of borrowing in a new province in the subsequent year. It would likely require some time for the initiation of borrowing in a new area to have an effect on loan delinquency. We therefore analyze the change in a firm's weighted loan classification over the subsequent 24-month period.

Using a two-stage least squares approach, we regress the change in a firm's weighted loan classification on an (instrumented) indicator for initiating borrowing in a new province and the previously described set of controls. As displayed in the second column of Panel I of Table 8, we find that firms that initiate borrowing in a new province experience a significant increase (coefficient=1.17 and t-statistic=3.66) in their average weighted loan classification. That is, these firms become significantly more delinquent.

As a second firm performance measure, we examine whether a firm has a loan that enters judicial status. Judicial status loans are very delinquent debts that require collection through the legal system. We regress an indicator for having a loan enter judicial status in the subsequent two years on an (instrumented) indicator for initiating borrowing in a new province and the previous controls, and we find a positive and significant effect (coefficient=0.25 and t-statistic=2.35), as shown in the third column of Panel I of Table 8. Overall, the results on debt classifications and entry into judicial status indicate that when firms initiate borrowing in new provinces for exogenous reasons, they tend to experience worsened performance of their loans. Firms that exercise their option to borrow flexibly in multiple geographies subsequently exhibit higher rates of delinquency. Financial flexibility, which, from a positive perspective, offers access to borrowing in more markets,

also comes at the cost of a greater risk of serious default.

3.8.2 Firms that currently borrow in all their operating provinces

The analysis above of the causal impact on firm performance of initiating a banking relationship in a new province requires the validity of the proposed instrument, an indicator for whether the firm experienced a maximum windfall in each of its operating provinces. We argued that, controlling for the maximum shock and the average shock, the instrument should not plausibly be expected to influence firm performance other than through its effect on whether a firm initiates borrowing in a province. To provide more evidence to support this assumption, we now turn to a set of firms that currently borrow in all their operating provinces. According to the rules we used to construct our data set, these firms cannot, by definition, expand their lending to a new province. As a result, whether these firms experienced a maximum windfall in the past year in all their operating provinces will have no impact on their set of borrowing provinces.

For this sample of firms, we regress our measures of firm performance on an indicator for whether they experienced a maximum windfall in all provinces, the maximum windfall across provinces, the average windfall and firm and time fixed effects. That is, we conduct reduced form regressions of the 2SLS specifications we described in Section 3.8.1. (There cannot be a first stage in this sample.) These tests describe the direct impact on performance of a firm experiencing a maximum windfall in each province in a setting in which the instrument cannot affect the set of firm borrowing provinces. The results, at leads of two years for both changes in firm classifications and entry into judicial status, are described in Panel II of Table 8. We find no significant effect of the indicator for experiencing a maximal windfall in every province. This supports the argument that experiencing a maximal windfall in each province has an effect on firm performance only through its influence on the banking relationships of a firm.

3.9 Flexibility and Damaged Relationships

The results in Table 8 present the costs of pursuing flexibility; while borrowing in multiple markets allows firms to exploit local financing supply shocks, it also leads to worse performance. In this

section we explore the mechanisms of this decline in performance.

Firms that initiate borrowing in new regions may neglect their existing relationships. This neglect may harm the firm's ability to manage its debt. We first consider the impact of initiating borrowing in a new province on the connection between a firm and its largest lender. Using the same 2SLS specification as in Table 8, we regress an indicator for whether a firm's current largest lender (in terms of aggregate loan size) extends a new loan to the firm in the subsequent two years on an (instrumented) indicator for whether the firm initiates borrowing in a new province and the previous controls. We find, as displayed in the first column of Table 9, a strong negative effect (coefficient=-0.65 and t-statistic=-2.98). Initiating borrowing in a new province significantly reduces a firm's likelihood of subsequently borrowing from its initial largest lender.

Firms may be expected to have close relationships with their largest lenders. As a result, a firm's largest lender is a potential source of emergency funding necessary to refinance seriously delinquent loans extended by other creditors. It may be argued, therefore, that firms that initiate borrowing in new provinces, and perhaps degrade their relationships with their largest lenders, may find it more difficult to access the financing required to save dangerously underperforming loans. A damaged relationship with its largest lender arising from a firm's pursuit of geographical financial flexibility may therefore lead to the more severe delinquency described in Table 8.

Borrowing in new markets can have an impact on a firm's relationships with other existing lenders as well. We regress an indicator for whether any of the firm's initial creditors extends a new loan in the subsequent two years on an (instrumented) indicator for whether the firm initiates borrowing in a new province and the standard controls. We find, as displayed in the second column of Table 9, a negative and significant effect (coefficient=-0.23 and t-statistic=-1.77). Overall, borrowing in new areas leads to a reduced probability of subsequent financing from all existing lenders, but the effect on the largest lender is especially strong.

It may be argued that perhaps the new financing in a previously unexploited province simply substitutes for lending from existing creditors for a certain period of time. In other words, perhaps the firm does not need new loans from its existing creditors for a couple of years as it is now acquiring financing in a new market. We show, however, in the third column of Table 9 that the causal impact of initiating borrowing in a new province is to increase the probability (coefficient=0.58

and t-statistic=1.97) that the firm experiences a permanent termination of its relationship with its initial largest lender. In fact, as shown in the fourth column of Table 9, initiating borrowing in a new province leads to a significant increase (coefficient=0.55 and t-statistic=2.16) in the log of one plus the number of terminations in relationships with all initial lenders. Borrowing in a new province does not lead merely to a temporary disruption in a firm's relationships with its existing lenders- it leads to permanent relationship dissolutions.

Even though lenders in a new province may supply financing that had previously been provided by existing creditors, the delinquency and default results in Table 8 make clear that a firm that borrows in new areas does experience worse outcomes. Damaged relationships with a firm's current set of lenders cannot easily be replaced.

We are not arguing that borrowing in thriving, previously untapped markets is an error. Firms, in general, do seek more loans in these markets, and they likely offer easier access to credit. It is useful for firms to be able to borrow in prospering areas.

Some firms experience the good fortune of having already initiated borrowing in markets that later experience positive windfalls. These firms are able to borrow in successful markets without expanding the geographical scope of their financing. Other firms are less fortunate and can only receive loans in flourishing markets by initiating borrowing in new areas. We find that for this latter group of firms, exercising flexibility by seeking credit in unexploited regions does have offsetting costs; it results in erosion of the firms' current set of banking relationships, which leads to increased risks of severe financial distress.

4 Conclusion

We examine a group of firms operating in multiple locations in Peru and document that approximately one quarter of them borrow from banks in different provinces. For these multiple-province borrowers, only about half of their borrowing occurs in the province where their headquarters is located. We use variation in commodities prices to estimate the extent of local mining windfalls in different provinces, and we show that these windfalls have a strong effect on the local financing environment. We demonstrate that multi-province firms exploit a geographic real

option in financing by concentrating their borrowing in prospering areas. We find that firms are less likely to expand their borrowing into new provinces when their current borrowing provinces are enjoying positive windfalls. We also show that increased geographical financial flexibility comes at the cost to firms of degrading their existing borrowing relationships. As a result, firms that begin to borrow in new areas face a heightened risk of financial distress.

Our results highlight both the promise and risks of the pursuit by firms of flexible access to credit in multiple markets. Financial flexibility is multi-faceted and firm policies that increase the set of potential borrowing options today may jeopardize future access to credit in the face of darkening prospects.

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Table 1: Multi-province Firms and Multi-province Borrowing

This table describes multi-province firms and whether these firms engage in multi-province borrowing. Panel A restricts the sample of the study described in Section 1 only to those multi-province firms with information available from the 2007 census of firms. Only a fraction of these 8,561 multi-province firms does multi-province borrowing. For the description in Panel A, those multi-province firms that did no multi-province borrowing between 2001 and 2012 (totaling 5,624) are described in column (1). The 2,937 multi-province firms that did some multi-province borrowing at any point between 2001 and 2012 are described under column (2). The t-statistic of the difference of means is reported in the third column. The log distance in miles is calculated only for the subsample of firms that operate in exactly two provinces.
Panel B describes the industry composition of all multi-province firms that do any borrowing (either single-province or multi-province) as recorded in the credit registry database. For this description, a multi-province firm is considered as doing multi-province borrowing if it has ever done multi-province borrowing regardless of the quantity or frequency of borrowing. Column (i) describes the fraction of all firms that belongs to a given sector. Column (ii) indicates the fraction of firms in that sector that do multi-province borrowing.

Panel A: Average 2007 census characteristics of multi-province firms

Multi-province borrowing?:	(1) No	(2) Yes	(2) − (1) t-stat.
Age in years	10.26	11.84	5.89
Number of employees	64.05	100.02	4.76
Log of sales	13.39	13.77	4.13
Log of fixed assets	9.21	9.90	4.37
Profit / sales	0.04	0.08	0.86
Log of inventory	6.22	6.76	2.81
Log of distance in miles	4.61	4.63	0.48

Panel B: Industry sectors of multi-province firms on the credit registry

Industrial sector	Fraction of firms in sector (i)	Fraction of firms doing multi-province borrowing (ii)
Extractive	0.10	0.24
Manufacturing	0.11	0.27
Services	0.69	0.26
Information and public admin.	0.06	0.18
Other	0.04	0.19
All multi-province firms		0.25

Table 2: Borrowing Patterns of Multi-province Borrowing Firms

This table describes the 5,985 multi-province borrowing firms in the sample at different levels of analysis. HQ is defined by the tax authority. Largest is the province where the firm's borrowing was the largest historically.

Whether firm's borrowing this month happens in:	N. obs.	%				
1 province	89,066	42.97				
2 provinces	106,700	51.48				
3 or more provinces	11,512	5.55				
Total	207,278	100				
Whether firm received new loan in this province:	non-HQ	HQ	Total			
No	114,383	95,077	209,460			
Yes	63,188	65,498	128,686			
Total	177,571	160,575	338,146			
Whether firm received new loan in this province:	Non-largest	Largest	Total			
No	97,561	111,899	209,460			
Yes	50,674	78,012	128,686			
Total	148,235	189,911	338,146			
Other descriptions of multi-province firms	N. obs.	mean	sd	p10	p50	p90
HQ share of debt	5,985	0.50	0.36	0.00	0.51	0.99
Largest-debt share of debt	5,985	0.81	0.17	0.55	0.85	1.00
Distance (miles) when borrowing in 2 provinces	106,700	238	199	6	177	533
(1/0) provinces are adjacent when borrowing in 2 provinces	106,700	0.14			0.00	
(1/0) some debt is different-province & same-bank	207,278	0.01			0.00	
(1/0) non-HQ borrowing is from bank at HQ location	159,154	0.82			1.00	
(1/0) non-largest borrowing from bank at largest location	138,783	0.82			1.00	
Share of HQ debt that is troubled	160,575	0.09	0.27	0.00	0.00	0.07
Share of non-HQ debt that is troubled	177,571	0.09	0.29	0.00	0.00	0.24
Share of largest province debt that is troubled	189,911	0.08	0.27	0.00	0.00	0.07
Share of non-largest province debt that is troubled	148,235	0.10	0.29	0.00	0.00	0.43

Table 3: Mining Windfalls and Borrowing at the Firm-Province-Month Level

Observations are at the firm-province-month level for all non-micro firms in Peru in all provinces of Peru and all months between 2001.1 and 2012.6. The dependent variable, new debt, is the sum of all new debt of the firm obtained at all bank agencies in the province during months $t+1$ through $t+12$, deflated by the existent corporate debt in the province at the beginning of month t. Logarithms of one plus the variable of interest are employed. The mining windfall is defined as the monthly sum of mine-specific windfalls of mines within a radius of X kilometers from the centroid of the province where the firm obtains loans, where X takes the value of 100 miles, 75 miles, or 125 miles, alternatively. A mine-specific windfall is the difference in this month's t average metal price for each metal minus last month's $t-1$ average metal price for that metal multiplied by last month's total production of that metal at the mine, and this difference is summed across all metals of the mine.

	Dependent Variables:						
	Log of New Debt over the next 12 months deflated by Log of Existing Debt						
Firms' borrowing configuration:	All	Single-province borrowers			Multi-province borrowers		
Radius of mines around province centroid:	100mi	100mi	75mi	125mi	100mi	75mi	125mi
	(3.1)	(3.2)	(3.3)	(3.4)	(3.5)	(3.6)	(3.7)
Mining windfall ($ billion)	1.156***	1.085**	1.229**	0.624*	2.290**	4.047***	1.544**
	(2.62)	(2.36)	(2.15)	(1.96)	(2.55)	(2.88)	(2.46)
Province population last year	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Firm fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Province fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Year-month fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes
R^2	0.49	0.50	0.50	0.50	0.23	0.23	0.23
Sample size	13.6M	13.2M	13.2M	13.2M	385k	385k	385k
N. clusters 1 (firms)	285k	284k	284k	284k	5.1k	5.1k	5.1k
N. clusters 2 (provinces)	125	123	123	123	101	101	101

***, **,* significant at the 1%, 5% and 10% level. t-statistics based on double clustered standard errors are in parentheses.

Table 4: Multi-province Borrowing

Observations are at the firm-province-month level, and the sample is only multi-province borrowing firms. Relationships are defined at the firm-bank level. The mining windfall of other provinces is averaged using the firm's loan balance in each province last month as the weight for each province. Province fixed effects are for provinces of the focal province and for the province with the largest debt last month.

	Dependent Variables:		
	Log of New Debt from any Bank over the next 12 months deflated by Log of Existing Debt	**Log of New Debt from Existing Relationships over the next 12 months deflated by Log of Existing Debt**	**Log of New Debt from New Relationships over the next 12 months deflated by Log of Existing Debt**
	(4.1)	(4.2)	(4.3)
Mining windfall	4.059**	3.996**	1.629
	(2.54)	(2.62)	(1.33)
Mining windfall at other provinces	−2.010**	−1.698*	0.050
	(−2.24)	(−1.93)	(0.06)
Province population last year	Yes	Yes	Yes
Firm fixed effects	Yes	Yes	Yes
Province fixed effects	Yes	Yes	Yes
Province of other shock fixed effect	Yes	Yes	Yes
Year-month fixed effects	Yes	Yes	Yes
R^2	0.28	0.28	0.47
Sample size	256326	256326	256326
N. clusters 1 (firms)	4590	4590	4590
N. clusters 2 (provinces)	100	100	100

***, **,* significant at the 1%, 5% and 10% level. t-statistics based on double clustered standard errors are in parentheses.

Table 5: Cross-sectional Heterogeneity in Multi-province Borrowing

Observations are at the firm-province-month level, and the sample is only multi-province borrowing firms. The mining windfall of other provinces is averaged using the firm's loan balance in each province last month as the weight for the province. Province fixed effects are for provinces of the focal province and for the province with the largest debt last month. Cumulative debt is calculated is calculated since the beginning of the firm's presence in a province. Bank density in province is the total number of banks present in the province (regardless of the firm) divided by the total banks present in the country at that moment.

	Dependent Variables:		
	Log of New Debt over the next 12 months deflated by Log of Existing Debt		
	(5.1)	(5.2)	(5.3)
Mining windfall	3.697^{**}	4.028^{**}	3.992^{**}
	(2.53)	(2.54)	(2.59)
Mining windfall of other provinces	2.088^{**}	-0.719	-3.984^{*}
	(2.08)	(-0.81)	(-1.68)
... × Share of firm debt	-13.178^{***}		
	(-4.97)		
... × Log of cumulative debt		-0.925^{**}	
		(-2.51)	
... × Bank density in province			3.776
			(1.57)
Share of firm debt	-5.254^{***}		
	(-34.27)		
Log of cumulative debt		-0.815^{***}	
		(-18.21)	
Bank density in province			1.017
			(0.36)
Province population last year	Yes	Yes	Yes
Firm fixed effects	Yes	Yes	Yes
Province fixed effects	Yes	Yes	Yes
Province of other shock fixed effects	Yes	Yes	Yes
Year-month fixed effects	Yes	Yes	Yes
R^2	0.34	0.29	0.28
Sample size	256326	256326	256171
N. clusters 1 (firms)	4590	4590	4590
N. clusters 2 (provinces)	100	100	100

***, **,* significant at the 1%, 5% and 10% level. t-statistics based on double clustered standard errors are in parentheses.

Table 6: Firm Financial Policy and Variation in the Maximum Windfall

Observations are at the firm-month level for all multi-province firms. All dependent variables are measured over the 12 months after the current month. Variation in the maximum windfall is the standard deviation over the last 12 months of the monthly maximum windfall experienced in any of a firm's borrowing provinces. The weighted average SD of windfalls in firm's borrowing provinces weights by loan balance the standard deviation of mining windfalls of each province where the firm borrows over the last 12 months. The standard deviation of the (weighted by loan balance) average mining windfall of the firm considers the last 12 months. The average windfall of all firm's borrowing provinces weights windfalls by loan balance.

	Dependent Variables:		
	Maximum Number of Simultaneously Borrowing Provinces over the next 12 months	**Number of New Banking Relations over the next 12 months**	**Number of Ending Banking Relations over the next 12 months**
	(6.1)	(6.2)	(6.3)
Variation in the maximum windfall	3.516***	3.664***	2.884
	(3.03)	(2.90)	(1.49)
W.Av. SD of windfalls in firm's borrowing provinces	0.168	0.808	−1.500
	(0.22)	(1.04)	(−1.11)
SD of weighted average windfall across borrowing provinces	−1.357	−0.366	−2.245
	(−1.52)	(−0.40)	(−1.45)
Av. windfall of all firm's borrowing provinces	−0.014	0.073	0.250
	(−0.09)	(0.27)	(0.72)
Firm fixed effects	Yes	Yes	Yes
Province of largest shock fixed effects	Yes	Yes	Yes
Year-month fixed effects	Yes	Yes	Yes
R^2	0.60	0.28	0.67
Sample size	176320	180920	180920
N. clusters 1 (firms)	4651	4770	4770
N. clusters 2 (provinces of largest shock)	99	99	99

***, **,* significant at the 1%, 5% and 10% level. t-statistics based on double clustered standard errors are in parentheses.

Table 7: Initiating Firms' Borrowing in an Existing Province

Observations are at the firm-province-month level for all firms operating in multiple provinces, including only those provinces where the firm has never borrowed before and where there is a bank present.

	Dependent Variables:			
	Firm Initiates Borrowing in this Province over the next...			
	12 months	**12 months**	**month**	**month**
	(7.1)	(7.2)	(7.3)	(7.4)
Maximum windfall in all firm's borrowing provinces	-0.039^{***}	-0.107^{***}	-0.009^{***}	-0.011^{**}
	(-4.42)	(-6.44)	(-3.26)	(-2.29)
Av. mining windfall of all firm's borrowing provinces		0.089^{***}		0.003
		(5.26)		(0.55)
Firm fixed effects	Yes	Yes	Yes	Yes
Province fixed effects	Yes	Yes	Yes	Yes
Year-month fixed effects	Yes	Yes	Yes	Yes
R^2	0.36	0.36	0.84	0.84
Sample size	3.88M	3.88M	3.88M	3.88M
N. clusters 1 (firms)	22723	22723	22723	22723
N. clusters 2 (provinces)	149	149	149	149

***, **,* significant at the 1%, 5% and 10% level. t-statistics based on double clustered standard errors are in parentheses.

Table 8: Initiating Borrowing and Outcomes

Observations are at the firm-month level for all firms operating in multiple provinces. Panel I focuses exclusively on the sample of firms with at least one operating province that had no borrowing. Panel II focuses exclusively on the sample of firms that had borrowing in all their operating provinces.

Panel I:
Multi-province firms that have some provinces with no borrowing

	Dependent Variables:		
	First stage	Second stage	
	Firm Initiates Borrowing over next 12 months	**Change in Weighted Classification over next 24 months**	**Enters Judicial Status over next 24 months**
	(8.1)	(8.2)	(8.3)
All op.provinces had a maximum over last 12m	0.017***		
	(5.08)		
Firm initiates borrowing over next 12m (instr.)		1.167***	0.249**
		(3.66)	(2.35)
Maximum windfall in all firm's borrowing provinces	−3.704***	7.492***	0.977**
	(−17.30)	(8.12)	(2.68)
Av. mining windfall of all firm's borrowing provinces	3.446***	−7.064***	−0.900***
	(16.26)	(−8.82)	(−2.79)
Firm fixed effects	Yes	Yes	Yes
Year-month fixed effects	Yes	Yes	Yes
R^2	0.40	0.41	0.59
Sample size	596628	479695	435324
N. clusters 1 (firms)	14427	12596	12091
N. clusters 2 (provinces of HQs)	93	87	87

Panel II:
Multi-province firms with borrowing in all operating provinces

	Change in Weighted Classification over next 24 months	**Enters Judicial Status over next 24 months**
	(8.4)	(8.5)
All op.provinces had a maximum over last 12m	0.003	−0.006
	(0.11)	(−0.55)
Maximum windfall in all firm's borrowing provinces	1.658	0.114
	(2.33)	(0.82)
Av. mining windfall of all firm's borrowing provinces	−0.545	−0.112
	(−0.98)	(−1.10)
Firm fixed effects	Yes	Yes
Year-month fixed effects	Yes	Yes
R^2	0.54	0.65
Sample size	76036	72271
N. clusters 1 (firms)	2538	2469
N. clusters 2 (provinces of HQs)	81	81

***, **,* significant at the 1%, 5% and 10% level. t-statistics based on double clustered standard errors are in parentheses.

Table 9: Mechanisms

Observations are at the firm-month level for all firms operating in multiple provinces that had at least one operating province that had no borrowing. The 2SLS models and the sample are as those in Panel I of Table 8, with control variable coefficients and fixed effects omitted here for brevity.

	Dependent Variables (Second stage):			
	Main Initial Bank Extends New Loan over next 24 months	**Any Initial Bank Extends New Loan over next 24 months**	**Main Initial Bank Ends Relationship over next 24 months**	**Log 1+Number of Terminated Initial Relationships over next 24 months**
	(9.1)	(9.2)	(9.3)	(9.4)
Firm initiates borrowing over next 12m (instrumented)	-0.647^{***} (−2.98)	-0.225^{*} (−1.77)	0.581^{**} (1.97)	0.548^{**} (2.16)
Controls and fixed effects	Yes	Yes	Yes	Yes
R^2	0.55	0.58	0.66	0.57
Sample size	541917	628544	907979	967401
N. clusters 1 (firms)	14425	15548	18873	20257
N. clusters 2 (provinces of HQs)	96	98	102	102

***, **,* significant at the 1%, 5% and 10% level. t-statistics based on double clustered standard errors are in parentheses.

Figure 1: Fraction of Total Lending that is made to Multi-province Borrowers