# Is the Small Firms Loan Guarantee Scheme Hazardous for Banks or Helpful to Small Business?

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ABSTRACT. Loan guarantee schemes are an integral part of SME policy in both developed and developing countries. Yet little has been done to evaluate such programmes, particularly in terms of their ability to correct for capital market imperfections. This paper uses individual loan data from some 42,000 UK SFLGS backed debt contracts to empirically test the default specification outlined in the seminal credit rationing paper of Stiglitz and Weiss (1981). The results show that default (failure) does increase with the banks cost of capital, but not with the government premium. In addition, default appears to be determined by a whole host of other factors not typically considered in the credit rationing literature.

## 1. Introduction

Almost without exception, policy-makers throughout the developed and developing world have initiated loan guarantee programmes as a response to perceived capital market imperfections, which, by implication, have restricted small firms access to capital. The seminal work of Stiglitz and Weiss (1981), which formalised the conditions under which credit rationing might occur in a regime of asymmetric information, gave considerable theoretical justification for such policy intervention. The primary mechanism through which such schemes have sought to alleviate this perceived credit rationing is via the collateral channel. There is, however, little evaluation of schemes devised to assist firms. The aim of this paper is to provide such an evaluation for the U.K. Small Firms Loan Guarantee Scheme (SFLGS).

In this paper, we use a unique dataset comprised of small firm borrowers who were perfectly rationed in the debt market prior to their successful application for loan guarantee backed funds. We then use this data to test the theoretical default specification of Stiglitz and Weiss (1981) for evidence of credit rationing. This is particularly relevant given the mixed results obtained to date in the empirical literature on credit rationing (see for example, Berger and Udell, 1992; Cowling, 1999; Lindh and Ohlsson, 1996). This study provides a pure test of credit rationing in the sense that lenders are encouraged to extend more loans to small businesses, as a large proportion of each loan (70% for new firms and 85% for existing firm loans) is securitised by government. In short, the existence of a loan guarantee scheme raises the equilibrium volume of loans traded in the market and the price.

Our analysis uses individual loan data for a total of 42,316 loans issued under the schemes auspices over the period 1984–1998. We also present two alternative tests of credit rationing. In the first instance we use a basic probit specification to investigate those firm and loan level characteristics which influence the probability of default. Secondly we use duration models to investigate those factors which determine the default probability over time. The rest of the paper is organised as follows; in Section II we review the theoretical and empirical literature to date on

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credit rationing. Section III presents the theoretical default specification developed by Stiglitz and Weiss (1981). In Section IV we present our empirical tests. We conclude in Section V.

## II. Literature review

Credit rationing as an issue has received considerable attention in the theoretical and empirical literature over a number of years. In this context, it is the role that information asymmetries play in the small firm-bank relationship that ties much of this work together. The seminal work of Stiglitz and Weiss (1981), for example, argued that in situations where borrower quality could not be directly observed by the bank at the point of loan application (termed adverse selection), the bank is at a relative disadvantage. This occurs as each firm cannot be offered a contract which reflects their specific level of risk. In this situation, banks do not have sufficient information.

A second, information based problem, termed moral hazard, occurs where borrowers react to increases in the cost of borrowing by switching to riskier projects. In such a situation, it becomes optimal for banks not to raise interest rates to their market clearing level as the probability of default is increasing in project risk. This issue was addressed, in a second paper by Stiglitz and Weiss (1983), by incorporating a time dimension into the small firm-bank relationship. In this paper banks deny further credit to borrowers who have previously defaulted on loans.

A substantial part of the credit rationing literature has also focused on the role of collateral. On this, Besanko and Thakor (1987) and Bester (1985) have argued that collateral can act as a sorting device. In this setting, only borrowers with high quality projects (low default risk) offer collateral against borrowing. Thus banks request collateral as a means of sorting out high risk and low risk borrowers. This strategy is a means of obviating information based problems for the bank. Yet it is unlikely to be the case that all entrepreneurs with high quality projects have access to collateral. This problem is an explicit justification for public sector intervention in capital markets in the form of loan guarantee schemes. It also draws empirical support form the strand of literature which focused on the (increased) probability of individuals starting a business when in receipt of windfalls such as lottery wins (Lindh and Ohlsson, 1996), or inheritances (Blanchflower and Oswald, 1998; Holtz-Eakin et al., 1994).

Turning to the empirical literature on credit rationing, the results have been mixed as to whether it is an important real world phenomenon. The earliest studies tended to use aggregate macroeconomic data to test for the speed of adjustment of loan rates in comparison with movements in base rates (see for example, Jaffee, 1971). More recent work has tested for and found a positive correlation between investment and business cashflow or retained profits (Fazzari et al., 1988; Hall, 1994). This would not occur if internal and external funds were perfect substitutes. The micro level analysis of Berger and Udell (1992), analysing in excess of 1 million loans, adopted a series of tests for credit rationing and found contrasting results according to the specific test used. On balance, however, they concluded that credit rationing was not consistent with the evidence presented with the notable exception of their collateral test. This is a particularly important finding in the context of this paper as the explicit mechanism by which loan guarantee schemes seek to redress perceived capital market imperfections is by providing collateral to the lender on behalf of the firm.

## III. Theoretical model

Here we briefly outline the salient features of the default specification as proposed by Stiglitz and Weiss (1981). Our aim is to derive a set of comparative statics that can then be set against our empirical results. The theory requires that not all borrowers will be successful in securing loans in equilibrium. This arises as the probability of default is increasing in interest rates (cost of capital). For banks it is not optimal to raise interest rates to fill this excess demand as by doing so they may reduce total profits.

Briefly, an entrepreneur wishing to finance a risky project, having exhausted her initial wealth (which is a condition of SFLGS funding), requires borrowing of amount $K$. The bank charges borrowers interest rate of $1 + r$ on this type of lending. Under the SFLGS, the borrower firm pays the

government an insurance premium of β, in return for providing a guarantee of γ. In doing so the gross loss to the bank in the event of default, ignoring interest charges, can be defined as £(1 – γ) per £1 lent under the scheme.

The probability of success in this model requires that the marginal borrower has zero expected profits from the risky project. This implies that the success probability of this marginal borrower satisfies

$$p = \frac{[R - \gamma\beta K - (1 + b)W]}{(1 + r)K} \quad (1)$$

where $R$ is the average gross project returns, $r$ the rate of interest, $K$ the loan amount, $b$ the safe rate of interest and $W$ the firms initial wealth. Inherent in the model is that projects are related by a mean preserving spread such that higher quality projects have lower gross returns. The aggregate default rate, drawn from the Stiglitz and Weiss model and incorporating SFLGS parameters, can now be defined thus

$$q = q(R, r, \gamma, \beta, K, b, W) = 1 - s \quad (2)$$

Table I summarises the comparative statics of the default specification as proposed by Stiglitz and Weiss (1981).

## IV. Empirical results

In this section we begin by discussing the empirical methodology adopted prior to presenting the results. The econometric modelling of defaults has two main points of focus. Firstly we use probit models to investigate the type of firm and loan parameters most likely to default. Secondly we use duration models to investigate the factors that determine the default probability over time.

### *Default probit estimates*

For the first stage estimation the general approach can be expressed thus

Prob (firm defaulting)
= prob ($Y = j$)
= $F$[a vector of determining variables]

Here the individual loan either is repaid, in which case $Y = 0$, or defaults ($Y = 1$). The full set of explanatory variables can be characterised into four broad groups:

– the lending institution
– loan specific characteristics
– macroeconomic conditions
– firm specific characteristics

The probability of a firm defaulting can now be written as;

Pr $ob(Y = 1) = F(\beta' x)$
Pr $ob(Y = 0) = 1 - F(\beta' x)$

Here default is influenced by the vector of variables $\beta' x$. This model is then estimated by maximum likelihood. Two different models are reported. The first model refers to Phases II–V of the SFLGS, which cover the period 1984–1993, and the second model to Phase VI which ran from 1993 to the present day. The reason we choose to separate these phases out is due to differences in the data collection procedure adopted by the DTI which in several cases means that equivalent data were not collected in each time period. The core results relating explicitly to the model of Stiglitz and Weiss (1981) are presented below. The full set of default results are presented in Table V at the end of the paper along with a data list.

Here we observe considerable variation in our empirical results across different phases of the scheme. In earlier phases (II–V) the results on our cost of capital variables are consistent with the Stiglitz and Weiss predictions in that a rise in the

TABLE I
Stiglitz and Weiss (1981) default rate predictions

| Variable | Interest rate | Premium | GDP growth | Loan amount | Wealth |
|---|---|---|---|---|---|
| Predicted sign | + | – | –ve | + | + |

*Notes:* Interest rate is the bank base plus the firm specific risk premium.

TABLE II
Empirical results for default equations

| Variable | Stiglitz and Weiss | Phase II–V | Phase VI |
|---|---|---|---|
| Interest rate | + | + | + |
| Premium | + | + | –ve |
| GDP growth | –ve | 0 | + |
| Loan amount | + | –ve | 0 |
| Wealth | + | –ve | 0 |

cost of borrowing (induced by the presence of the SFLGS) does in fact increase default. This is evidence generally supportive of the existence of credit rationing in the market for small business finance due to adverse selection. In this case the provision of the government guarantee has increased the volume of loans traded and the equilibrium price of those loans. The key variable is the government premium. If higher premiums increase default then this points to the fact that banks were correct in refusing to lend to defaulting firms. At this point it is apposite to refer to the raw default data. On this we observe that the average proportion of loans per annum across phases II–V that ended in default was 45% (KPMG, 1999, p. 96). Turning this around, it implies that 55% of small firms who received loans through the SFLGS would have been unfairly credit rationed in the absence of the scheme.

The results for phase VI provide even stronger evidence in favour of credit rationing based on asymmetric information. Here the premium effect is negative suggesting that a large proportion of firms receiving SFLGS backed funding were previously unfairly rationed. The actual default rate for the first three years of phase VI was only 28% on average. This suggests that some 72% of SFLGS loans over this period were made to small firms who were credit rationed in the presence of asymmetric information and unfairly so. On balance, it appears that banks were better at evaluating risk in the earlier phases of the scheme than they are currently. To this end we might conclude that credit rationing has become an even more important feature of the credit market relevant to small firms in the mid-to-late 1990s than it even was in the 1980s.

We now turn our attention to the results that apply to the remainder of the theoretical default specification of Stiglitz and Weiss (1981). Here we observe that in earlier phases of the SFLGS the performance of the macroeconomy, captured by changes in real GDP, had no effect on default. This result was overturned in phase VI when economic growth acted to increases failure. This suggests that fewer credit constrained firms should be advanced loans via the SFLGS in periods when the macroeconomy is relatively buoyant. Contrasting results were also identified on loan amount, with a negative effect in phases II–V and no effect in phase VI. This latter finding might imply that the finance gap for small firms is currently higher than was the case in the 1980s. Finally we observe that wealth (captured by the ability of a firm to collateralise a bank loan without recourse to the SFLGS) acted to reduce default in earlier phases of the scheme but has no impact in the current phase.

On balance the theoretical default specification advanced by Stiglitz and Weiss (1981) gives us a tremendous insight into the issues surrounding credit rationing in the market for small firm finance. As to whether it stands up to the empirical tests we have adopted in this paper the evidence is less clear. Using a simple scoring system where we categorise the results as either correct, neutral or incorrect, in phases II–V the model gets 2 correct signs, 1 neutral and 2 incorrect. In phase VI the model generates 1 correct, 2 neutral and 2 incorrect predictions. Yet it performs impressively on the key predictions relating to our cost of capital variables, the interest rate and government premium.

Other results, which did not explicitly appear in the model, are also useful in understanding what drives default. For examples, start-up businesses had higher default rates in phase II–V but by phase VI they were no more likely to fail than existing firms. This is a particularly important finding as start-ups are widely perceived to be the riskiest class of small firms. On loan duration we find similar results, with longer loans increasing default in phases II–V and having no effect in phase VI. Regarding loan purpose, we observe that loans made for investment in working capital are substantially more likely to default across all phases of the scheme. By contrast loans made for

investment in buildings were significantly less likely to default in phase VI. The former finding is consistent with low quality firm facing liquidity constraints due to poor trading, high costs or a combination of the two. The latter result can be seen as acting in two ways. Firstly, investment in buildings implies a long-term commitment to growth on the part of the firm. Secondly, it also raises the asset base of the firm and thus the costs of defaulting on a loan via the collateral effect.

Regarding legal status, we observe that limited liability companies default more than sole traders and partnerships. The latter group having the lowest default probability. This suggests that the protection offered by limited liability might be acting to reduce the commitment of borrowers to repay. This occurs as banks have little recourse in the event of default as they do in the case of sole traders and partners who are legally liable for the debts of their businesses. One, perhaps unsurprising, finding was that the special terms offered to small businesses operating in inner city areas could not prevent these businesses from recording significantly higher default rates. This only serves to highlight the problems associated with urban regeneration. Finally, we observe significant effects across industrial sectors and banks. On industry, we note that SIC 4 (other manufacturing) had significantly higher default rates across all phases of the scheme. In phase VI, retailing also had a high default rate and was subsequently excluded from the scheme. By contrast, metals manufacture and transport & Communications has significantly lower default rates than all other sectors.

*Duration models*

Next we focus on our duration estimation. Here the observed duration times are random variables drawn from the underlying distribution which describes "time to failure" for SFLGS loans. Of economic interest is whether or not the conditional probability of default varies with duration time. The three basic possibilities are:

– the probability is constant over time;
– the probability decreases over time;
– the probability increases over time.

Our estimation procedure will let the data determine the particular shape which best characterises the sample of failure times. Each loan drawn down becomes part of the stock of loan at risk of default. As time passes, the group of survivors becomes smaller and smaller. Hence we model the probability of default during some interval $(t, t + 1)$ given that a loan has survived until $t$ as

$$h_i(t_i, \alpha, \beta) = \lambda(t_i, \alpha) \cdot g\,(x_i'\beta)$$

where $h_i(\cdot)$ is commonly known as the hazard or risk of default for individual loans with duration $t_i$. We then allow the hazard function to be written as time separable parts. The first of which depends on time duration $t_i$ as an unknown parameter to be estimated as $\alpha$. The second part summarises the effects as the conditional probability of default for firm and loan characteristics observed at the time the loan was drawn down. It is important for $\lambda(t_i, \alpha)$ to be flexible enough to allow for many different patterns for the hazard function over time.

We fit a logistic distribution where;

$$\lambda(t_i, \alpha) = \frac{\alpha t^{\alpha - 1}}{1 + t_i^{\alpha}}$$

This allows the hazard to rise and fall across time providing the best fit for the observed data. The effect of the explanatory variables is to shift the hazard up or down depending on whether the estimated coefficient is positive or negative. For example, a variable which increases (decreases) the hazard will also be associated with shorter (longer) durations and will have a positive (negative) coefficient. In line with our default probit estimates we again present two models for phases II–V and VI. The basic results which accord with the Stiglitz and Weiss (1981) default specification are presented below. The full estimation results are presented in Table VI at the end of the paper.

For our duration models we observe that higher bank related borrowing costs increase the hazard rate in keeping with the predictions of Stiglitz and Weiss. However, there was no effect for our government cost of capital variable, captured by the premium, across any phase of the scheme. In addition there is consistent evidence to suggest that economic growth is associated with decreasing hazard rates across the full sample period. Regarding loan size, the results show that

TABLE III
Empirical results for duration models expressed in terms of hazard rates

| Variable | Stiglitz and Weiss | Phase II–V | Phase VI |
|---|---|---|---|
| Interest rate | + | + | + |
| Premium | + | 0 | 0 |
| GDP growth | –ve | –ve | –ve |
| Loan Amount | + | –ve | 0 |
| Wealth | + | + | 0 |

larger loans in phases II–V increased the hazard rate. In phase VI this was not apparent despite the fact that the maximum loan threshold was increased substantially. Finally, we note that firms with some initial wealth had higher rates of hazard in phases II–V. This was not found to be the case in phase VI. On balance the model of Stiglitz and Weiss performs very well for our duration estimates. Using the same basic scoring system we find that in phases II–V they predicted 3 correct signs, 1 neutral and 1 incorrect. For phase VI the score is 2 correct and 3 neutral with no wrong predictions.

The remainder of the hazard results are as follows; firstly we observe that start-up businesses are no less likely to survive for shorter (or longer) periods than existing firms. This confirms our results from the default probits. Once again we find evidence that purpose of loan matters. Here working capital loans have significantly higher hazard rates and building related loan significantly lower hazard rates. Taken together, the default and duration estimates suggest that firms using the SFLGS to fund working capital are likely to die in greater numbers and more quickly. On legal status we also find compatability across our empirical results. In this case, limited liability companies have shorter duration times across all phases of the scheme. By contrast partnerships were found to survive significantly longer in the earlier phases of the scheme. There is also consistent evidence that loan duration is key to our understanding of survival times, acting to reduce hazard rates. Finally we uncovered an unusual result concerning industry. Across all phases prior to phase VI, industry had no bearing on hazard rates. In phase VI however, industry effects were very important. Briefly, firms in the manufacture of metal goods, other manufacturing, retailing, financial services and other services had lower hazard rates than all other industry sectors.

*Survivor distribution*

We now present the estimated survivor distribution which is calculated in percentiles for each SFLGS sub-period as previously defined. This information is presented below in Table IV and duration is measured in quarters.

The schemes durations observed to date for phase VI necessarily imply a downward bias in both the number of defaults and the mean completed failure times. This is clear when we consider the median duration point on the survivor distribution which is lower across all loans in phase VI than in previous phases. As time progresses more of the phase VI loans will fail, but they will have survived longer. This will shift the lower portion of the survivor distribution upwards. At this moment in time we might expect that the hazard rate and low duration percentiles will be fairly similar in phase VI to those recorded in earlier phases.

The actual survival distributions reported in Table IV are very revealing in that they show quite categorically that default, if it occurs, happens quite quickly after loan drawdown. For example, only 50% of loans ending in default in phases II–V survived longer than two years. Further, less than 25% of defaulting loans survived until their third year. This has important implications for the

TABLE IV
Percentiles of estimated survival distribution

| Percentiles | 95 percent | 75 percent | 50 percent | 25 percent |
|---|---|---|---|---|
| Phases II–V | 3.4 | 5.9 | 8.1 | 11.1 |
| Phase VI | 3.2 | 5.0 | 6.5 | 8.4 |

TABLE V
Full empirical results for default probits for phases II–V and phase VI

| | Phases II–V | | Phase VI | |
|---|---|---|---|---|
| | Coefficient | *t*-ratio | Coefficient | *t*-ratio |
| *Variable* | | | | |
| Constant | –2.419 | –15.685 | –1.949 | –13.247 |
| Interest rate | 0.066 | 15.782 | 0.038 | 3.336 |
| Premium | 0.545 | 9.464 | –0.144 | –4.874 |
| GDP growth | 0.004 | 0.892 | 0.135 | 13.475 |
| Loan amount | –0.018 | –3.142 | 0.0001 | –0.861 |
| Wealth | 0.169 | 5.817 | 0.041 | 1.536 |
| *Loan purpose* | | | | |
| Working capital | 0.272 | 8.167 | 0.165 | 7.011 |
| Plant | 0.029 | 0.721 | –0.045 | –1.491 |
| Building | –0.044 | –1.043 | –0.166 | –3.509 |
| *Legal status* | | | | |
| Ltd | 0.226 | 7.865 | 0.210 | 8.552 |
| Partnership | –0.141 | –5.016 | –0.216 | –6.736 |
| *Age of firm* | | | | |
| Start-up | 0.099 | 4.785 | –0.043 | –1.567 |
| Established | n.a | | –0.306 | –11.412 |
| *Other* | | | | |
| Loan duration | 0.079 | 12.084 | 0.003 | 0.522 |
| Inner city business | 0.635 | 5.653 | n.a | |
| Industry dummies | Yes | | Yes | |
| Bank dummies | Yes | | Yes | |
| Region dummies | Yes | | Yes | |
| Log likelihood | –10448 | | –11882 | |
| Observations | 15,913 | | 26,413 | |
| Pseudo $R^2$ | 0.43 | | 0.37 | |
| Chi-sq | 1163.1 | | 1517.4 | |
| Discrimant | 60.9 | | 62.6 | |

*Notes:* The default categories are as follows; loan purpose (other); age of firm (existing but < 2 years); legal status (sole trader).

government who acts as guarantor for loans issued under the SFLGS. In short, it implies that the costs of default under the SFLGS the government incurs are relatively high occurring, as they do, so early in the life-span of the average loan. The evidence is also conclusive on the issue of the shape of the hazard function. Here we note that the risk of default is not constant throughout the term of the loan. In fact the probability of default is increasing strongly up to two years after loan drawdown and decreasing at a slower rate thereafter.

## V. Conclusions

This paper has contributed to the credit rationing debate by testing the default probability theory outlined in the seminal paper of Stiglitz and Weiss (1981) against a unique dataset of SFLGS loans. The contribution is the paper is threefold. Firstly we use empirical data from small businesses who were perfectly credit rationed in the market for debt finance prior to their successful application for SFLGS backed funds. Secondly we are able to provide consistent empirical evidence over a period from 1984 to 1998. Thirdly, we were able to use two contrasting empirical methodologies to test the theoretical model.

TABLE VI
Full empirical results for duration models for phases II–V and phase VI

| | Phases II–V | | Phase VI | |
|---|---|---|---|---|
| | Coefficient | *t*-ratio | Coefficient | *t*-ratio |
| *Variable* | | | | |
| Constant | –1.9082 | 22.156 | 1.4902 | 16.455 |
| Interest rate | –1.17e-2 | –4.942 | –1.73e-2 | –2.533 |
| Premium | –170e-2 | –1.530 | 2.79e-2 | 1.499 |
| GDP growth | 2.35e-2 | 8.834 | 7.14e-2 | 12.206 |
| Loan amount | 0.75688 | 2.506 | –0.15867 | –0.843 |
| Wealth | 3.23e-2 | 2.091 | 1.36e-2 | 0.828 |
| *Loan purpose* | | | | |
| Working capital | –3.31e-2 | –1.654 | –5.63e-2 | –3.718 |
| Plant | 3.02e-3 | 0.123 | 7.52e-3 | 0.379 |
| Building | 6.65e-2 | 2.618 | 2.20e-2 | 0.629 |
| *Legal status* | | | | |
| Ltd | –6.95e-2 | –4.519 | –3.67e-2 | –2.32 |
| Partnership | 6.54e-2 | 4.012 | 2.52e-2 | 1.12 |
| *Age of firm* | | | | |
| Start-up | –1.70e-2 | –1.503 | 1.48e-2 | 0.89 |
| Established | n.a | | 3.33e-2 | 2.052 |
| *Other* | | | | |
| Loan duration | 6.70e-2 | 17.791 | 2.49e-2 | 6.911 |
| Inner city business | –1.34e-2 | –0.264 | n.a | |
| Industry dummies | Yes | | Yes | |
| Bank dummies | Yes | | Yes | |
| Region dummies | Yes | | Yes | |
| Log likelihood | –5866.4 | | –2629.8 | |
| Observations | 7872 | | 4879 | |

*Notes:* The default categories are as follows; loan purpose (other); age of firm (existing but < 2 years); legal status (sole trader).

Our results show that default is related to the cost of capital as predicted by theory. Yet the results for banks and government differ to some extent. On this we find that when banks increase their borrowing costs default increases and survival times shorten. This is consistent with credit rationing due to asymmetric information, most probably due to adverse selection. Yet the government component of the total cost of capital, the SFLGS premium, although initially positive, acted to reduce failure in phase VI of the scheme and had no impact on survival times. What we do known is that between 55% and 72% of loans issued under the scheme were successfully repaid or have not ended in default to date. Thus on balance the SFLGS can be seen as having successfully addressed a very real capital constraint for the majority of small business who took out loans under the scheme. In defence of banks, we observe that they are justified in not raising their cost of borrowing to clear the market. For government, this is not as clear.

Over the two different estimation techniques adopted in this paper, the default specification of Stiglitz and Weiss (1981) appears to perform better in terms of explaining hazard rates than basic default probabilities. However, in both cases the model is fairly consistent on our two cost of capital variables which lie at the heart of the credit rationing literature and this model in particular.

The empirical evidence also shows that there are a whole host of other factors, not typically considered in theoretical models of default, that have an important role to play in the determina-

tion of small business survival or failure. In particular the purpose that the loan was used for by the small business and their legal status. On this we find that firms looking to finance working capital had higher default rates and smaller survival durations. By contrast, firms investing in buildings had lower default and longer survival times. It also appears that firms protected by limited liability have less commitment to repayment.

## Appendix

Data list

Interest rate: cost of borrowing defined as base rate plus margin.
Premium: government insurance premium.
GDP growth: the quarterly change in real GDP expressed in percentage terms.
Loan amount: loan amount expressed in £s.
Wealth: coded 1 if borrower has placed collateral on some fraction of the total amount borrower, else = 0.
Working capital: coded 1 if loan is used for working capital, else = 0.
Plant: coded 1 if loan is used to purchase plant & machinery, else = 0.
Building: coded 1 if loan is used to purchase buildings, else = 0.
Ltd: coded 1 if firm has limited liability status, else = 0.
Partnership: coded 1 if firm is a partnership, else = 0.
Start-up: coded 1 if firm is a brand new business, else = 0.
Established: coded 1 if firm is older then 2 years, else = 0.
Loan duration: expressed in years.
Inner city business: coded 1 if firm is an eligible inner city location, else = 0.
Industry dummies: 9 one-digit SIC classifications.
Bank dummies: 5 classifications including the four main U.K. clearers and other smaller lenders.
Region dummies: 11 classifications corresponding to standard government office criteria.

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