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Does inflation trigger early repayment on Covid-19 UK guaranteed loans?

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ABSTRACT

The UK government underwrote more than 1.68 million business loans totalling £78.4bn during the COVID-19 pandemic. Given that the Bounce Back Loan (BBL) had a 100% guarantee and the Coronavirus Business Interruption Loan Scheme (CBILS) 80%, the public sector contingent liability is very large. In this article, we explore whether or not the recent and dramatic rises in UK inflation have prompted firms with COVID-19 BBL and CBILS guaranteed loans to repay their outstanding debt early (in advance of the full 6-year loan term as specified in the original loan agreement). Our results show that this was indeed the case with increasing inflation exerting a strong and positive effect on early loan repayment on both guarantee schemes. This is consistent with the firm's debt aversion and a desire to reduce existing debts in anticipation of a future economic recession, liquidity problems and high interest rates.

KEYWORDS

Loan repayment; inflation; Covid-19; loan guarantee schemes

JEL CLASSIFICATION

G01; G41; H12; L26

I. Introduction

How did the 1,600,000 small firms that borrowed using the two UK main government COVID-19 loan guarantee schemes react to the subsequent dramatic rise in inflation and inflationary expectations that the economy has experienced since June 2021? This is a key milestone in the context of the UK small firm COVID-19 loan guarantee schemes (Bounce Back Loan (BBL) and the Coronavirus Business Interruption Loan Scheme (CBILS)) as this was the point at which the first cohort of borrowers began their capital and interest repayment after a 12-month holiday. This unique coincidence of micro-economic and macroeconomic events provides a testing ground for the theory of debt aversion which drives a strong financial pecking order where small firms have an absolute preference to fund their activities from retained earnings and being debt free (Cressy 1995; Myers 1984; Shyam-Sunder and Myers 1999; Watson and Wilson 2003). This debt aversion is reinforced if firms observe rising inflation and face pressure on the cost side but cannot fully pass these cost increases on to their customers. This impacts on smaller, younger, and less financially sophisticated firms particularly (i.e BBL borrowers). The alternative is simply that inflation erodes the real value of debt; thus, firms will be less likely to repay their debt early.

Context is important in understanding why more than 1.6 million small firms accessed the UK government guaranteed COVID-19 loan schemes. This can be traced back to the pre-Covid-19 state of small business in the UK as research established that 8.6% of the firm population had zero cash in the bank and around 2/3rds had retained earnings but had not been undertaking additional precautionary saving (Cowling, Brown, and Rocha 2020). On average, UK firms had the equivalent of 3 months trading cash in the bank in March 2020 when the formal lockdown occurred as COVID-19 virus spread across the nation. This extraordinary set of circumstances meant that many small businesses were burning through their cash savings at the same time as their trading incomes were reduced.

In this respect, general market-wide uncertainty meant that many firms were unable to predict their future cash flows at the same time as banks would typically begin to tighten their lending standards and ration credit. This would explain why more than 1.68 million firms accessed a COVID-19 guaranteed loan (BBL plus CBILS) and why in aggregate

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92.1% of UK lending to small firms in the period March 2020 to August 2020 was issued under a UK government loan guarantee (Calabrese, Cowling, and Liu 2022). In aggregate, this amounted to £78.4bn in loans under guarantee. As cost pressures increased during their loan period, many small firms were unable to fully pass these additional costs on to their customers.

The theory of debt aversion advanced by Cressy (1995) states that small, younger, and financially unsophisticated firms, those facing the highest levels of information asymmetry, have a strong dislike of debt not only for costs reasons but also for control reasons. This is consistent with the pecking order theory (POT). The theory has its roots in adverse selection and relative information costs (Stiglitz and Weiss, 1981). This theory is supported empirically (Serrasqueiro and Caetano 2015). Even when firms issue debt, they will favour short-term debt over long-term debt. In our context, even though the COVID-19 guaranteed loan had a term of 6 years, early repayment would effectively reduce the loan to a 12-month maturity.

II. The data

We have aggregated data for BBL and CBILS from March 2020 until June 2022 from the British Business Bank scheme management information records. In total, the data represents 1,568,538 BBL loans to the value of £47.39bn and 111,269 CBILS loans to the value of £31.0bn. The data are monthly, and the equivalent inflation rate is appended to the monthly BBL and CBILS time-series. One further, and key variable, is derived from the scheme records that relates to firms with a BBL or CBILS guaranteed loan that repaid their outstanding loan balance in full before they even entered their capital and interest repayment period after their 12-month initial holiday. We calculated this early repayment variable initially at an individual loan level and then standardized this by the number of loans issued during a particular month to get a monthly early repayment rate. We augment these data with monthly time-series for UK unemployment, GDP growth, and Bank of England base interest rates.

Table 1. Summary statistics.

Variable	Mean	Std Dev	Median
Inflation %	2.82	2.47	1.85
BBL Repaid Early %	2.92	2.73	1.94
CBIL Repaid Early %	9.11	4.96	8.32
Monthly GDP Growth %	−0.01	4.52	0.60
BoE Base Rates %	0.31	0.26	0.25
Unemployment %	4.40	0.52	4.30

From Table 1, we observe that average inflation was 2.82% which is over the Bank of England monetary policy target. CBILS early repayment was much higher at 9.11% than BBLs at 2.92%. Monthly GDP growth was around zero but with substantial variation and base rates were, on average, low at 0.3%. Unemployment was historically low at 4.4%, although the COVID-19 pandemic influenced this. In terms of BBL and CBIL typical borrowers, we note that the median BBL borrower had sales of £170,648 and a loan of £35,000, and this was much smaller than the median CBILS borrower with sales of £3.8 m and a loan of £150,000. In this respect, BBL borrowers were more likely to exhibit strong debt aversion than CBILS borrowers.

As we observe from Figure 1, cumulative BBL loan issues were increasing dramatically between

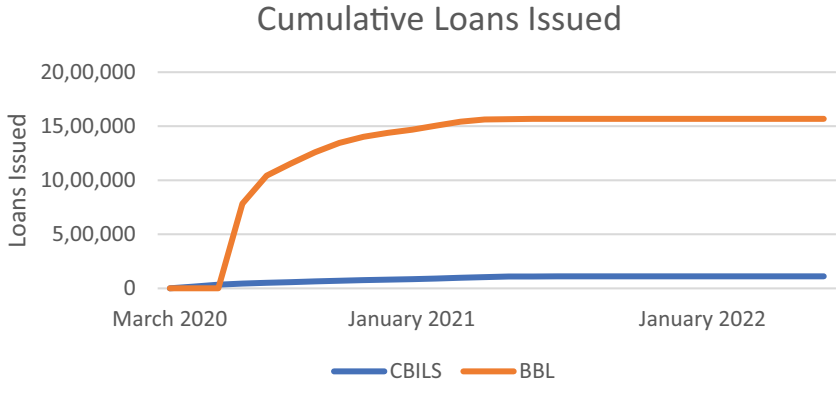

Figure 1. BBL and CBILS loan issues, March 2020–June 2022.

May 2020 and September 2020 and grew at a slower rate until March 2021 when new issues tailed off at a cumulative 1.57 m loans. The volume of BBL loans dwarfed that for CBILS where the cumulative number of newly issued loans grew at a more consistent rate from March 2020. The fact that the bulk of total loans were issued in the first 6 months of the COVID-19 pandemic means that by the summer of 2021 these loans would enter their repayment period. Figure 2 shows the comparable data but for the cash volume of lending on BBL and CBILS. It is immediately evident that despite the numerical dominance of BBL, the relative cash volumes of lending were much closer reflecting the £50,000 ceiling on the BBL scheme.

We note from Figure 3 that CBILS early repayment proportions were generally increasing over time, even before the 12 month from loan origination repayment phase started. In the early period, early repayment increased at a faster rate than UK inflation before levelling-off in March 2021. This contrasts with BBL early repayment rates that were comparatively low throughout the first year and only began rising in April 2021. It is important to consider that BBL had a fixed interest rate of 2.5% and CBILS allowed lenders to use their standard loan pricing matrix (up to a ceiling of 15.0%). In this respect, CBILS loans might be expected to be more sensitive to inflation movements.

However, rather than simply thinking of inflation impacting on capital markets, lending and future interest rates, we can also think of inflation increasing the cost side of businesses as factor input prices rise and goods and services become more expensive to produce. As many small firms have limited ability to raise prices without suffering from a fall in demand, inflation (Cowling and Nadeem 2020) can affect the firm's ability to service debt and interest. This is an acute problem for the smallest and youngest firms who borrowed on BBL.

III. Time-series analysis

The time-series has 25 months, and we estimate the (log) relative share of BBL and CBILS guaranteed loans that are repaid as a proportion of the loans 'at risk' in each month. We use OLS with robust standard errors with (log) inflation and it's one-period lag as explanatory variables, augmented by additional macroeconomic variables including GDP growth, base rates, and unemployment. From Table 1, we see that the early repayment probability is considerably higher for CBILS loans at 9.11% on average (median = 8.32%) than BBL loans (average 2.92%, median 1.94%). From the first time-series models, we observe that inflation has a positive effect for BBL and CBILS early repayment. However, the magnitude of the respective coefficients on inflation is larger for BBL. In short, inflation has a much bigger impact on the firm's choice of early repayment for BBL borrowers, even though the absolute rate of early repayment is higher for CBILS borrowers.

Overall, as more and more BBL and CBILS borrowers enter their repayment phase (after the 12-month holiday), our evidence suggests that the decision to repay early becomes more of a real concern for firms that are faced with capital and interest repayments, and an inability to raise prices to cover this (Table 2). The actual decision to repay early is clearly more cost saving for the firm if it has a CBILS loan as the loan interest rate (and also

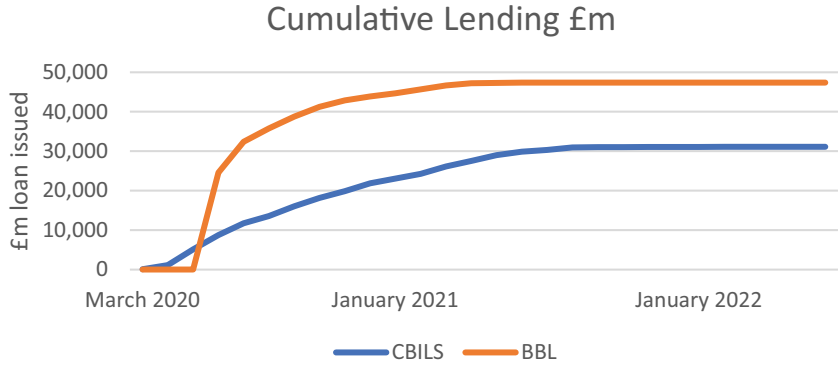

Figure 2. BBL and CBILS cumulative lending, March 2020–June 2022.

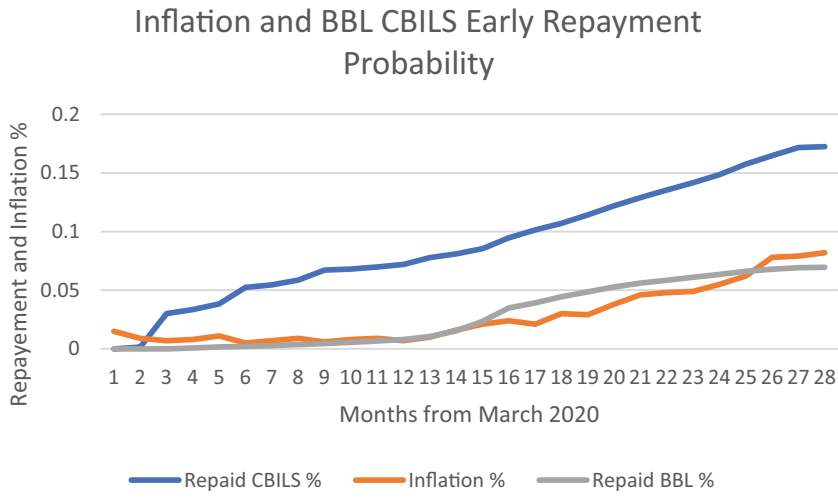

Figure 3. Time-series inflation and BBL CBILS early repayment, March 2020–June 2022.

Table 2. Modelling inflation effects on early repayment.

	BBL Early Repayment				CBILS Early Repayment			
	Coeff.	t-Stat.	Coeff.	t-Stat.	Coeff.	t-Stat.	Coeff.	t-Stat.
Inflation	1.144**	2.72	1.312***	3.17	0.276***	4.32	0.294**	2.64
Lag Inflation	0.153	0.35	0.750	1.22	0.144**	2.16	0.086	0.54
GDP growth			−0.067	−0.64			−0.078***	−2.95
Lag GDP growth			−0.034	−0.42			0.018	1.98
Unemployment Rate			−2.911	−0.49			−0.223	−0.14
Lag Unemployment Rate			9.171*	2.05			0.996	0.86
Base Rates			−0.070	0.15			0.228*	2.00
Lag Base Rates			−0.095	−0.20			−0.057	−0.45
Constant	1.055*	1.96	−5.436*	−1.82	−0.702***	−8.34	−1.764**	−2.17
N Obs.	23		23		24		24	
Prob>F	0.00001		0.00001		0.00001		0.00001	
F	50.48		26.31		218.69		48.75	
Adj R2	0.807		0.921		0.372		0.916	
Mean	0.0292				0.0911			
Median	0.0194				0.0832			

*** indicates significance at the 1% level, ** significance at the 5% level, and * significance at the 10% level.

capital repayments) are typically much larger. The average (median) loan interest rate for CBILS loans is 6.14% (4.86%) and is much greater than the fixed rate of 2.5% on BBL loans. However, more sophisticated CBILS borrowers use a richer set of macroeconomic indicators to make their early repayment judgements including GDP growth, base rates, and unemployment.

IV. Conclusion

What will happen to COVID-19 guaranteed loans given current inflation rates and expectations of even higher rates in the near future? Orthodoxy suggests that inflation erodes the real value of debt and this would imply that firms hold on to their debt. Yet, given the option to repay debt early with no fee penalty, many BBL and CBILS borrowers took advantage of this and repaid their loans in full when faced with rising input prices and an inability to raise output prices accordingly.

We set our analysis in the context of a strong debt aversion and a desire to be debt free. Theory suggests that small firms have an innate dislike of debt and further that due to agency costs debt finance is both difficult to raise and expensive compared to internal funds. In total, more than 1.67 million (smaller firms) borrowed a total of £78bn.

Our evidence is consistent with debt aversion theory as a small, non-trivial proportion of firms, presented with a costless means of exiting their debt agreement, did so by using their internal

funds to repay their loans and become debt free. The fact that early repayment rates were significantly higher for CBILS with its higher interest rate loans also suggests that agency costs were important and the consequence that even firms with a 72-month loan effectively reduced it to a 12-month loan by early repayment is consistent with debt aversion and pecking order theory.

Regarding inflation *per se*, we think that small firms react to inflation signals (inflation is severe and will get worse) and know that nominal loan interest rates will increase to cool off inflation. Our evidence is consistent with small firms reading noisy macroeconomic signals and then interpreting them at a microeconomic level. In this sense, inflation is simply a leading indicator of future interest rate rises and an economic recession. This triggers the desire to pay off outstanding debt and reduce their variable costs ahead of a predicted downturn in sales. However, we also find that CBILS borrowers used a richer set of macroeconomic variables to make their judgements. The longer UK inflation continues to rise, the greater the proportion of small firms with COVID-19 guaranteed loans will take the decision to repay in full.

Disclosure statement

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