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POLICY PAPER

Irish SME Property Exposure: What Do We Know?*

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Abstract: An overhang relating to the pre-crisis property investment of Irish Small and Medium Enterprises (SMEs) has been identified as a potential drag on a recovery in employment, investment and output. This paper aims to provide information from survey and loan-level data which can help to quantify the extent of firms' property-related borrowing. Survey data show that a minimum of one-fifth of Irish SMEs have direct exposure to property debt. Loan-level data show that at least 10 per cent of firms with bank debt have exposure to property investment at the same bank, with this figure rising to 16 per cent when including Buy-To-Let mortgages for a subset of the data. Data on loan default suggest that property-related borrowing has had a detrimental impact on firms: SMEs with property-related borrowings have a loan default rate of 43 per cent, compared to 23 per cent for those without property exposure.

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I INTRODUCTION

Given the unprecedented boom and bust in the Irish property market, there is a warranted concern that a range of non-property related enterprises made investments in property in the run-up to the 2008 crisis and that many of these firms may now be experiencing difficulty in repaying non-property-related debts as a result of their property exposures. Disentangling these two distinct types of debt, to allow otherwise viable businesses to remain solvent, has been identified as a key policy priority by many observers.

The loan performance of Irish SMEs is an issue of broad economic concern for a number of reasons. First, the health of these loans will have a material impact on expected losses at domestic Irish banks.[1] According to the June 2014 *SME Market Report* from the Central Bank, there was €21 billion outstanding in SME lending to domestic banks as of December 2013, with 26 per cent of these loans in default,[2] or 41 per cent when weighted by outstanding balance.[3]

Second, the performance of SME loans is of crucial importance from an economic recovery perspective. As identified in the CSO's *Business in Ireland* report for 2011, 69 per cent of the 1.2 million private sector employees in Ireland, or 828,000 people, work in SMEs. Impairment rates of 25 per cent suggest that there are a large number of employees potentially at risk as these companies may need to cut costs, downsize, or in some cases enter liquidation.

The debate around SME property exposure has been marked by a paucity of reliable statistical information. This paper aims to collate information from a disparate range of sources to describe the current exposure of Irish Small and Medium Enterprises (SMEs) to property investment. The information provided here cannot conclusively identify the extent of Irish SMEs' exposure to property due to data limitations, particularly as exposures can only be identified within the same bank. However, the data presented can help in

[1] The term "domestic Irish banks" refers to those banks receiving state support through the 2011 *Financial Measures Programme*: Allied Irish Banks, EBS Building Society, Bank of Ireland and Irish Life and Permanent.

[2] "Default" is defined in this analysis following the Basel II guidelines, where either of the following two events has taken place: (i) the bank considers that the obligor is unlikely to pay its credit obligations to the banking group in full, without recourse by the bank to actions such as realising security (if held) (ii) the obligor is past due more than 90 days on any material credit obligation to the banking group. Overdrafts will be considered as being past due once the customer has breached an advised limit or been advised of a limit smaller than current outstandings.

[3] Total outstanding balances in the SME dataset used in this paper will not match those published in the Central Bank of Ireland's *Credit, Money and Banking* statistical release, as in this paper SMEs are separated from corporate borrowers based on the bank division in which exposures are managed, rather than using the Eurostat definition of an SME which is not available in the loan-level data.

shedding light on this crucial policy issue. It is important to note that in 2013 and 2014 many of the SMEs identified as being in default in this data set have been subject to restructuring arrangements with their lender. Throughout 2014 and beyond, the success of these arrangements in alleviating the debt overhang problem will become more visible.

Section II provides information on the aggregate sector breakdown of Irish SMEs' bank debt while Section III reports suggestive results from 2012 survey data on the extent to which SMEs have invested in property. In Section IV, loan-level data is used to describe the degree of within-bank linkages between SME and property debt. Section V reports differential SME default rates according to exposure to property-related debt. Section VI concludes.

II CENTRAL BANK OF IRELAND AGGREGATE STATISTICS

The Central Bank of Ireland publish data on a quarterly basis on lending to SMEs. For the purposes of this data release, lenders are requested to follow the EU definition by reporting exposures to enterprises with fewer than 250 employees and whose annual turnover does not exceed €50 million and/or whose annual balance sheet does not exceed €43 million. The data are disaggregated to match the NACE classification of economic sectors of activity.[4] The Central Bank statistical credit data include the totality of SME bank debt in Ireland whereas the loan-level data which will be used to identify SME property exposures features only the domestic banks covered by the Financial Measures Programme.

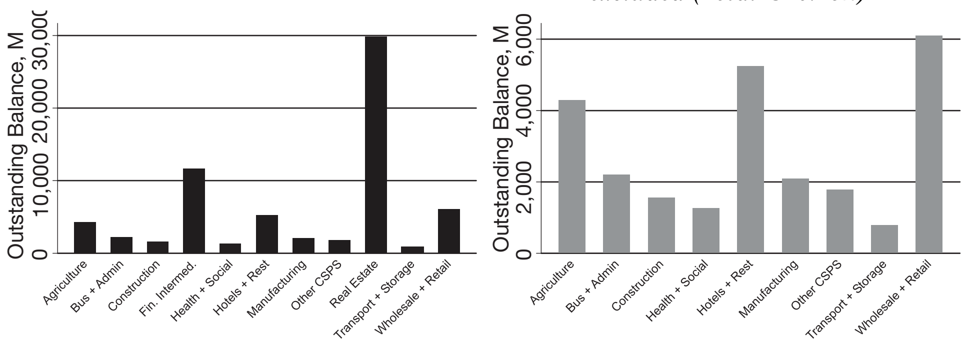
Figure 1a plots the outstanding balance of lending to each of these NACE sectors from banks in Ireland as of December 2013. The SME lending volumes are dominated by the Real Estate sector, which accounts for €29.8 billion of the €67.6 billion of total lending. The Financial Intermediation sector is the second largest sector, with €11.6 billion of credit outstanding.

Figure 1b removes the Real Estate and Financial Intermediation sectors, and plots the same data for the remaining sectors, which we refer to here as comprising the "real economy". These are firms whose primary business

[4] NACE is the "statistical classification of economic activities in the European Community". The NACE categories for which SME lending data are reported are as follows: Primary Industries; Manufacturing; Electricity, Gas, Steam and Air Conditioning Supply; Water Supply, Sewerage, Waste Management and Remediation Activities; Construction; Wholesale/Retail Trade & Repairs; Transportation and Storage; Hotels and Restaurants; Information and Communication; Financial Intermediation (Excluding Monetary Financial Institutions); Real Estate Activities; Business and Administrative Services; Other Community, Social and Personal Services; Education; Health.

Figure 1: *SME Outstanding Balance, December 2013*

(a) All Sectors (Total €67.6bn) *(b) Real Estate and Financial excluded (Total €26.1bn)*



Source: Central Bank of Ireland, Statistics Data, December 2013.

activity does not relate to property investment. It is the potential impact of the property investments of these firms on their core activity that motivates this research. The largest shares of total outstanding balance among these sectors are in the Wholesale and Retail, and Hotels and Restaurants sectors.

In the remainder of this paper, we utilise a range of data sources to provide preliminary answers to the following question:

What share of the €26.1 billion of outstanding bank debt of non-financial, non-real-estate SMEs, is related to property investment?

We provide initial estimates on the extent of property debt overhang on the Irish real-economy SMEs with outstanding bank-debt.

III SURVEY EVIDENCE ON SME PROPERTY PURCHASES

The Red C Credit Demand survey, commissioned by the Department of Finance, provides an overview of the SME credit market on a six-monthly basis using a representative sample of 1,500 SMEs operating in Ireland. Data available in the April-September 2012 round of the survey provide an insight into the extent to which SMEs have used bank debt to finance investments in property. Table 1 reports the responses of SMEs who have answered the following two questions:

- Has your company purchased property which is financed by bank debt since 2005?

- Have any of your directors purchased property financed by bank debt since 2005, which the business acts as security for?

The results of Table 1 report that just under 20 per cent of SMEs have an exposure to property which is linked to their bank debt. This number however must be interpreted as a lower bound on the potential exposure of SMEs to property debt due to the following reasons:

1. These numbers do not capture instances where property debts of SME owners may be linked to their business debt if their business debt carries a personal guarantee.
2. These numbers do not include properties purchased with non-bank debt.
3. These numbers do not include pre-2005 property purchases.

While reason 2 is not expected to have a meaningful impact on the overall picture presented, reasons 1 and 3 represent important sources of uncertainty regarding the true extent of SME property-related debt.

Table 1: *Did the SME, or its Director, Invest in Property Since 2005?*

	No %	*Yes* %	*Total Firms Count*
All firms	80.12	19.88	1,504
Broken Down by Employment Size			
Self-Employed	93.22	6.78	59
1 to 10	82.82	17.18	524
10 to 20	81.35	18.65	327
20 to 50	81.67	18.33	251
50+	74.89	25.11	223
Broken Down by Export Status			
Non-Exporter	80.05	19.95	1,108
Exporter	80.3	19.70	396
Broken Down by Age of SME			
Under 20 years	81.11	18.89	868
Over 20 years	78.77	21.23	636
Broken Down by Activity			
Agriculture	71.43	28.57	28
Construction	76.87	23.13	134
Financial/Real Estate	78.67	21.33	75
Hotels/Restaurants	76.69	23.31	163
Manufacturing	84.44	15.56	180
Services	81.04	18.96	443
Wholesale/Retail	80.46	19.54	481

While accepting that the true extent of the exposure may be somewhat larger, an analysis of the data by different firm types is instructive. Table 1 shows that the propensity to invest in property was greater for larger SMEs, with 25 per cent of medium firms (greater than 50 employees) classified as property investors, as opposed to 17 per cent of micro firms (under 10 employees). There is no clear difference in property borrowing depending on either the export status or the age of the firm.

By sector of activity, it appears that firms in the manufacturing and services[5] sectors were least likely to have invested in property, with agricultural and construction firms being the most likely.

IV PROPERTY EXPOSURE OF SMEs

Loan-level data (LLD) on the outstanding stock of SME lending as of December 2013 by domestic Irish banks are used to construct measures of SME property exposure. These data cover €21 billion of loans to firms in Ireland, and are described in more detail in McCann and McIndoe-Calder (2014) and *SME Market Report* (2014).

The firm and borrower-specific IDs in the LLD allow loans in differing asset classes and sectors of activity to be attributed to an SME. These linked IDs allow property exposures to be identified for SMEs that engage in activities other than those related to real estate. Specifically, there are three ways in which property exposures can be attributed to an SME:

1. Mortgages of an SME owner can be located in the mortgage book of the bank with which the SME has its business loans.
2. Property-related loans of an SME owner can be categorised in the SME loan books as "Personal (Private Households)" loans.
3. Firms can be identified in both the SME and Commercial Real Estate (CRE) loan datasets.

Property exposures (2) and (3) are observable for all SME loans in the data set. Property exposure (1) is only available for a subset of the data in which the requisite identifiers for linking across data sets are contained. We begin with an examination of property exposures (2) and (3) for the complete sample, followed by an examination of the full range of property exposures (1) to (3) for the data subsample.

[5] This category includes firms in Professional, Scientific and Technical Services, Business and Administrative Services, Transport and Distribution, Other Community, Social and Personal Services, Human Health and Social Work.

It should be noted that there are limitations to this analysis. Due to the nature of the data, it is only possible to identify borrowings of an SME *within the same bank*. The analysis therefore will not identify any cross-bank borrowing of Irish firms, which has been reported anecdotally as having been most prevalent when firms were borrowing for riskier activity, such as property purchase.[6]

4.1 *SME Property Debts, Full Sample*

Table 2 below shows that 95.6 per cent of firms are not exposed to property through channels (2) and (3) as described in Section IV above. Measured by the number of *loans* in the SME books, this number falls to 89.3 per cent. When weighted by outstanding balance, 32.4 per cent of the SME loan book is accounted for by firms with a property exposure. This indicates that larger borrowers are more likely to have non-core property-related borrowings and echoes findings of McCann (2014), who shows that cases of extremely high indebtedness are concentrated among between 10 and 20 per cent of the Irish SME population. It is important to reiterate that the numbers presented here can only identify borrowing within the same bank and so must be interpreted as preliminary or lower bound estimates.

Table 2: *Firms Identified as Having Property Exposure, Full Sample, December 2013*

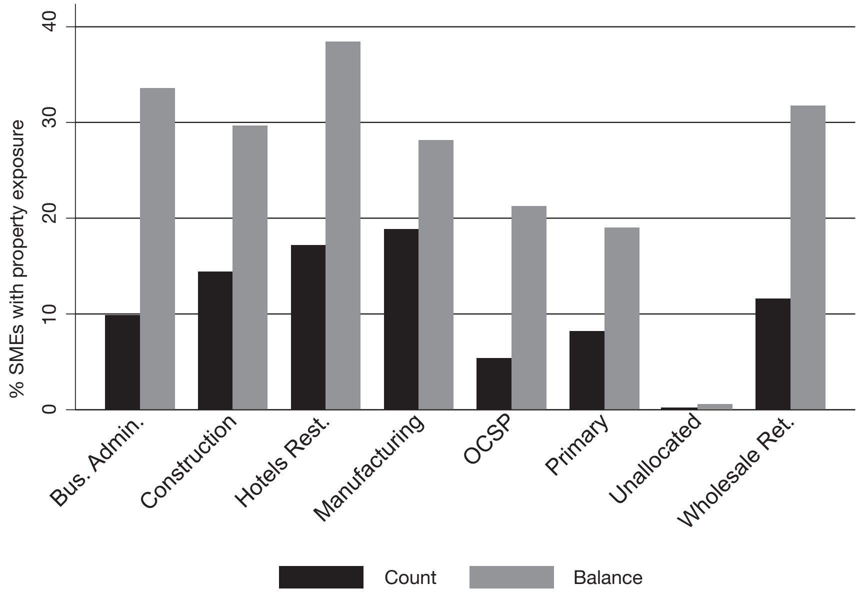
Measure	*Sample*	*Property Exposure %*
Number of firms	184,758	4.45
Number of loans	299,445	10.75
Share of balance	€20.55 billion	32.36

Source: Central Bank of Ireland, Loan-Level Data, December 2013.
Note: Full sample, Personal (Private Households) and Commercial Real Estate exposures analysed. Mortgages omitted.

Figure 2 reports the percentage of SMEs per sector, by loan count and outstanding balance, that are exposed to property at the same bank. In all sectors, the balance-weighted figure is higher than the loan-count figure, indicating that borrowers with larger SME exposures are more likely to have interlinked property exposures. The sectors where these linkages are most prevalent are the Business and Administrative Services, Hotels and

[6] For this reason, the figures on the share of firms borrowing for property-related activity should be treated as a lower bound.

Figure 2: *Percentage of SME Loans With Property Exposures by Sector: Full Sample December 2013*



Source: Central Bank of Ireland, Loan-Level Data, December 2013.

Restaurants, and Wholesale and Retail sectors, where between 30 and 40 per cent of the SME balance outstanding within these sectors is accounted for by enterprises that also have property exposures.

4.2 *Wider Definition of Property Exposure, Data Subsample*

For a subset of the LLD, it is possible to track enterprises whose owners have a mortgage outstanding with the same bank but managed in a different loan book, giving a third method of identifying firms' property exposures to complement those presented in Section 4.1. This subsample covers 146,880 of the 295,941 loans in the data.[7]

This subsample is not a representative sample of the Irish SME loan book. Table 3 shows that the subsample contains relatively more Primary and relatively less Unallocated loans for each of four loan-size categories as well as more small and medium Construction loans than the full sample. Within loan-size categories however, the average loan size is similar between the full and subsamples available across all sectors, see Table 4. Between them these samples cover a large majority of the universe of bank loans to Irish SMEs contributing to the external validity of the findings, at least for Ireland.

[7] Only non-zero balance loans are considered here.

Table 3: *Full Sample and Subsample: Relative Number of Loans (per cent), by Sector and Loan Size*

	Micro		*Small*		*Medium*		*Large*	
	Full	*Sub*	*Full*	*Sub*	*Full*	*Sub*	*Full*	*Sub*
Business Admin.	8.72	6.20	4.02	3.00	1.14	1.04	0.98	0.83
Construction	2.58	4.37	1.55	2.52	0.55	0.69	0.34	0.35
Hotels Restaurants	2.30	3.01	1.38	1.88	0.57	0.75	1.08	1.39
Manufacturing	1.62	2.76	1.18	1.94	0.41	0.58	0.54	0.44
OCSP	13.14	12.12	7.07	5.72	0.86	1.34	0.82	0.98
Primary	7.15	11.44	6.58	10.62	1.93	3.16	1.19	1.63
Unallocated	7.21	0.48	4.80	0.18	1.11	0.03	0.24	0.04
Wholesale Retail	9.16	9.41	6.03	7.08	1.78	2.08	1.94	1.93

Source: Central Bank of Ireland, Loan-Level Data, December 2013.
Notes: Micro, small, medium and large refer here to loan size categories €0–€10,000, €10,001–€50,000, €50,001–€150,000, >€150,000, respectively. Figures in the columns marked "Full" sum to 100, as do figures in the columns marked "Sub".

Table 4: *Full Sample and Subsample: Average Loan Size (EUR 000s), By Sector and Loan Size*

	Micro		*Small*		*Medium*		*Large*	
	Full	*Sub*	*Full*	*Sub*	*Full*	*Sub*	*Full*	*Sub*
Business Admin.	2.82	2.47	22.49	23.39	86.88	87.92	601.65	512.92
Construction	3.17	3.08	22.66	22.70	89.81	85.62	375.44	448.49
Hotels Restaurants	3.14	3.06	23.26	23.03	91.73	92.10	1,076.99	1,146.22
Manufacturing	3.60	3.62	22.85	22.96	89.58	87.47	871.05	730.23
OCSP	3.97	2.85	18.51	21.57	85.41	84.39	866.65	792.67
Primary	4.48	4.40	22.55	22.86	86.53	86.33	487.71	468.22
Unallocated	3.78	2.77	21.64	20.44	83.44	87.04	433.80	803.28
Wholesale Retail	3.61	3.43	22.51	22.95	86.24	84.33	698.97	726.26

Source: Central Bank of Ireland, Loan-Level Data, December 2013.
Note: Micro, small, medium and large refer here to loan size categories €0–€10,000, €10,001–€50,000, €50,001–€150,000, >€150,000, respectively.

Table 5 provides the joint incidence of loan types by count and balance for eight possible combinations of SME, mortgage, personal and CRE loans for this subsample. Of SME loans, 23.6 per cent are linked to property exposures, with this share rising to 43.2 per cent when weighted by outstanding SME balance, highlighting the pattern of larger borrowers having a higher propensity to borrow for property purchases. In Columns (3) and (4) of Table 5, the mortgage exposures are restricted to Buy-to-Let (BTL) mortgages only, as these loans are more likely to be associated with property speculation and

Table 5: *Joint Incidence of Firms with SME, Mortgage, Personal and CRE Exposure, Percentage of Loans and Balance: Subsample December 2013*

	(1)	*(2)*	*(3)*	*(4)*
	All Mortgages		*Only BTL*	
Property Exposure Type	*Count*	*Balance*	*Count*	*Balance*
None	76.42	56.79	83.97	59.45
Mortgage only	9.07	3.36	1.52	0.70
Personal only	4.57	9.95	4.85	10.29
CRE only	5.64	14.22	5.83	14.67
Mortgage and Personal	0.39	0.55	0.11	0.20
Mortgage and CRE	0.34	0.89	0.15	0.44
Personal and CRE	3.27	12.79	3.42	13.54
All	0.30	1.45	0.15	0.70

Source: Central Bank of Ireland, Loan-Level Data, December 2013.
Note: CRE refers to Commercial Real Estate lending.
Note: The columns "All mortgages" indicate that where Mortgage is referred to, both PDH and BTL mortgages are included in calculations.

investment than mortgages to purchase Principal Dwelling Houses (PDH). A comparison of columns (1) and (3) shows that of the 9 per cent of SME loans with a mortgage link, just under a fifth of these relate to BTL borrowing. Overall, the impact of including only BTL exposures from the mortgage book is that the share of firms with property links falls to 16 per cent. However, the balance-weighted share only falls from 43 to 40 per cent, indicating that it is large SME borrowers who have predominantly borrowed for BTL rather than PDH purposes.

Table 6 shows that default rates among SMEs with PDH exposures only are in fact lower than default rates among SMEs with no identified property exposure. Default rates for SMEs whose owners have BTL exposures are

Table 6: *Conditional SME Default Rates, Percentage of Loans and Balance: Subsample December 2013*

Mortgage Link	*PDH/BTL*	*SME Default Rate*	
		Count	*Balance*
No mortgage	–	26.63	49.21
Mortgage	Either	18.31	50.69
Mortgage	PDH	15.70	40.74
Mortgage	BTL	29.05	70.66
Total		25.76	49.31

Source: Central Bank of Ireland, Loan-Level Data, December 2013.

higher than for those with PDH or no property exposure. For this reason, it appears that when measuring firms' exposure to property *investment*, it is appropriate to include firms' exposures to BTL mortgages, but not firms where an owner's PDH mortgage can be identified.

This suggests that 16 (41) per cent is the more insightful number to use when measuring firms' (balance-weighted) property exposures.

V DEFAULT RISK OF PROPERTY-EXPOSED SMEs

SMEs with property exposures are significantly more likely to default. In the analysis that follows, SMEs with property exposures are compared to SMEs with debts only classified as relating to the core business. By loan count, Table 7 reports that, for the full sample as used in Table 2, SMEs with property exposure have a default rate that is almost double that for those without property exposures. When weighted by SME loan balance, the SME default rate for the 8,221 firms with an identifiable property exposure rises to almost 55 per cent.

Table 7: *SME Default Rates for Firms With and Without Property Exposures, Percentage of Loans and Balance: Full Sample December 2013*

	Default Rate	
Property?	*Count*	*Balance*
No	23.4	33.6
Yes	43.0	54.5

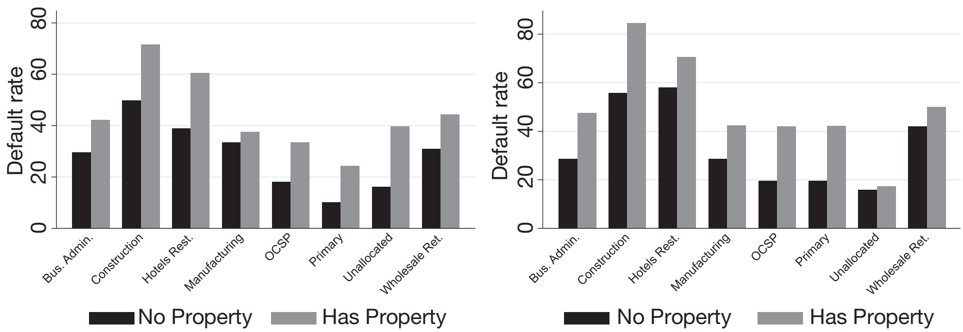
Source: Central Bank of Ireland, Loan-Level Data, December 2013.
Note: Full sample, Personal (Private Households) and Commercial Real Estate exposures analysed. Mortgages omitted.

Default rates for the full sample are presented by sector of activity in Figure 3. The pattern of higher default rates for SMEs with property exposures holds in all sectors, whether measured by loan count or weighted by balance. The highest default rates are found among firms in the Construction, Hotels and Restaurants, and Wholesale and Retail sectors. The Primary sector, composed mainly of agricultural loans, has the lowest default rate for SMEs with no property linkages at 10 per cent.

Figure 4 reports the SME default rate by property exposure type for the subsample of loans for which the widest range of property debt can be identified. Firms whose only property-related exposure is a BTL mortgage have a balance-weighted default rate of 40 per cent, similar to the default rate

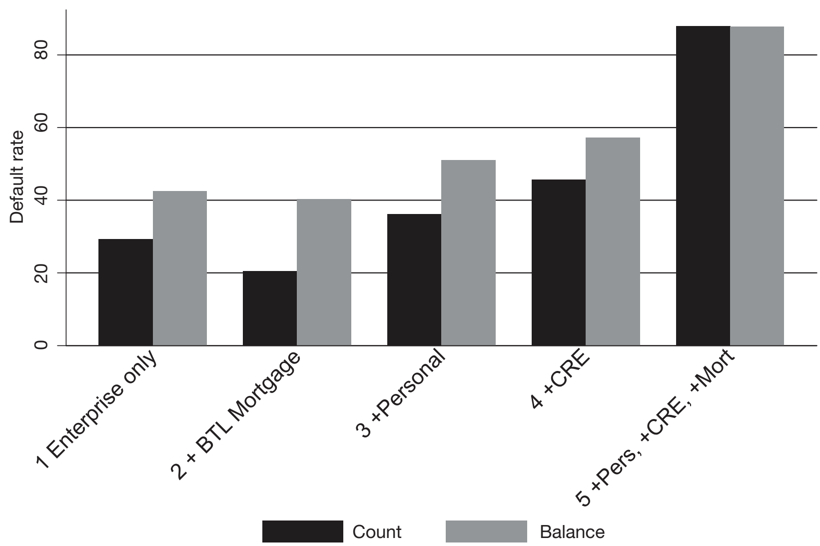
Figure 3: *Comparing Default Rates for SME Firms With and Without Property Exposure: Full Sample December 2013*

(A) Default Rate, Number of Loans *(B) Default Rate, Balance-Weighted*



Source: Central Bank of Ireland, Loan-Level Data, December 2013.

Figure 4: *SME Default Rates by Property Exposure Type: Subsample December 2013*



Source: Central Bank of Ireland, Loan-Level Data, December 2013.

for SMEs with no identified property debt. Firms with a property link in the Personal sector have a balance-weighted default rate that climbs above 50 per cent, with this number higher again for SMEs whose only property exposure is in the CRE asset class. Finally, SMEs that have exposures across all three definitions of property linkage have a default rate above 80 per cent. This strongly suggests that it is not only the *incidence* of property exposure that matters when considering differential default risk, but that the breadth or intensity of SMEs' property borrowings may help to further explain the riskier profile of these borrowers. The role of incidence and intensity of property exposures is treated more formally in McCann and McIndoe-Calder (2014). Tables 8 and 9 confirm that the default rate both by count and balance-weighted increases as the number of property loans increases for each of the sectors in the data.[8]

Table 8: *Default Rates by Property Intensity and Sector, Count: Subsample December 2013*

	None	*BTL Mortgage*	*Personal*	*CRE*	*All*
Business Admin.	36.87	31.55	41.88	47.37	95.65
Construction	54.18	45.63	67.02	70.50	100.00
Hotels Restaurants	42.97	23.84	58.24	58.59	100.00
Manufacturing	36.69	41.89	36.13	37.58	70.00
OCSP	29.30	20.00	31.32	35.58	71.43
Primary	10.81	6.91	12.92	32.63	87.50
Unallocated	26.15	39.13	46.67	27.27	–
Wholesale Retail	35.97	24.54	44.13	42.40	41.67

Source: Central Bank of Ireland, Loan-Level Data, December 2013.
Note: Subsample of 146,880 loans.

Table 9: *Default Rates by Property Intensity and Sector, Balance-Weighted: Subsample December 2013*

	None	*BTL Mortgage*	*Personal*	*CRE*	*All*
Business Admin.	40.79	48.39	52.20	59.49	99.36
Construction	66.22	52.50	75.37	85.59	100.00
Hotels Restaurants.	65.85	34.27	69.56	67.26	100.00
Manufacturing	46.00	75.14	56.38	25.79	81.94
OCSP	26.08	44.63	22.99	42.76	45.50
Primary	22.04	32.83	24.55	47.63	93.69
Unallocated	7.56	48.99	9.23	13.43	–
Wholesale Retail	50.38	45.06	50.67	60.98	34.94

Source: Central Bank of Ireland, Loan-Level Data, December 2013.
Note: Subsample of 146,880 loans.

[8] This pattern does not always hold when BTL mortgages are identified with an SME loan, however, it does hold in (almost) all cases where more than one property loan is associated with an SME loan across the nine identified sectors in the available data.

VI CONCLUSIONS

This paper provides, for the first time, estimates on the extent of property debt overhang on Irish real-economy SMEs. Survey data suggest a minimum of 20 per cent of Irish SMEs weighted by employment size have an exposure to property. Loan-level data show that 10 per cent of firms (or 33 per cent of outstanding balance) have exposure to property investment at the same bank. This figure rises to 16 per cent (41 by balance) when including the Buy-to-Let mortgage book for a subsample of the data.

Default rates are shown to be substantially higher for SMEs with property exposures. Although the analysis presented here cannot draw inference regarding a causal relationship between SME default and property exposure the descriptive evidence shows that property exposures are indeed correlated with higher SME default rates, which are in some cases double the default rate among SMEs without property linkages.

The policy implications of this analysis are stark; pre-crisis property-related borrowings are correlated with higher default rates on firms' core enterprise debts. The reallocation of productive capital towards investment in an over-valued asset is confirmed to have had long-lasting impacts on the financial health of Irish SMEs. Such a pattern suggests that policymakers must take account of this additional channel through which over-heating property markets can harm long-term economic growth prospects. In the context of the post-2008 Irish economic recovery, the decoupling of non-core property-related debt from the debts of an otherwise potentially viable SME represents an area of crucial policy importance. It is to be hoped that efforts currently underway to provide for such a resolution of the SME debt overhang will contribute positively to private sector investment and employment growth in the coming years.

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