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Abstract

Securitisation special purpose entities (SPEs) are a key component of the market-based finance sector domiciled in Ireland with approximately €390 billion in assets in Q3 2017, growing to over €430 billion in Q3 2018. In this *Note*, we document the different business models of these vehicles, with a specific focus on their derivative activities. These entities are set up as off-balance sheet vehicles used in the securitisation process. While they are domiciled in Ireland, they are strongly interconnected with the international financial system through their sponsor and funding linkages. These interconnections, in particular with banks, warrant financial stability monitoring of these vehicles' derivative activities owing to their potential to amplify stress. We show that SPEs predominately use interest rate derivatives over the period 2015–2017. They are also active counterparties in commodity, credit and equity derivatives, but to a much lesser degree. Our findings provide new insights on the extent of the bank sponsor linkages and aid a mapping of the exposures between the banking and non-bank financial system in derivative markets.

1 Introduction

Market-based finance in Europe has grown in prominence compared to traditional bank-based financial intermediation over the last decade. It can be broadly defined as “the raising of debt or equity through the financial markets rather than through the banking system” (Lane and Moloney (2018)). Securitisation special purpose entities (SPEs), known as financial vehicle corporations (FVCs), are a key component of the market-based finance sector domiciled in Ireland with approximately €390 billion in assets as of Q3 2017, growing to over €430 billion in Q3 2018. While these off-balance sheet vehicles are domiciled in Ireland, they have significant linkages to sponsors internationally (Golden and Hughes (2018)). In particular, they are highly interconnected with banks.

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This *Note* describes the business models and sponsor linkages of FVCs domiciled in Ireland with a specific focus on their derivative exposures. The analysis is based on balance sheet data on FVCs which are then matched with derivative transaction data reported under the European Market Infrastructure Regulation (EMIR). The *Note* also describes how the derivative use of these vehicles is related to their characteristics, including their business models, and the characteristics of their sponsors. We find that FVCs that engage in derivatives markets are, on average, twice as large as their counterparts without derivative exposures. In addition, FVCs which use derivatives are significantly more likely to have listed their debt on a stock exchange compared to non-derivative users. These results point to evidence of economies of scale effects regarding engagement in derivative markets. As expected, FVCs engaged in synthetic securitisation are more likely to have derivative exposures compared to those entities engaged in traditional securitisation.¹ Further, FVCs sponsored by financial institutions are almost an order of magnitude more likely to engage in derivative markets than their counterparts sponsored by non-financial corporations.

From a financial stability perspective, understanding the business models of FVCs, including their derivative activities, is important for a number of reasons. FVCs are not prudentially regulated as independent entities but are closely linked to the international banking system through their sponsor linkages. These vehicles form part of financial intermediation chains which can operate across borders. They hold no substantial equity buffers and therefore the investors assume the risks of the exposures of these vehicles. While they have limited linkages to the domestic economy in Ireland, these entities are exposed to developments in international financial markets. As noted by Lane (2018), the strong interconnectedness of market-based finance entities (such as FVCs) with banks can amplify financial shocks and vulnerabilities across sectors. Large debt liabilities coupled with deep interconnections with the banking system were all found to contribute to increased systemic risk during the financial crisis of 2008. In particular, contagion and step-in risks were prevalent.² Many SPEs in Europe and the US received sponsor support through liquidity and credit lines. In some cases, the losses from off-balance sheet vehicles were taken onto the sponsor bank balance sheet (Acharya et al., 2013). Therefore, financial shocks experienced by these types of entities in derivative markets can quickly spill over to their sponsors and the banking systems. From a macro-prudential perspective, it is important to map and identify potential contagion channels between banks and the market-based finance sector, including in derivative markets. Such exercises can therefore inform monitoring frameworks for this part of the financial system.³

The *Note* proceeds as follows: in Section 2 we describe the main business models of securitisation SPEs, in Section 3 we discuss their sponsor linkages. Following this, Section 4 provides an overview of the use of derivative contracts by these entities, with a specific focus on the types of derivative they employ. Section 5 concludes.

¹Synthetic securitisations are securitisations where there is a transfer of credit risk of an asset or pool of assets achieved by the use of credit derivatives, guarantees or any similar mechanism. Synthetic securitisation is typically used for capital relief and credit risk management. In contrast to traditional securitisation, it does not typically serve as a source of funding to the sponsor. While in traditional securitisation the sponsor would typically retain the first loss tranche, in synthetic securitisation this tranche is usually transferred to the investors.

²Bank for International Settlements (2017) define step-in risk as the “risk that a bank decides to provide financial support to an unconsolidated entity that is facing stress, in the absence of, or in excess of, any contractual obligations to provide such support.”

³Both the Financial Stability Board (FSB) and the European Systemic Risk Board (ESRB) conduct annual monitoring exercises on the market-based finance sector. See, for example, Financial Stability Board (2018) and European Systemic Risk Board (2018) which both include FVCs as part of their monitoring frameworks.

2 Business Models

While FVCs engage in securitisation, there are significant differences in business models across entities. In particular, there is heterogeneity with respect to the type of debt securities they issue and how they approach the securitisation process. The breakdown of debt securities issued by these entities, weighed by their assets, illustrates this as shown in Figure 1. There are a variety of debt instruments issued by FVCs with no single dominant strategy. Residential and commercial real estate-backed securities each have a share of over ten per cent. Given the role of mortgage markets in the recent financial crisis, these entities are particularly noteworthy from a financial stability perspective. Almost fifteen per cent of assets are held by FVCs issuing cash collateralised debt obligations (CDOs, securitisation instruments backed primarily by loans and bonds). CDOs have received increased attention from regulators and policymakers alike in recent years owing to the lack of transparency of these products during the global financial crisis. Over ten per cent of assets are linked to entities which engage in multiple issues of securitised assets and corporate asset backed securities. Noteworthy is the size of the 'Other' category, which contains a myriad of other categories, highlighting the diversity of the business models of these entities.

There are differences in the propensity of these categories of vehicles to engage in derivative transactions. A vast majority of assets of multi-issuance vehicles are linked to vehicles engaged in derivative markets, reflecting the need to manage a complex web of payment streams stemming from multiple issuances. In contrast, vehicles issuing commercial mortgage-backed securities use derivatives to a lesser extent, perhaps reflecting the relatively simple nature of payment streams stemming from these instruments. Over seventy per cent of assets of FVCs relate to traditional securitisation while less than ten per cent engage in synthetic securitisation. 'Other' securitisation amounts to almost twenty per cent of the assets. As one might expect, synthetic securitisation is much more likely to involve derivative contracts, in comparison with traditional securitisation. Given that synthetic securitisations relate to the flow of payments without the backing of the underlying assets, they can be seen as more fragile and complex and thus more relevant from a financial stability perspective.

3 Sponsor Linkages

As noted above, Irish domiciled FVCs have significant linkages to international financial markets. In Figure 2 we show the composition of the sponsors of Irish-domiciled FVCs by their country of domicile, weighed by the assets of the relevant FVCs. Almost thirty per cent of assets are linked to FVCs sponsored by institutions from the UK. Almost a quarter of the assets are held by FVCs sponsored by organisations from the United States. Irish companies sponsor vehicles accounting for less than twenty per cent of all Irish-domiciled FVCs. Interestingly, there are differences in the likelihood of using derivatives for vehicles with sponsors from different countries. For instance, vehicles sponsored by organisations domiciled in France and the UK seem significantly more likely to engage in derivative markets than their counterparts sponsored by entities from the United States or Germany. These differences are explained in part by a few large entities which represent a sizable part of the assets within the mentioned categories.

In Figure 3 we present the breakdown of sponsors of Irish-domiciled FVCs by their sector, weighed by the assets of the relevant FVCs. It is noteworthy that most of the SPEs are set up by financial institutions, with over forty per cent sponsored by banks. Almost a third

are set up by financial auxiliaries. Ten per cent are sponsored by the government (e.g. vehicles set up by national authorities, incl. NAMA). Non-financial corporations sponsor only approximately five per cent of the assets of FVCs in Ireland. As expected, vehicles sponsored by non-financial corporations are less likely to engage in derivative markets compared to those sponsored by financial institutions. In this regard, banks and financial auxiliaries can avail of economies of scope and scale leveraging their infrastructure and previous experience in international capital markets. This increases the likelihood of their vehicles engaging in derivative markets.

4 Derivative Use by Securitisation SPEs

In this section, we document the use of derivatives by securitisation SPEs domiciled in Ireland using data reported under the EMIR. In Figure 4 we present the exposures of these vehicles as measured by gross notional of all their derivative contracts outstanding at the end of September 2017,⁴ divided into five broad asset classes. A vast majority of the exposures are towards interest rate derivative contracts. This is in line with the recent literature on the structure of the EU derivative market (see Abad et al. (2016) and European Securities and Markets Authority (2017)). Business models of FVCs aim to match the flows of payments on both sides of their balance sheets. Thus, any differences in the interest rates between their assets and liabilities may be reconciled using interest rate derivatives, for instance swapping fixed interest rates for variable interest rates. FVCs are also active in credit, equity, and foreign exchange derivatives. The disproportion between interest rate and other derivatives in terms of gross notional overstates the differences in risk exposures, due to the nature of these contracts. Foreign exchange derivatives may be used by these entities to match flows of payments in different currencies, similar to interest rate derivatives. Credit and equity derivatives may be used to synthetically create flows of payments. FVCs have very limited exposure towards commodity derivatives.

It is worth noting that very few of the derivative contracts of securitisation SPEs are centrally cleared. Central clearing formed part of the policy response following the global financial crisis with the aim of mitigating systemic risk and improving transparency of derivative markets. In this way, externalities related to counterparty credit risk can also be reduced through central clearing in derivative markets. As it stands, securitisation SPEs take on the full counterparty credit risk related to their derivative contracts as these transactions are not centrally cleared. This is unlike some of their sponsors, e.g. banks, who are likely to be centrally clearing their derivative exposures, and can therefore be subject to higher margin requirements.

There are a number of differences in the characteristics of derivative users vis-à-vis non-derivative users. Table 1 shows that FVCs which use derivatives are on average over twice as large as vehicles which do not use derivatives. Further, eighty-five per cent of securitisation SPEs which use derivatives have listed their debt issued on a stock exchange, thirty-three percentage points above the ones not engaged in derivative markets. These findings suggest economies of scale effects are important for the engagement in derivative markets. FVCs sponsored by banks do not appear to differ significantly with respect to the bank sponsor characteristics. Both derivative user and non-user vehicles are predominantly orphan entities (set up by a charitable trust). Consequently, there is no direct liability of the sponsor,

⁴Owing to new EMIR regulatory technical standards effective from 1 November 2017, the sample used in this analysis ends in Q3 2017 in order to maintain consistency in our reporting sample.

although sponsors may still be exposed to step-in risk. While these entities are not consolidated into their parents for reporting or supervision purposes, the sponsors may still decide to provide financial support to an unconsolidated entity that is facing stress. In Table 2, it is noteworthy that while only approximately twenty per cent of consolidated securitisation SPEs use derivatives, over forty per cent of orphan entities engage in such transactions. Even larger differences appear between FVCs which listed the debt issue on a stock exchange and those which did not (fifty-one per cent versus sixteen per cent). In line with the expectations, entities sponsored by non-financial corporations are less likely to use derivatives, that is six per cent versus forty-four per cent for bank sponsors and thirty-six per cent for non-bank financial sponsors. Interestingly, FVCs sponsored by a company domiciled in the European Union are almost twice as likely to use derivatives, as compared to non-EU sponsored entities.

5 Conclusions

This *Note* provides an overview of the business models and sponsor linkages of Irish-domiciled securitisation SPEs, with a particular emphasis on their use of derivative contracts. Employing data from the EMIR, we show that securitisation SPEs are active participants in derivative markets, particularly in interest rate derivatives, although also in credit, equity, and currency derivatives. These derivative exposures are not subject to central clearing, making them more susceptible to counterparty credit risk and to potentially lower margin requirements. Of particular importance, the analysis shows that over forty per cent of assets of securitisation SPEs domiciled in Ireland are of SPEs sponsored by banks. In addition, bank sponsored securitisation SPEs are more likely to engage in derivative markets than SPEs sponsored by other institutions. The nexus of reliance on debt finance, strong interconnectedness with the banking system, and the engagement in derivative markets reinforces the importance of close monitoring and macroprudential surveillance of SPEs.

References

- Abad, J., Aldasoro, I., Aymanns, C., D'Errico, M., Rousova, L. F., Hoffmann, P., Langfield, S., Neychev, M., and Roukny, T. (2016). Shedding light on dark markets: First insights from the new EU-wide OTC derivatives dataset. ESRB Occasional Paper 11.
- Acharya, V., Schnabl, P., and Suarez, G. (2013). Securitization without risk transfer. *Journal of Financial Economics*, 107(3):515–536.
- Bank for International Settlements (2017). Basel Committee on Banking Supervision: Guidelines on identification and management of step-in risk. Basel Committee on Banking Supervision Report.
- European Securities and Markets Authority (2017). EU derivatives markets - a first time overview. ESMA Report on Trends, Risks and Vulnerabilities No. 2.
- European Systemic Risk Board (2018). EU Shadow Banking Monitor No. 3. ESRB Report.
- Financial Stability Board (2018). Global Shadow Banking Monitoring Report. FSB Report.
- Golden, B. and Hughes, P. (2018). Shining a Light on Special Purpose Entities in Ireland. Central Bank of Ireland Economic Letter No.11.
- Lane, P. R. (2018). The Management of Systemic Risks: Current Priorities. *Address at the European Systemic Risk Board (ESRB) Annual Conference*.
- Lane, P. R. and Moloney, K. (2018). Market-based finance: Ireland as a host for international financial intermediation. In Banque de France, editor, *Financial Stability Review, Non-Bank Finance: Trends and Challenges*. Banque de France.

Table 1: Average values of selected variables for quarter-vehicle observations of Irish domiciled securitisation SPEs that are users of derivative contracts and those that are non-users of derivative contracts. Size denotes total assets of an institution in millions of EUR, listed denotes whether an entity listed debt on a stock exchange, orphan denotes whether an entity is run by a charitable trust and not directly by the sponsor, multi-vehicle denotes whether an entity is part of a group of SPEs. Sponsor variables averaged only for entities sponsored by banks. Sponsor size denotes total assets of the bank sponsor in millions of EUR, CET1 ratio denotes the banks core equity tier 1 ratio as defined within Basel III, NIM denotes net interest margin. Gross notional denotes total gross notional of derivatives to which an entity is a counterparty. Source: Authors' calculations using Central Bank of Ireland data.

Variable	Mean	
	Users	Non-Users
Size (EUR mn)	917.75	407.17
Listed	0.85	0.52
Orphan	0.95	0.88
Multi-vehicle	0.29	0.27
Sponsor size (EUR mn)	1,105.48	1,112.74
Sponsor CET1 ratio	14.45	14.58
Sponsor NIM	1.50	1.60
Gross notional	446.59	0.00

Table 2: Number of (quarter-vehicle) observations for financial vehicle corporations that use or do not have derivative contracts at the end of a given quarter between Q3 2015 and Q3 2017. The last column presents the percentage of quarter-vehicle observations for a given category that are derivative users in all quarter-vehicle months in a given category. Rows denote specific subsets of the population of Irish securitisation SPEs. DTC – bank sponsor, FIN – financial non-bank sponsor, NFIN – non-financial corporate sponsor. Source: Authors’ calculations using Central Bank of Ireland data.

Variable	Number of observations		% users
	User	Non-User	
Orphan	1,666	2,483	40%
Non-orphan	87	340	20%
Listed	1,477	1,438	51%
Non-listed	259	1,323	16%
Multi Vehicle	453	717	39%
Single Vehicle	1,126	1,894	37%
DTC sponsored	992	1,260	44%
FIN sponsored	944	1,644	36%
NFIN sponsored	16	251	6%
EU sponsored	1,504	1,843	45%
Non-EU sponsored	448	1,312	25%
Traditional	1,050	2,703	28%
Synthetic	229	229	50%
Other	667	283	70%
Total	1,961	3,289	37%

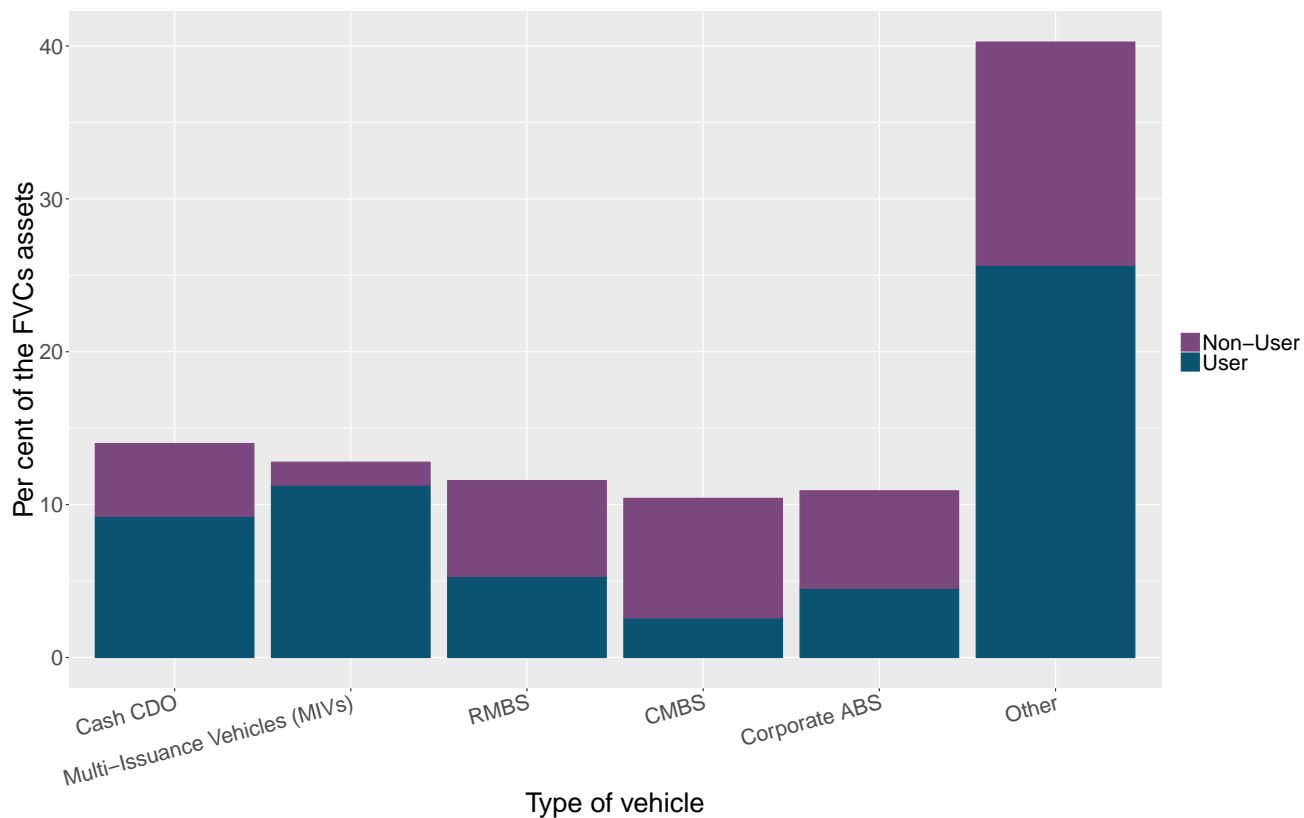


Figure 1: Distribution of assets of securitisation SPEs domiciled in Ireland by the type of securitisation they engage in (Q3 2017).

Notes: The assets of the vehicles are split into those vehicles that use derivatives at the end of Q3 2017 and those that do not. CDO refers to collateralised debt obligations, ABS to asset-backed securities, CMBS to commercial mortgage-backed securities, and RMBS to residential mortgage-backed securities.

Source: Authors' calculations using Central Bank of Ireland data.

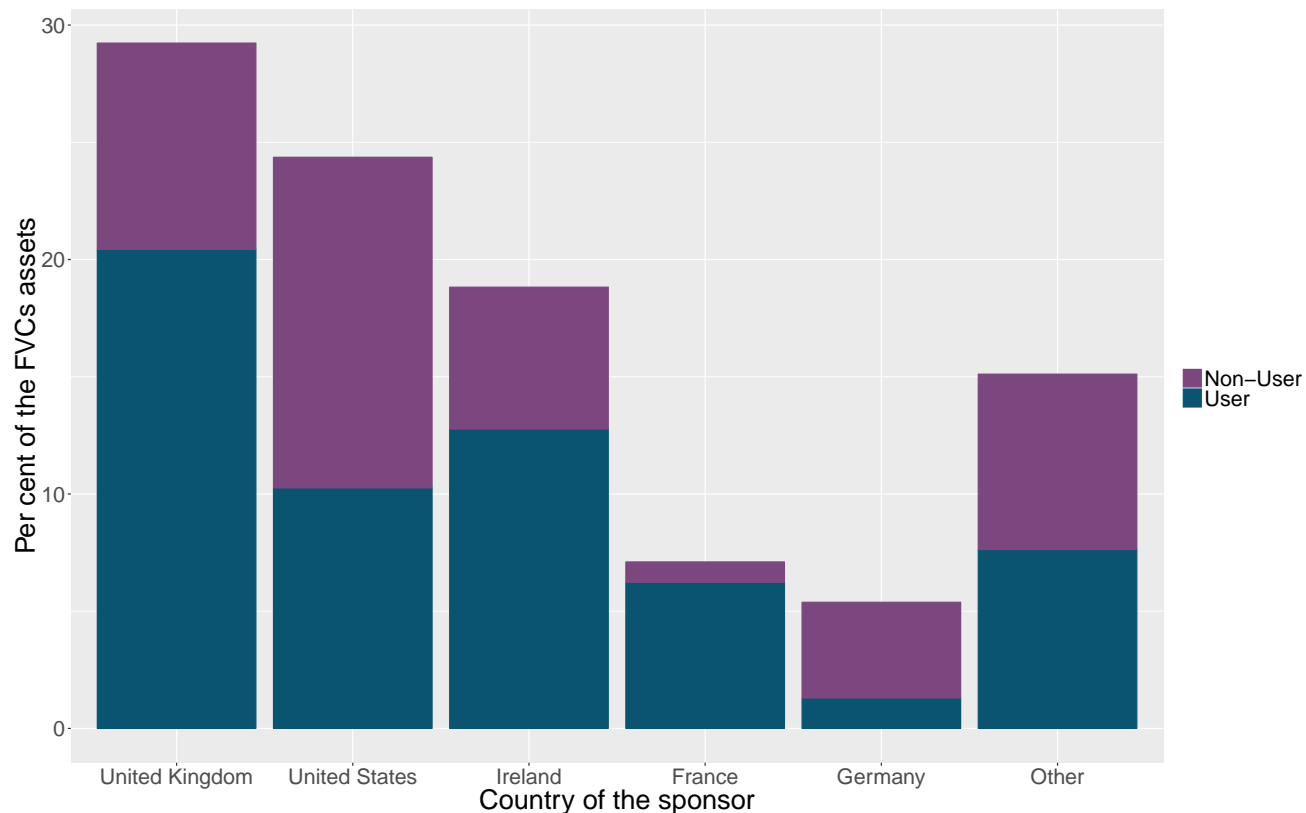


Figure 2: Distribution of assets of securitisation SPEs domiciled in Ireland by the country of domicile of their sponsor (Q3 2017).

Notes: The assets of the vehicles are split into those vehicles that use derivatives at the end of Q3 2017 and those that do not.

Source: Authors' calculations using Central Bank of Ireland data.

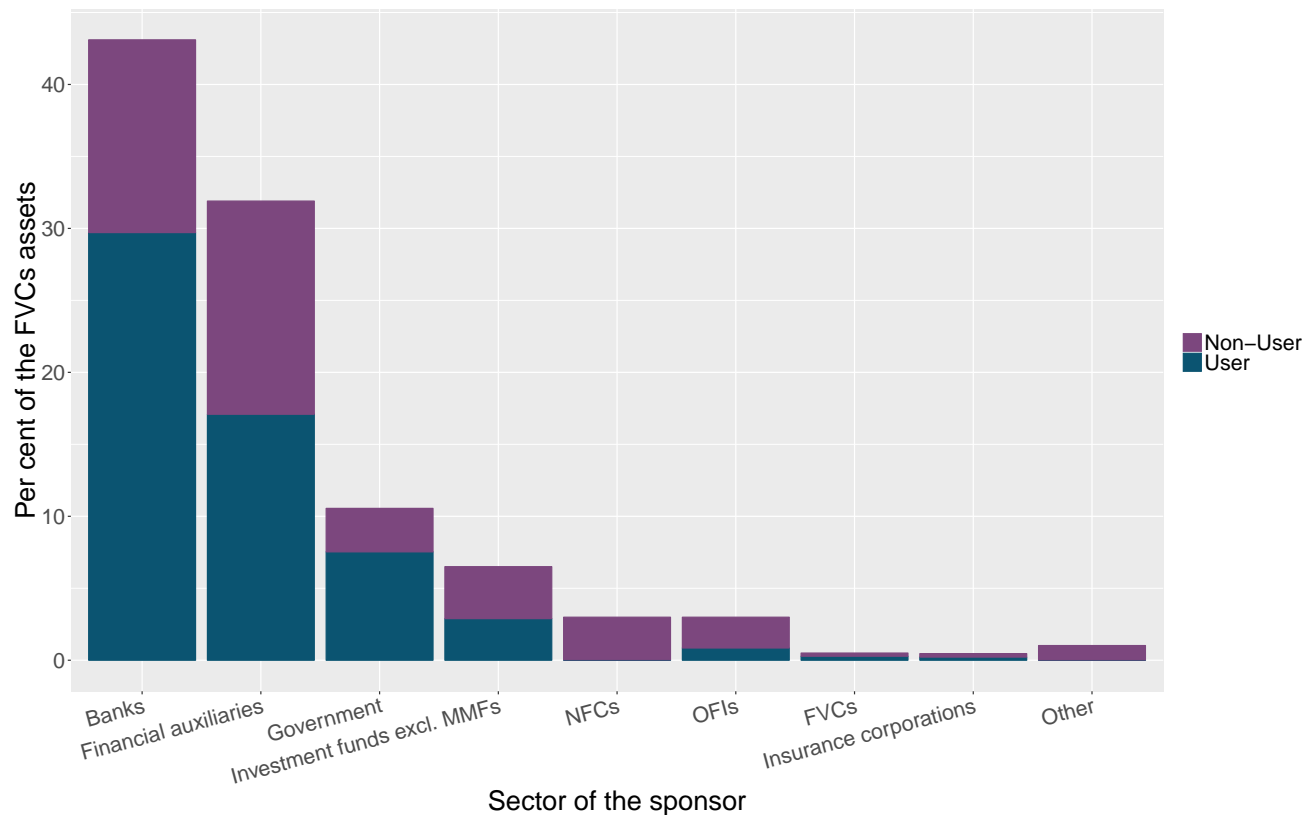


Figure 3: Distribution of assets of securitisation SPEs domiciled in Ireland by the sector of their sponsor (Q3 2017).

Notes: The assets of the vehicles are split into those vehicles that use derivatives at the end of Q3 2017 and those that do not.

Source: Authors' calculations using Central Bank of Ireland data.

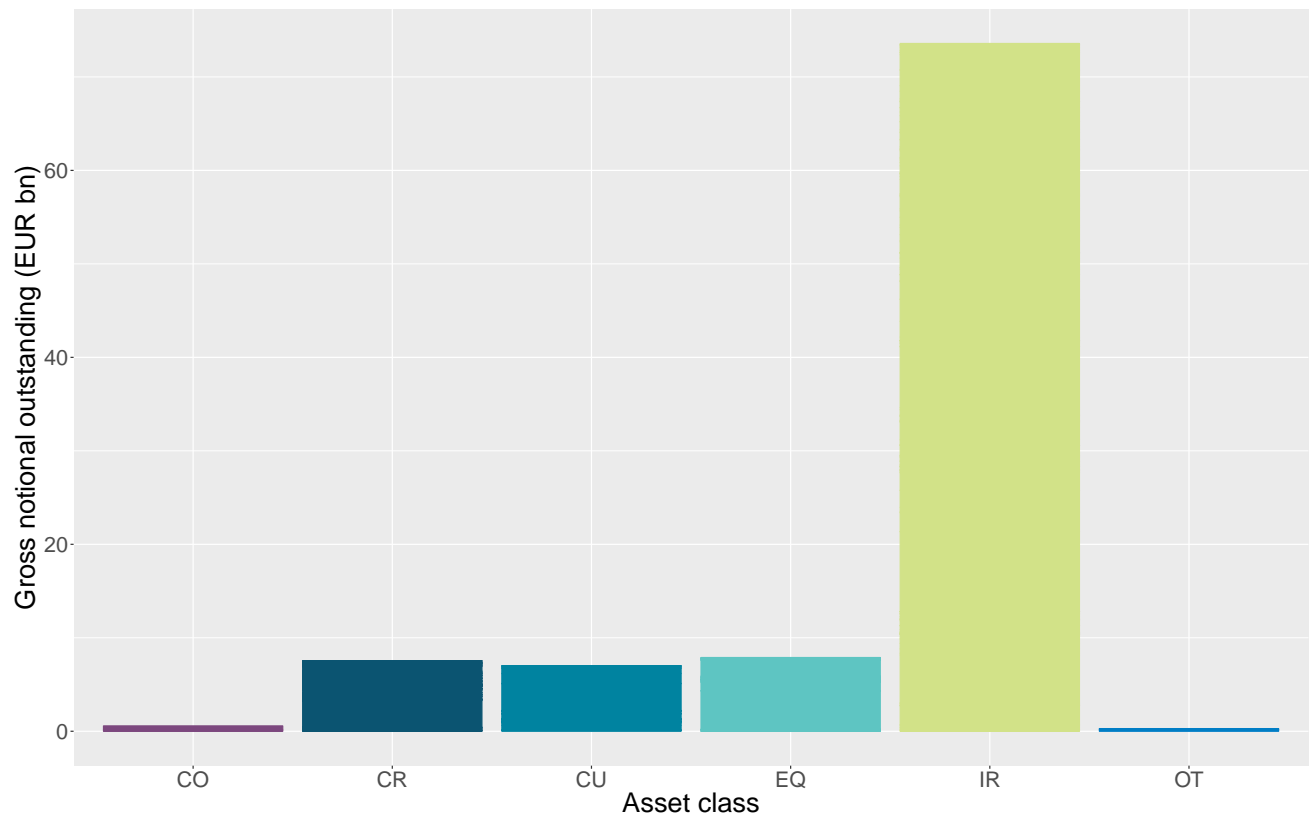


Figure 4: Gross notional exposure of outstanding derivative contracts of all Irish securitisation SPEs divided by derivative asset class (CO – commodity, CR – credit, CU – currency/foreign exchange, EQ – equity, IR – interest rate, OT – other) at the end of Q3 2017. Source: Authors’ calculations using Central Bank of Ireland data.