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Deferred tax assets and banks' risk: The role of accounting standards

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ABSTRACT

This paper investigates the relationship between deferred tax assets (DTA) and bank asset risk. Using a sample of 285 banks from 36 countries over the 2004–2024 period, we find that higher DTA levels are associated with significantly *lower* asset risk, consistent with the prudential constraints imposed by Basel III on the eligibility of DTA for regulatory capital. When focusing on U.S. banks, we find the exact opposite: DTA are positively associated with asset risk, reflecting the more permissive recognition criteria under the American accounting standard, and the less restrictive prudential treatment compared with IFRS jurisdictions.

1. Introduction

In the financial statements, deferred tax assets (DTA, hereafter) represent future tax benefits arising from temporary differences between accounting profit and taxable income. In the banking sector, their relevance extends well beyond routine tax planning. Since DTA are contingent on future profits, they are regarded by prudential supervisors as low-quality capital. Therefore, under Basel III (Basel Committee on Banking Supervision, 2011), most DTA must be deducted from Common Equity Tier1 (CET1, henceforth) capital, creating a direct channel through which DTA can influence bank risk and financial stability.

Despite this regulatory relevance, the empirical literature has largely examined DTA through the lens of earnings management (Amir et al., 1997; Ahmed et al., 1999; Gallemore, 2012) or accounting valuation (Costa and Pais, 2015; Papazissimou and Aggelopoulos, 2026), leaving the direct relationship between DTA levels and banks' risk unexplored. This paper fills this gap.

Using panel data composed of 285 listed banks from 36 countries over 2004–2024 and a dynamic System GMM estimator, we show that higher DTA levels are associated with significantly *lower* bank asset risk in the full international sample, consistent with the disciplining effect of strict IFRS recognition criteria and Basel III capital deduction rules. Furthermore, we show that this relationship reverses among U.S. banks, where higher DTA levels are associated with *greater* asset risk. We attribute this reversal to the more permissive recognition criteria of ASC 740 and the less restrictive Basel III threshold applied in the U.S. prudential framework, which together weaken the disciplining mechanism that operates under IFRS.

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The contributions of this research are multifold. First, it is, to the best of our knowledge, the first to provide direct evidence on the DTA-bank risk nexus. Second, it contributes to the literature on how macroprudential policies influence banks' risk, showing that the effectiveness of Basel III capital deduction rules depends critically on the underlying accounting standard. Third, it highlights a material source of regulatory arbitrage, namely the combination of permissive DTA recognition and relaxed capital treatment, which in the U.S. amplifies, rather than attenuates, bank risk-taking.

The remainder of the paper is organized as follows. Section 2 reviews the literature and states the hypotheses. Section 3 describes the data and methodology. Section 4 presents the results and additional robustness checks. Section 5 concludes.

2. Literature, background, and hypotheses

Under IAS 12 (International Accounting Standards Board, 2008), recognition is conditional on the probability of sufficient future taxable profits, introducing significant managerial judgment into the process. In banks, the primary source of DTA are loan loss provisions, which are recognized for accounting purposes when losses are *expected* but become tax-deductible only when they are effectively*realized* (Tang, 2015; Papazissimou and Aggelopoulos, 2026). This timing mismatch means that DTA accumulate precisely when their recoverability is most uncertain, linking them directly to bank risk and capital quality.

The literature has largely examined DTA through the lens of earnings management. Amir et al. (1997) show that DTA arising from loss carry-forwards depress equity valuations, while Ahmed et al. (1999), Pandey et al. (2022), and Gallemore (2012) document that banks use loan loss provisions, and consequently the associated DTA, to manage regulatory capital ratios, a finding confirmed by Beatty and Liao (2014). Eastman et al. (2025) show that high DTA levels are associated with capital fragility and increased risk in the insurance sector, as DTA lack genuine loss-absorption capacity

Under Basel III (Basel Committee on Banking Supervision, 2011) and the Capital Requirements Regulation (European Parliament and of the Council, 2013), DTA contingent on future profits must be fully deducted from CET1 capital, while those from temporary differences are subject to a 10% threshold. This creates a disciplining mechanism, where banks operating under IFRS face both strict recognition criteria and binding capital deductions, constraining DTA-related risk-taking (Kolias et al., 2019; Anani and Owusu, 2023; Alves et al., 2023; Papazissimou and Aggelopoulos, 2026). In contrast, under ASC 740, all DTA are recognized at the gross amount regardless of recoverability, with a valuation allowance applied only *ex post* (Costa and Pais, 2015). Compounding this, the U.S. Basel III threshold for DTA inclusion in CET1 is set at 25%, materially more generous than the EU's effective 10%, reducing the prudential discipline on DTA accumulation.

Beyond the regulatory dimension, accounting standard differences may also shape how market participants perceive DTA. Since under IAS 12, the recognition of DTA is conditional on the expectation of sufficient future taxable profits, this means that the decision to recognize a DTA conveys a credible signal of management's confidence in future profitability. Consequently, market participants may interpret higher DTA balances, in an IFRS context, as a positive indicator of future earnings prospects, reducing market-perceived risk. This mechanism is consistent with the signaling literature in accounting, according to which voluntary or constrained disclosures that require managerial commitment carry informational value (Amir et al., 1997; Beatty and Liao, 2014). Under ASC 740, however, this signaling channel is weakened because all DTA are recognized regardless of the probability of future profit recovery, with recoverability assessed only *ex post* through a valuation allowance. Therefore, the recognition decision itself carries less forward-looking information and, as a result, higher DTA balances under US GAAP may instead convey uncertainty about future earnings, amplifying rather than reducing market-perceived risk.

Hence, we hypothesize that:

H1: *In IFRS jurisdictions, higher DTA levels are associated with lower bank asset risk.*

H2: *In the U.S. context, higher DTA levels are associated with higher bank asset risk.*

3. Data and methodology

The sample is composed of 285 publicly listed banking institutions from 36 countries covering 2004–2024. Bank-level financial data are sourced from the BankFocus database of the Bureau van Dijk, and country-level macroeconomic variables from the Global Macro Database documented by Müller et al. (2025). All bank-level variables are expressed in thousands of euros, converted by BankFocus at the exchange rate prevailing at each statement's closing date, and are taken from consolidated statements, when available, using unconsolidated statements only when no consolidated statement is reported. All variables are winsorized at the 1st and 99th percentiles.

To proceed with the analysis, we estimate the following dynamic panel model:

$$\begin{aligned}\text{Asset Risk}_{i,j,t} = {} & \alpha + \beta_1 \text{Asset Risk}_{i,j,t-1} + \beta_2 \text{DTA}_{i,j,t} + \beta_3 \text{BankControl}_{i,t} + \\ & \beta_4 \text{CountryControl}_{j,t} + \gamma_t + \epsilon_{i,j,t} \end{aligned} \quad (1)$$

where $\textbf{AssetRisk}_{i,j,t}$ is the dependent variable, measured as the annualized standard deviation of daily equity returns scaled by the ratio of the market value of equity to the total market value of bank i, in country j, at time t, following Gropp and Heider (2010), Claessens et al. (2014), Teixeira et al. (2014), Dutra et al. (2024) and Matos et al. (2023, 2024); $\textbf{DTA}_{i,t}$ is the natural logarithm of

Table 1
Variable definitions and sources.

Variable	Definition	Source
Dependent variables		
Asset risk	Annualized standard deviation of daily equity returns multiplied by the ratio of the market value of equity to the total market value of the bank (Eq. (1)).	BankFocus; authors' calculations
Z-score	Sum of return on assets and the capital-to-assets ratio, divided by the standard deviation of return on assets computed over the full sample period. A higher value denotes greater financial stability.	BankFocus; authors' calculations
Variable of interest		
DTA	Natural logarithm of total deferred tax assets on the balance sheet.	BankFocus; authors' calculations
Bank-specific control variables		
Leverage (%)	Total book liabilities divided by total assets (market-adjusted).	BankFocus
Size	Natural logarithm of total book assets.	BankFocus; authors' calculations
Profitability (%)	Net income after interest expense divided by total book assets (ROA).	BankFocus
Operational efficiency (%)	Non-interest costs divided by net operating income (cost-to-income ratio).	BankFocus
Asset diversification	Balance between loans and other earning assets, calculated as one minus the absolute difference between net loans and other earning assets, scaled by total earning assets.	BankFocus; authors' calculations
Country-level control variables		
Interest rate level	10-year government bond yield (%).	Müller et al. (2025)
Yield curve slope	10-year minus 1-year government bond yield (%).	Müller et al. (2025)
GDP growth	Annual percentage change in real GDP.	Müller et al. (2025)
Inflation	Annual percentage change in the consumer price index.	Müller et al. (2025)

total deferred tax assets reported on the balance sheet of bank i, in country j at time t[1]; $\mathbf{BankControl}_{i,j,t}$ is a vector of Bank-specific control variables comprising leverage, size, profitability, operational efficiency, and asset diversification, following Altunbas et al. (2018), Gaganis et al. (2020), and Matos et al. (2024); $\mathbf{CountryControl}_{j,t}$ is a vector of Country-level control variables comprising the interest rate level, yield curve slope, GDP growth, and inflation; γ_t denotes year fixed effects; and $\varepsilon_{i,j,t}$ is the idiosyncratic error term. All variables are defined in Table 1.

We estimate Eq. (1) using the two-step System GMM estimator of Arellano and Bover (1995) and Blundell and Bond (1998), which addresses the persistence of the dependent variable over time and the potential endogeneity of bank-level regressors (Roodman, 2009). Model validity is confirmed *ex ante* via the Hansen test of instrument exogeneity and the Arellano–Bond AR(2) test for second-order serial correlation.

4. Empirical results

4.1. Descriptive statistics

Table 2 reports the descriptive statistics for the main variables. Asset Risk has a mean of 2.630 and a standard deviation of 14.128, reflecting the inclusion in the sample of several crisis periods such as the Global Financial Crisis (2007–2008), the European sovereign debt crisis (2010–2012), and the COVID-19 shock (2020–2021), as well as banks from emerging economies (Matos et al., 2024). The DTA variable has a mean of 10.951 with a relatively low standard deviation of 2.715, suggesting that DTA balances are fairly stable across institutions over time, despite varying substantially at the extremes. Leverage averages 89.47%, reflecting the typical balance-sheet structure of deposit-taking institutions, while profitability (ROA) averages 1.162%, with the lower tail reaching −15.151%, consistent with the severe losses recorded during the crisis episodes.

Fig. 1 sheds more light on the evolution of the average DTA, separating for IFRS and US GAAP jurisdictions over the 2005–2023 period. Note that U.S. banks enter the sample from 2008 onward, reflecting the absence of reported DTA data for U.S.-domiciled institutions in the BankFocus database prior to that year.

Fig. 1 reveals two notable patterns. First, IFRS banks consistently report materially higher DTA levels than U.S. banks throughout the sample, particularly during the sovereign debt crisis of 2010–2012. Second, the gap widens during crisis periods, when DTA recoverability becomes most uncertain, consistent with the procyclical nature of DTA accumulation (Papazissimou and Aggelopoulos, 2026). U.S. banks display comparatively lower and more stable balances throughout, consistent with the valuation allowance netting mechanism of ASC 740, which reduces reported DTA balances by offsetting uncertain recoveries *ex post*. This divergence provides further motivation for the cross-jurisdictional comparison in our empirical analysis.

[1] To address potential reverse causality concerns arising from the contemporaneous measurement of DTA and asset risk, we estimated an alternative specification replacing DTA_t with its one-year lag DTA_{t-1} as the variable of interest. The coefficient on DTA_{t-1} remains negative and statistically significant, confirming that the disciplining effect of DTA on bank asset risk is not driven by simultaneity bias. Moreover, since an unscaled logarithmic measure of DTA may partly reflect bank size, all specifications control for bank size. Scaling DTA by total assets and by equity, the coefficients retain their signs and similar magnitudes. All these results are available upon request.

Table 2
Descriptive statistics.

	N	Mean	Std. Dev.	Min.	Max.	P10	P50	P90
Dependent variables								
Asset risk	2866	2.630	14.128	0.000	117.550	0.000	0.206	1.169
Z-score	2686	3.930	2.916	0.119	15.489	0.763	3.325	7.853
Variable of interest								
DTA	2522	10.951	2.715	0.000	17.608	8.325	10.658	14.199
Bank-specific control variables								
Leverage (%)	2866	89.475	6.501	59.603	100.000	81.614	89.012	100.000
Size	2866	23.566	1.881	18.845	28.660	21.456	23.204	26.360
Profitability (%)	2866	1.162	1.083	−15.151	8.386	0.432	1.260	1.949
Op. efficiency (%)	2866	60.958	20.606	−476.843	363.228	44.590	61.199	75.079
Asset diversification	2866	0.329	0.160	0.024	0.970	0.167	0.294	0.537
Country-level control variables								
Interest rate level	2866	2.786	1.849	−1.281	34.963	0.918	1.514	2.407
Yield curve slope	2866	0.733	12.175	−323.286	4.946	−0.903	−0.854	1.125
GDP growth	2866	2.170	2.588	−10.149	14.520	−2.576	−2.163	−2.512
Inflation	2866	2.548	2.100	−1.248	17.125	−0.158	0.119	2.069

Note: 285 banking institutions from 36 countries, 2004–2024. All continuous variables are winsorised at the 1st and 99th percentiles. The Z-score is computed for banks with at least three observations and positive values, explaining the reduced number of observations. P10, P50, and P90 denote the 10th, 50th, and 90th percentiles, respectively.

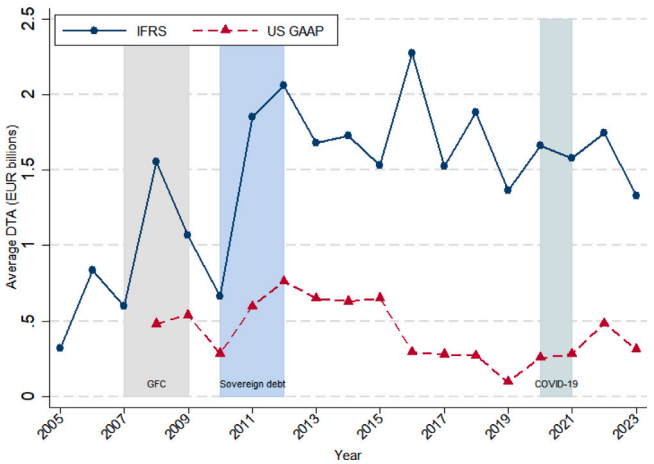


Fig. 1. Evolution of average DTA balances by accounting standard from 2005–2023. IFRS refers to all countries except the United States of America. US GAAP refers to U.S.-domiciled banks reporting under ASC 740. U.S. banks enter the sample from 2008 onward due to data availability. Values represent simple averages across banks in EUR billions. Shaded areas correspond to the Global Financial Crisis (2007–2009), the European Sovereign Debt Crisis (2010–2012), and the COVID-19 pandemic (2020–2021).

4.2. Main results

Table 3 presents the estimates for both the full sample (Model 1) and the U.S. sub-sample (Model 2). Overall, both models pass the diagnostic tests, confirming instrument validity and the absence of second-order serial correlation in the residuals.

In Model (1), the coefficient on DTA is −0.673. Since DTA enters the model in logarithmic form, this implies that a one-standard-deviation increase in the natural logarithm of DTA (2.715) is associated with a reduction in asset risk of approximately 1.83 units, corresponding to about 0.13 standard deviations of the dependent variable. This result provides support for H1. This negative association is consistent with two reinforcing mechanisms. First, *regulatory capital discipline*, which under Basel III, DTA contingent on future profits are deducted from CET1, so banks with larger DTA stocks face tighter effective capital constraints that limit risk-taking (Kolias et al., 2019; Papazissimou and Aggelopoulos, 2026). Second, the implicit *provision signaling*, where banks that recognize large DTA also tend to recognize more conservative loan loss provisions, which, while reducing reported earnings, improve credit quality management and signal lower future credit losses to the market (Ahmed et al., 1999; Beatty and Liao, 2014). Together, these mechanisms suggest that the market interprets higher DTA levels, in an IFRS context, as a signal of prudent risk management rather than financial fragility.

The lagged asset risk coefficient of +0.686 confirms the strong persistence of bank risk over time, consistent with prior evidence (Castro, 2013; Matos et al., 2023). Among bank-specific controls, leverage (+0.661) and size (+1.314) are positively associated

Table 3
Determinants of bank asset risk.

	(1) Full sample	(2) U.S. sub-sample
Lagged dependent variable		
Asset Risk$_{t-1}$	0.686***	0.356***
	(0.071)	(0.036)
Variable of interest		
DTA	−0.673***	0.301***
	(0.248)	(0.107)
Bank-specific control variables		
Leverage	0.661***	−0.150***
	(0.223)	(0.043)
Size	1.314**	−0.532**
	(0.565)	(0.260)
Profitability	4.544**	0.636***
	(1.983)	(0.084)
Operational efficiency	0.051***	0.004
	(0.013)	(0.009)
Asset diversification	−25.377***	3.810***
	(5.214)	(0.805)
Country-level control variables		
Interest rate level	2.138***	–
	(0.814)	
Yield curve slope	4.242***	–
	(1.768)	
GDP growth	2.432***	–
	(0.989)	
Inflation	0.301**	–
	(0.119)	
Year dummies	Yes	Yes
Hansen test (p)	0.388	0.729
AR(2) test (p)	0.687	0.397

Note: The dependent variable is Asset Risk, measured as the annualized standard deviation of daily equity returns scaled by the ratio of market value of equity to total market value of the bank. Two-step System GMM estimator (Arellano and Bover, 1995; Blundell and Bond, 1998) with Windmeijer-corrected standard errors in parentheses. In Model (2), country-level control variables are omitted since, in a single-country sample, they only vary over time and are fully absorbed by the year fixed effects. $^{*}p < 0.10$, $^{**}p < 0.05$, $^{***}p < 0.01$.

with asset risk, consistent with the view that larger and more leveraged banks are more exposed to adverse shocks (Beatty and Liao, 2014; Bhagat et al., 2015). Profitability enters positively (+4.544), reflecting risk–return trade-offs whereby more profitable banks may pursue higher-risk strategies to sustain returns (Shrieves and Dahl, 1992; Gallemore, 2012). Asset diversification reduces risk (−25.377), as expected (Matos et al., 2024), while a higher cost-to-income ratio is associated with greater operational fragility (+0.051). All macroeconomic controls enter positively and significantly, consistent with the view that higher rates and steeper yield curves amplify bank risk (Malz, 2024).

Model (2), restricts the sample to U.S.-domiciled banks that are internally homogeneous in terms of accounting standards (ASC 740), prudential framework, and monetary policy environment, eliminating the confounding variation that arises from pooling IFRS and US GAAP institutions. Interestingly, the coefficient associated with DTA reverses to +0.301, implying that a one-standard-deviation increase in the natural logarithm of DTA (1.936 in the U.S. sub-sample) is associated with an increase in asset risk of approximately 0.58 units, or about 0.07 standard deviations of the dependent variable in this sub-sample, confirming H2, *i.e.,* in the U.S. context, higher DTA levels are associated with greater asset risk. We attribute this reversal to two institutional features. First, the permissive gross recognition approach of ASC 740 allows U.S. banks to carry DTA balances that would not qualify under IAS 12, inflating balance sheets with contingent assets of uncertain quality. Second, the more generous 25% CET1 inclusion threshold reduces the prudential discipline on DTA accumulation, allowing banks with large DTA stocks to sustain higher risk-taking without facing binding capital deductions (Eastman et al., 2025).

Notably, the signs on leverage (−0.150) and size (−0.532) also reverse relative to Model (1). This is consistent with the too-big-to-fail literature, whereby larger and more leveraged U.S. banks benefit from implicit government guarantees that reduce market-perceived risk, an effect less pronounced in our heterogeneous international sample (Bhagat et al., 2015). Similarly, the positive coefficient on asset diversification reflects the complex trading book exposures held by large U.S. institutions (Acharya et al., 2009), while the negative yield curve coefficient is consistent with Malz (2024). Together, these results reinforce our argument that the institutional context shapes not only the DTA–risk relationship but also the broader determinants of bank risk.

Table 4
Robustness check: Z-Score as dependent variable.

	(3) Full sample	(4) U.S. sub-sample
Lagged dependent variable		
Z-score$_{t-1}$	0.127***	0.354**
	(0.049)	(0.160)
Variable of interest		
DTA	0.224**	0.133
	(0.087)	(0.188)
Bank-specific control variables		
Leverage	0.058	−0.050
	(0.050)	(0.030)
Size	−0.288**	−0.363**
	(0.140)	(0.158)
Profitability	2.682***	1.248***
	(0.607)	(0.285)
Operational efficiency	−0.002	−0.031**
	(0.029)	(0.014)
Asset diversification	3.202*	1.734**
	(1.826)	(0.666)
Country-level control variables		
Interest rate level	0.150	–
	(0.096)	
Yield curve slope	−0.907***	–
	(0.218)	
GDP growth	0.138**	–
	(0.060)	
Inflation	−0.176**	–
	(0.068)	
Year dummies	Yes	Yes
Observations	1955	1564
Banks	246	165
Hansen test (p)	0.308	0.670
AR(2) test (p)	0.150	0.163

Note: The dependent variable is the Z-score, defined as $(\text{ROA} + \text{CAR})/\sigma_{\text{ROA}}$. A higher Z-score denotes greater financial stability. Two-step System GMM estimator (Arellano and Bover, 1995; Blundell and Bond, 1998) with Windmeijer-corrected standard errors in parentheses. In Model (4), country-level control variables are omitted because, in a single-country sample, they only vary over time and are fully absorbed by the year fixed effects. $^{*}p < 0.10$, $^{**}p < 0.05$, $^{***}p < 0.01$.

4.3. Robustness checks

4.3.1. Z-score as dependent variable

As a robustness check, we replace asset risk with the Z-score, defined as $(\text{ROA} + \text{CAR})/\sigma_{\text{ROA}}$, where CAR is the capital-to-assets ratio and σ_{ROA} is the bank-level standard deviation of ROA over the full sample period, winsorized at the 1st and 99th percentiles. The Z-score is an accounting-based measure of financial soundness that captures insolvency risk rather than market-perceived asset volatility, widely used in the literature (Matos et al., 2023). Overall, a higher Z-score denotes greater stability, so the expected sign on DTA is positive under H1. Table 4 presents the estimates for this specification, reporting both the full sample (Model 3) and the U.S. sub-sample (Model 4).

In Model (3), the coefficient on DTA is +0.224. Given the logarithmic specification, a one-standard-deviation increase in the natural logarithm of DTA (2.715) is associated with an increase in the Z-score of approximately 0.61, corresponding to about 0.21 standard deviations of the dependent variable, fully consistent with H1. This finding complements the main result: higher DTA is associated with both lower market-perceived asset risk in Model (1) and higher accounting-based financial soundness here, reinforcing the interpretation that, in an IFRS context, DTA balances signal prudent provisioning and conservative risk management rather than capital fragility.

Extending the analysis to the U.S. sub-sample in Model (4), the coefficient on DTA is positive but statistically insignificant. This result reflects the distinct informational content of the two risk measures, *i.e.*, the Z-score captures long-horizon insolvency risk, which is less sensitive to the recognition and disclosure signals through which DTA affect market-perceived risk. Furthermore, the smaller U.S. sub-sample limits the statistical power in this specification.

Also, some control variables display different signs across the asset risk and Z-score specifications. This reflects the distinct dimensions of risk each measure captures. Asset risk is market-based and responds to investor perceptions and short-run information, while the Z-score is accounting-based and captures insolvency risk over longer horizons. Therefore, these measures are not monotonically related (Matos et al., 2023), so divergences in control coefficients can arise. Importantly, the coefficient on DTA is consistent across both specifications, negative for asset risk and positive for the Z-score, with both supporting H1.

4.3.2. Post-2013 sub-sample

We also re-estimate both specifications over the post-2013 period, corresponding to the full implementation of Basel III (Table A.1 in the Appendix). In this sub-period, the coefficient on DTA in the asset risk specification becomes positive (+0.071) and statistically significant at the 10% level, reversing the sign of the baseline estimate, while the coefficient in the Z-score specification is positive but statistically insignificant. These estimates should be interpreted with caution, since the shorter time dimension reduces the number of observations per bank and each specification fails one of the two diagnostic tests. Nevertheless, the results indicate that the negative association between DTA and asset risk documented in the full sample is not stable across sub-periods and appears to be concentrated in the earlier period, which includes the Global Financial Crisis and the European sovereign debt crisis.

Taken together, the baseline results suggest that, under IFRS and the EU application of Basel III, higher DTA levels are associated with lower asset risk and greater financial stability, reflecting the disciplining effect of strict recognition criteria and binding capital deduction rules. Under US GAAP and the more permissive American prudential framework, this relationship reverses in the asset risk specification, with higher DTA levels amplifying rather than attenuating bank risk. However, the negative association observed in the full sample is concentrated in the period including the Global Financial Crisis and the European sovereign debt crisis, and does not hold in the post-2013 sub-sample.

5. Conclusion

This paper examines whether deferred tax assets (DTA) affect bank asset risk. We document that higher DTA levels are associated with significantly lower asset risk, consistent with the disciplining effect of strict IFRS recognition criteria and Basel III capital deduction rules. This finding suggests that, in an IFRS context the market interprets higher DTA balances as a signal of prudent provisioning and conservative risk management, rather than financial fragility. When the analysis is restricted to U.S. banks, the relationship reverses, as higher DTA levels are associated with greater asset risk, reflecting the more permissive recognition criteria of ASC 740 and the less restrictive 25% CET1 inclusion threshold applied in the U.S. prudential framework.

These results carry direct policy implications. First, the effectiveness of Basel III capital deduction rules on DTA appears to depend on the accounting standard under which banks operate, with the disciplining mechanism appearing weaker under US GAAP. Second, regulators in jurisdictions with permissive DTA recognition frameworks, or that allow high DTA proportions in CET1, should be alert to the risk-amplifying role of these assets. Third, our findings highlight a material source of regulatory arbitrage across accounting regimes that warrants closer attention from the Basel Committee, especially as discussions around the finalization of Basel III standards continue.

Our results are subject to an important caveat. The negative association between DTA and asset risk is not stable across sub-periods, as the coefficient reverses sign after 2013, although these estimates should be interpreted with caution given their diagnostic limitations. This suggests that the disciplining effect of DTA may be concentrated in periods of financial stress, a possibility that future research could explore further.

CRediT authorship contribution statement

Tiago F.A. Matos: Writing – review & editing, Writing – original draft, Validation, Supervision, Methodology, Investigation, Formal analysis, Conceptualization. **João C.A. Teixeira:** Writing – review & editing, Validation, Supervision, Funding acquisition. **Tiago M. Dutra:** Writing – review & editing, Validation, Conceptualization. **Mário J.C. Fernandes:** Writing – review & editing, Validation, Software. **Sai Palepu:** Writing – review & editing, Validation, Software, Resources. **Rafaela F.C.S. Esteves:** Software, Investigation, Formal analysis, Conceptualization.

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Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Appendix

See Table A.1.

Table A.1
Post-2013 sub-sample (2013–2024).

	(A) Asset risk	(B) Z-score
Lagged dependent variable		
Lagged dependent variable	0.043	0.089
	(0.169)	(0.064)
Variable of interest		
DTA	0.071*	0.093
	(0.042)	(0.099)
Bank-specific control variables		
Leverage	−0.035***	0.026
	(0.012)	(0.042)
Size	−0.035	−0.173
	(0.074)	(0.215)
Profitability	0.187	2.084***
	(0.158)	(0.519)
Operational efficiency	0.008	−0.024
	(0.009)	(0.022)
Asset diversification	0.423	2.365
	(1.056)	(2.597)
Country-level control variables		
Interest rate level	0.108	0.114
	(0.071)	(0.138)
Yield curve slope	0.060	−0.665***
	(0.069)	(0.238)
GDP growth	0.009	0.067
	(0.021)	(0.053)
Inflation	−0.019	−0.175**
	(0.029)	(0.082)
Year dummies	Yes	Yes
Hansen test (p)	0.020	0.196
AR(2) test (p)	0.119	0.027

Note: The sample is restricted to 2013–2024, corresponding to the full implementation of Basel III. In column (A), Asset Risk is winsorised at the 1st and 95th percentiles; in column (B), the Z-score is winsorised at the 1st and 99th percentiles. Two-step System GMM estimator (Arellano and Bover, 1995; Blundell and Bond, 1998) with Windmeijer-corrected standard errors in parentheses. Each specification fails one of the two diagnostic tests (Hansen in column (A), AR(2) in column (B)), and the estimates should therefore be interpreted with caution. $^{*}p < 0.10$, $^{**}p < 0.05$, $^{***}p < 0.01$.

Data availability

Bank-level data are proprietary (BankFocus, Bureau van Dijk). Macroeconomic data are available from Müller et al. (2025).

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