



INTERCONNECTIONS AND RISK TRANSMISSION AMONG PRIVATE CREDIT, PRIVATE EQUITY AND INSURERS: AN ASIAN PERSPECTIVE

Key points:

- *In recent years, private equity (PE) firms have actively invested in the North American insurance sector. After PE investment, insurers tend to invest more in private credit (PC) than their counterparts without PE ownership. These growing interconnections could amplify the transmission of shocks from the private finance ecosystem to the insurance sector, thereby increasing risks to financial stability. Despite the considerable attention paid to these interlinkages in North America, it remains less clear whether similar trends have also emerged in the Asia-Pacific (APAC) region.*
- *Based on commercial data and insurers' financial reports, this study documents similar interconnections in the APAC region. Over the past decade, the share of APAC insurers with at least minority PE ownership has risen from 24% to 36%. Our empirical analysis also suggests that PE ownership has contributed to an increase in insurers' investments in PC, particularly in the relatively opaque and risky segments:*
 - (1) *Higher PC allocations: By the end of 2024, APAC insurers allocated about 10% of their assets to PC, increasingly focusing on PC funds, structured credit and private bonds. Specifically, our empirical analysis shows that insurers increased their allocations to these PC segments by 8 percentage points (ppts) of their assets on average after PE investment, and by 13 ppts if a majority stake was acquired.*
 - (2) *Opaquer PC allocations: Insurers with PE ownership tend to invest in PC instruments with more complex structures and opaquer underlying exposure (e.g., PC funds and structured credit). These segments account for 62% of their PC investments, compared with 48% for insurers without PE ownership.*

- (3) *Riskier PC allocations*: Within the opaquer PC instruments, insurers with PE ownership tend to hold riskier segments. For PC fund investments, 68% of their exposure was directed to funds implementing relatively risky lending strategies (e.g., distressed debt), compared with 41% for insurers without PE ownership. A similar pattern is also observed in direct lending. Insurers with PE ownership extended 53% of their loans to corporations with high leverage or weak debt-servicing capability, compared with 47% for insurers without PE ownership.
- *Despite these findings, our analysis is subject to data limitations. First, due to the limited granularity of the data, our estimate of APAC insurers' exposure to PC funds should be viewed as an upper-bound estimate. Second, the data employed to assess the risk level of insurers' PC exposure do not fully capture their overall PC holdings. The results should therefore be interpreted with caution.*

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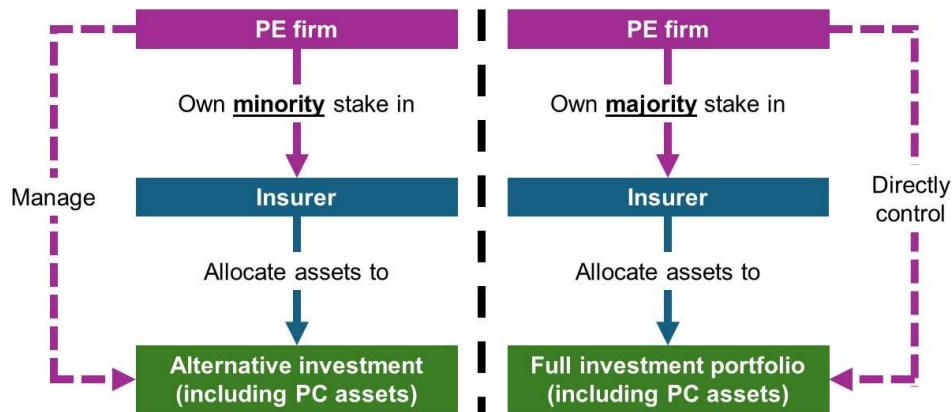
The views and analysis expressed in this paper are those of the authors, and do not necessarily represent the views of the Hong Kong Monetary Authority.

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1. INTRODUCTION

In recent years, private equity (PE) firms have actively invested in the North American insurance sector. In some cases, a PE firm takes a minority stake (often less than 10%) and forms a strategic partnership that allows it to manage the insurer's alternative investments, such as private credit (PC). In other cases, it acquires a majority stake in an insurer and takes direct control of its investment portfolio (Cortes et al., 2023) (Figure 1). In North America, insurers with PE ownership tend to invest more in PC assets than their counterparts without such ownership (Cortes et al., 2023; Meisenzahl et al., 2026). These growing interconnections could amplify the transmission of shocks from the private finance ecosystem to the insurance sector, thereby increasing risks to financial stability.

Figure 1. Examples of relationships between PE firms and insurers



Despite the considerable attention paid to these interconnections in North America, it remains less clear whether similar trends have emerged in the Asia-Pacific (APAC) region. Given that this region is home to 29% of the world's insurers by asset size (IAIS, 2025), any stress within its insurance sector could have sizable impacts on global financial stability. In this context, this study assesses the implications for financial stability of the interconnections among APAC insurers, their PE owners and their PC investments.

Based on commercial data and insurers' financial reports, this study documents similar interconnections in the APAC region. Over the past decade, the share of APAC insurers with at least minority PE ownership has risen from 24% to 36%. Our empirical analysis further suggests that PE ownership has contributed to an increase in insurers' investments in PC, particularly in the relatively opaque and risky segments.

Specifically, by the end of 2024, APAC insurers allocated around 10% of their assets to PC, increasingly focusing on PC funds, structured credit and private bonds. Our empirical analysis shows that insurers increased their allocations to these PC segments by 8 percentage points (ppts) of their assets on average after PE investment, and by 13 ppts if a majority stake was acquired. Furthermore, insurers with PE ownership tended to invest in PC segments with opaquer underlying exposure (e.g., PC funds and structured credit) and higher risk (e.g., PC funds implementing relatively risky lending strategies), compared with insurers without PE ownership.

The remainder of this study is organized as follows. Section 2 reviews the development of (i) PE investments in APAC insurers and (ii) these insurers' PC exposure. Section 3 examines how PE ownership contributes to an increase in insurers' PC exposure. Section 4 assesses the risk level of this exposure. Section 5 concludes.

2. SIZE OF INSURERS' PC EXPOSURE & PE INVESTMENT IN INSURERS

This study draws on a representative sample of 81 insurers operating in nine jurisdictions: (i) Australia, (ii) the Chinese Mainland, (iii) Hong Kong, China, (iv) Taiwan, China, (v) Japan, (vi) South Korea, (vii) Singapore, (viii) India and (ix) Thailand. Collectively, these insurers account for approximately 90% of the total assets of insurers in these jurisdictions. We manually collected

these insurers' financial reports over the past decade from their official websites and, where available, from the official archives of their domestic regulators.

To estimate insurers' exposure to PC, we uploaded the collected reports one by one and prompted a generative artificial intelligence model – Gemini 3.1 Pro – to review them. The prompt supplied to the model included illustrative examples of PC instruments and requested a classification of their exposure into three PC categories, namely (i) PC funds, (ii) private bonds and structured credit¹ (e.g., collateralized loan obligations) and (iii) direct lending. This classification aligns with recent studies conducted by the Federal Reserve Bank of Chicago (Meisenzahl et al., 2026) and the European Insurance and Occupational Pensions Authority (EIOPA, 2025).

It should be noted that the disclosures of some insurers do not map clearly onto our classification, since they report their holdings of private funds more broadly, without providing a separate breakdown for PC funds. In such cases, we use their reported holdings of private funds as a conservative proxy, although these may also include holdings of PE funds and hedge funds. As such, our results represent an upper-bound estimate of insurers' exposures to PC funds. Readers should therefore exercise caution when interpreting our findings.

At the end of 2024, APAC insurers allocated around 10% of their assets to PC (Figure 2), compared with about 14% for life insurers in the United States (Meisenzahl et al., 2026) and 5% for insurers in the European Union (EIOPA, 2025).² While APAC insurers' overall allocation to PC has remained relatively stable over the past decade, there has been a notable shift within this asset class, moving from direct lending towards segments with more complex structures and opaquer underlying exposure (e.g., PC funds and structured credit). Specifically,

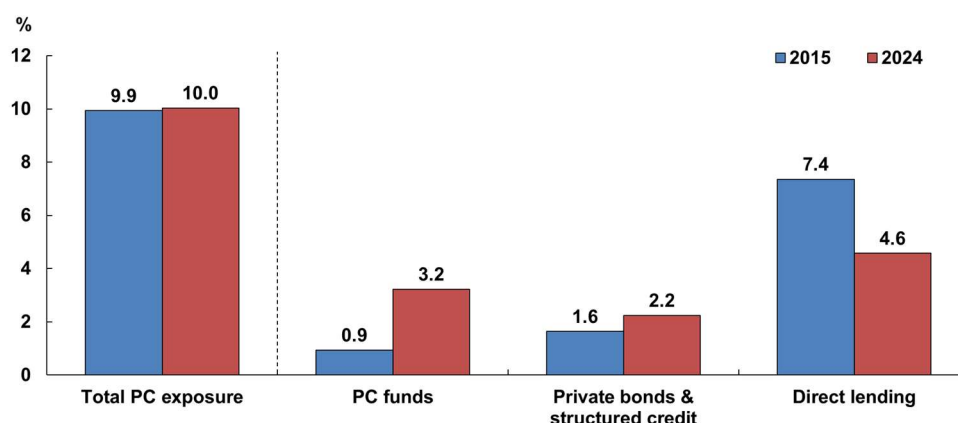
¹ These two asset classes are grouped into a single category because some insurers opt to report them in this way.

² Cross-region comparisons should be interpreted with caution, as our estimates for APAC insurers may be overstated given the data limitation mentioned above.

the insurers' allocations to direct lending have declined from 7.4% to 4.6% of their total assets over the past decade, while their combined allocations to PC funds, structured credit and private bonds have increased from 2.5% to 5.4% over the same period.

This reallocation may be linked to two concurrent trends. First, the rapid expansion of PC funds and structured credit over the past decade (FSB, 2019, 2026; Wong et al., 2024) has broadened the range of investment opportunities for insurers in these PC segments. Second, in certain circumstances,³ insurers may benefit from relatively favourable capital treatment when investing in PC funds or structured credit, as opposed to holding loans directly (IAIS, 2025a, 2025b).

Figure 2. APAC insurers' overall allocations to PC



Note: Figures are expressed as percentages of insurers' total assets.

Sources: Insurers' financial reports and HKMA staff's estimates.

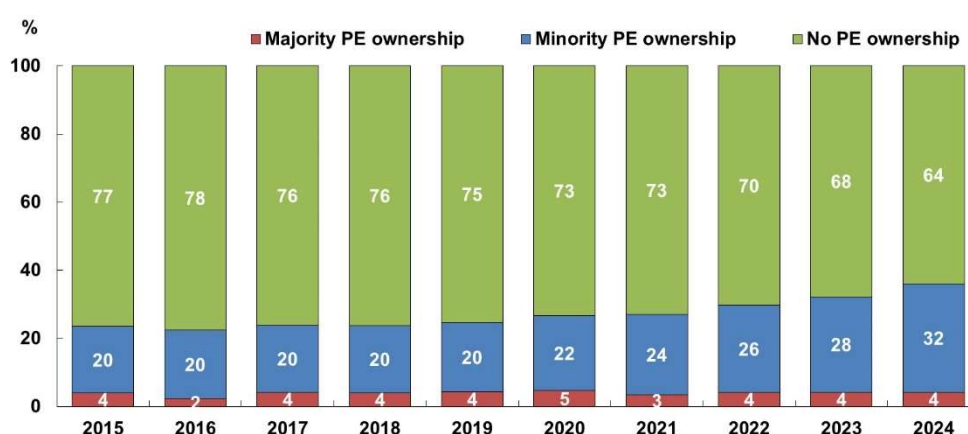
To track PE investment in APAC insurers, we primarily employ private ownership data from S&P Capital IQ Pro and PE transaction data from Preqin Pro. These databases provide information on (i) investor names, (ii) investment

³ For instance, insurers may benefit from relatively favourable capital treatment when this treatment depends in part on external ratings, even though these ratings do not necessarily reflect all underlying risks. This treatment may encourage insurers to replace unrated loans with rated PC funds or structured credit with similar underlying risk exposure.

dates, (iii) percentage of stakes acquired and (iv) exit dates, where applicable.⁴ For the purposes of this research, we restrict the data to investors classified as PE firms in these databases.

Based on these data, we find that PE firms have actively invested in insurers across the APAC region. On average, the share of insurers with at least minority PE ownership increased from about 24% a decade earlier to around 36% at the end of 2024 (Figure 3). These PE investments typically take the form of small equity stakes. Insurers with minority PE ownership (i.e., $\leq 50\%$ of equity stakes taken) accounted for 32% of the total assets of insurers in the region by the end of 2024, compared with 4% for insurers with majority PE ownership (i.e., $>50\%$ of equity stakes acquired).

Figure 3. Share of APAC insurers by PE ownership



Note: Figures are expressed as percentages of insurers' total assets.

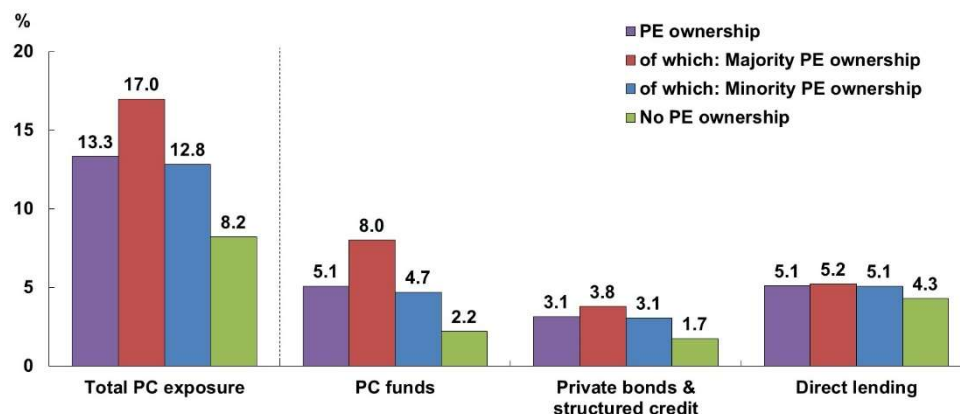
Sources: S&P Capital IQ Pro, Preqin Pro and HKMA staff's estimates.

Consistent with findings observed in other regions (Cortes et al., 2023; Meisenzahl et al., 2026), APAC insurers with PE ownership tend to allocate a larger share of their portfolios to PC. At the end of 2024, they allocated about 13% of their assets to PC (leftmost purple bar, Figure 4), compared with around 8% for insurers without PE ownership (leftmost green bar, Figure 4). This share

⁴ When either piece of information was unavailable in the two databases, we supplemented the data through manual searches in other sources (e.g., news articles and regulatory filings).

reaches 17% for insurers with majority PE ownership (leftmost red bar, Figure 4), compared with 13% among insurers with minority PE ownership (leftmost blue bar, Figure 4).

Figure 4. APAC insurers' allocations to PC segments by PE ownership



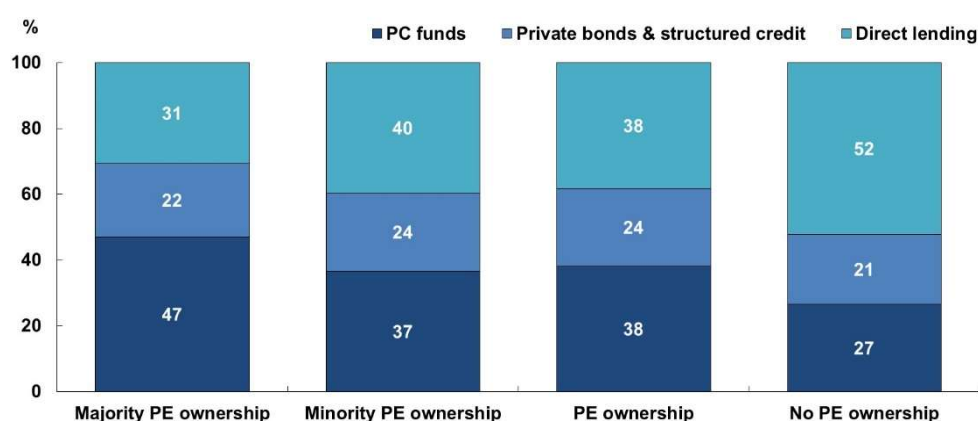
Note: Figures are expressed as percentages of insurers' total assets at the end of 2024.

Sources: Insurers' financial reports and HKMA staff's estimates.

Moreover, insurers with PE ownership are more likely to invest in PC segments with more complex structures and opaquer underlying exposure (e.g., PC funds and structured credit). At the end of 2024, these opaquer segments accounted for 62% of their total PC exposure (i.e., 38% + 24%), compared with 48% for insurers without PE ownership (i.e., 27% + 21%) (Figure 5). The share increased to around 69% for insurers with majority PE ownership (i.e., 47% + 22%), compared with around 61% for those with minority PE ownership (i.e., 37% + 24%).

The descriptive findings above naturally raise the question of whether PE ownership contributes to greater and opaquer PC exposure for APAC insurers. To the best of our knowledge, this relationship has not yet been rigorously examined in the literature. In the next section, we examine this question using regression analysis.

Figure 5. Share of PC segments in APAC insurers' PC holdings



Note: Figures are expressed as percentages of insurers' total PC exposures at the end of 2024.

Sources: Insurers' financial reports and HKMA staff's estimates.

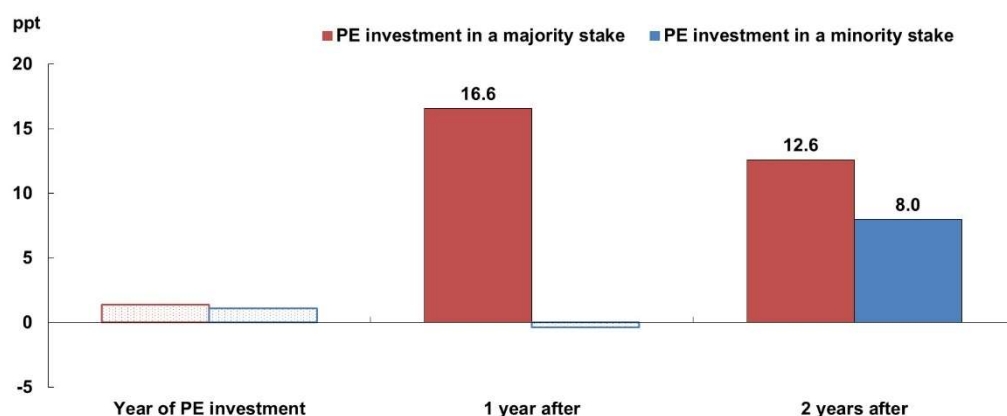
3. IMPACTS OF PE OWNERSHIP ON INSURERS' PC EXPOSURE

In this section, we examine whether PE ownership contributes to APAC insurers' greater and opaquer PC exposure using a fixed-effects linear regression model. Our analysis makes three distinctions. First, we separately assess the effect of PE ownership on insurers' allocations to (i) PC funds, structured credit and private bonds and (ii) direct lending, in light of our previous finding of insurers' reallocation from the latter to the former. Second, we estimate both the immediate and lagged effects of PE ownership (including effects one and two years after PE investment), as insurers may need time to adjust their investment strategies. Third, we distinguish between the effects of majority and minority PE ownership, as PE firms acting as minority owners may take longer to influence insurers' PC investment decisions than those holding majority stakes.

Our regression results indicate that after PE investment, APAC insurers gradually increase their allocations to PC funds, structured credit and private bonds, rather than making immediate adjustments. On average, these allocations increase by 8 ppts of their total assets two years after PE investment (right-hand-side blue bar, Figure 6). The effect appears earlier and is more pronounced when a majority stake in the insurer is acquired. In such cases, the allocations increase

by 17 ppts of total assets one year after PE investment (middle red bar, Figure 6). Conversely, we find limited evidence that APAC insurers' allocations to direct lending change significantly following PE investment.⁵

Figure 6. Estimated effects of PE ownership on APAC insurers' allocations to PC funds, structured credit and private bonds



Notes: The solid bars indicate statistical significance at the 5% level. Figures are expressed as percentages of insurers' total assets.

Source: HKMA staff's estimates.

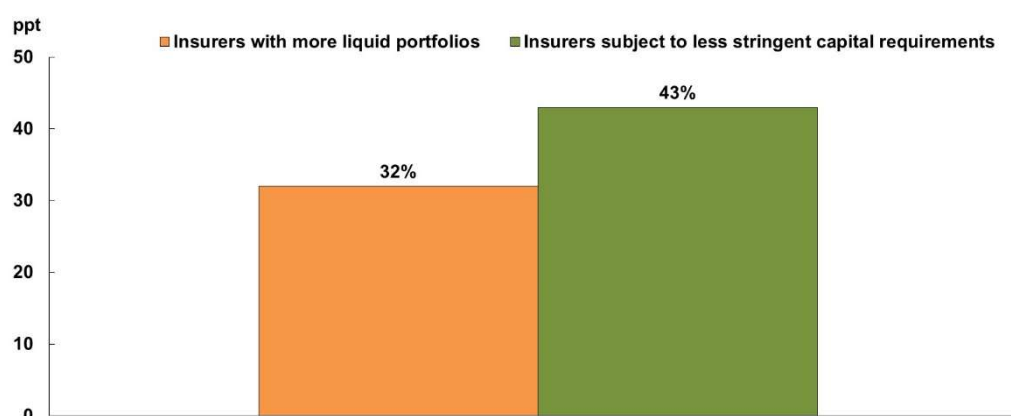
Overall, our regression analysis suggests that PE ownership significantly contributes to APAC insurers' greater and opaquer PC exposure. This effect is more pronounced when a majority stake in the insurer is acquired.

Our study further indicates that PE firms target insurers that are better positioned to direct funds towards PC investments. This includes insurers with more liquid portfolios, as they can more easily reallocate their assets to PC (Garavito et al., 2024). Our findings indicate that APAC insurers with more liquid portfolios are about 32% more likely to be invested by PE firms than those with less liquid portfolios (orange bar, Figure 7). PE firms may also target insurers that benefit from more favourable capital treatment when investing in PC funds or structured credit, as this treatment may enable them to allocate more

⁵ We also find no evidence of pre-trends in the regression analysis. The regression specification and full results are provided in Annex 1.

assets to these PC investments (Cortes et al., 2023; Aquilina et al., 2025).⁶ Consistent with this conjecture, our empirical results show that insurers operating under less stringent capital requirements are 43% more likely to be invested by PE firms than those subject to more stringent requirements (green bar, Figure 7).⁷

Figure 7. Estimated differences in the probability of PE investment



Note: Figures are expressed as the differences in the probability of PE investment between insurers with the specified features and those without.

Source: HKMA staff's estimates.

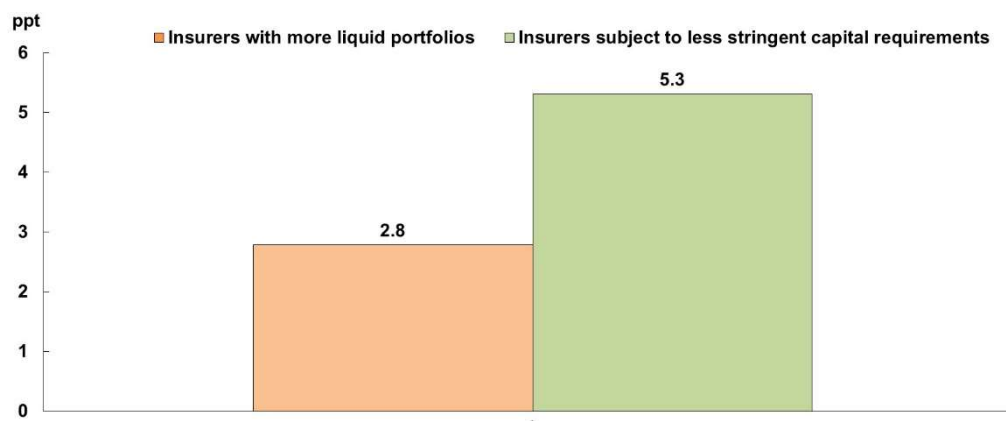
We also find that the effects of PE ownership on insurers' subsequent PC investments hinge on these two characteristics. Our empirical findings indicate that after PE investment, insurers with more liquid portfolios increase their allocations to PC funds, structured credit and private bonds more, by 2.8 ppts of their total assets, than those with less liquid portfolios (orange bar, Figure 8). The difference increases to 5.3 ppts of total assets for insurers operating under less stringent capital requirements relative to those subject to more stringent capital requirements (green bar, Figure 8).⁸

⁶ Footnote 3 illustrates how insurers may receive relatively favourable capital treatment by reallocating within PC investments from unrated loans to rated PC funds or structured credit with similar underlying risk exposure.

⁷ The regression specification and full results are provided in Annex 1.

⁸ The regression specification and full results are provided in Annex 1.

Figure 8. Estimated differences in the effect of PE ownership on insurers' exposure to PC funds, structured credit and private bonds



Note: Figures are expressed as the differences in the effect of PE ownership on insurers' exposure to PC funds, structured credit and private bonds (% of total assets) between insurers with the specified features and those without.

Source: HKMA staff's estimates.

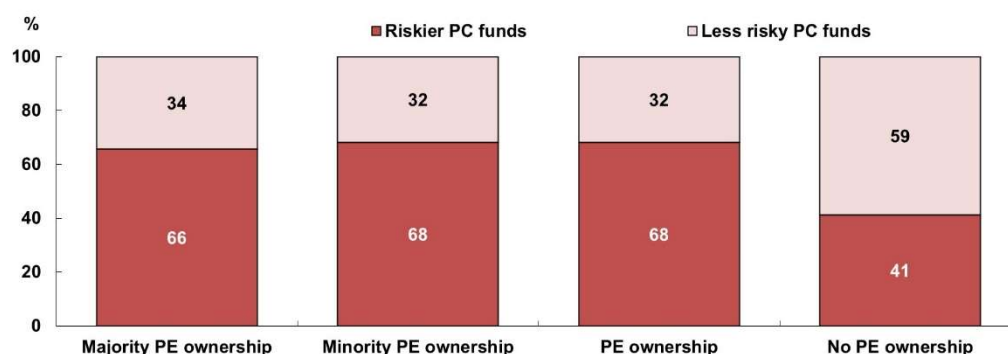
4. RISK LEVEL OF INSURERS' PC EXPOSURE

Our previous findings suggest that PE ownership contributes to APAC insurers' greater and opaquer PC exposure. Beyond this effect, it could encourage allocations to riskier PC segments. To examine this possibility, we used (i) fund-level data from Preqin Pro and (ii) loan-level data from LoanConnector. We also merged borrower-level data on credit ratings and financial ratios from S&P Capital IQ Pro into the loan-level dataset. These databases provide more granular information on the PC funds and loans to which APAC insurers are exposed, compared with insurers' financial reports. However, the findings should be interpreted with caution, as these data capture only a small part of insurers' overall PC exposure.

Based on these granular data, our analysis indicates that insurers with PE ownership are more likely to hold riskier PC segments. At the end of 2024, around 68% of their PC fund exposure was allocated to funds implementing

relatively risky lending strategies (e.g., distressed debt),⁹ compared with 41% for insurers without PE ownership (Figure 9).

Figure 9. Share of APAC insurers' riskier PC fund investments



Note: Figures are expressed as percentages of insurers' total PC fund investments at the end of 2024.

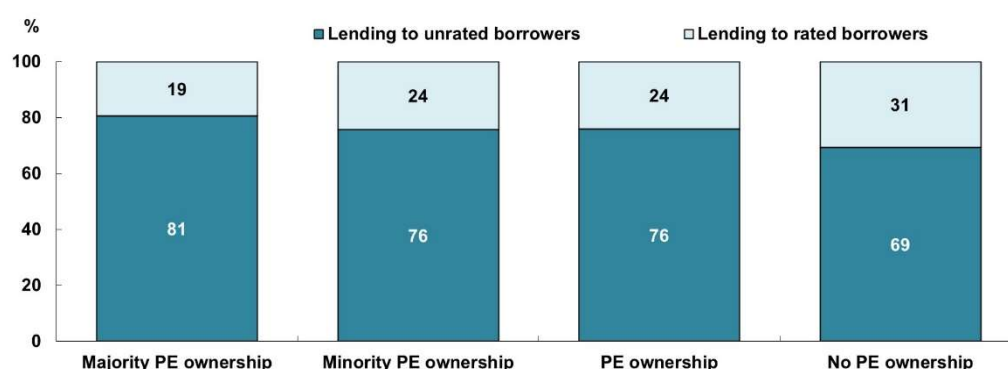
Sources: Preqin Pro and HKMA staff's estimates.

The loan-level evidence points to a similar pattern in APAC insurers' direct lending. At the end of 2024, insurers with PE ownership extended 76% of their loans to corporations without public ratings from major rating agencies (i.e., S&P and Moody's), compared with about 69% for insurers without PE ownership (Figure 10).¹⁰ Our findings show that this increased prevalence of unrated borrowers is associated with lower credit quality. On average, insurers with PE ownership extended 53% of their loans to vulnerable borrowers, defined as corporations with a debt-to-EBITDA ratio above 6 or an interest coverage ratio below 1, compared with about 47% for insurers without PE ownership (Figure 11). These gaps widen when a majority stake in the insurer is acquired.

⁹ In this study, (i) distressed debt, (ii) special situations debt, (iii) mezzanine debt, (iv) junior debt, (v) subordinated debt and (vi) venture debt are classified as riskier lending strategies, while (vii) senior debt, (viii) balanced debt and (ix) unitranche debt are classified as less risky lending strategies.

¹⁰ These findings should be interpreted with caution. Due to data limitations, our data do not capture public ratings or private letter ratings issued by other rating agencies.

Figure 10. Share of APAC insurers' unrated borrowers

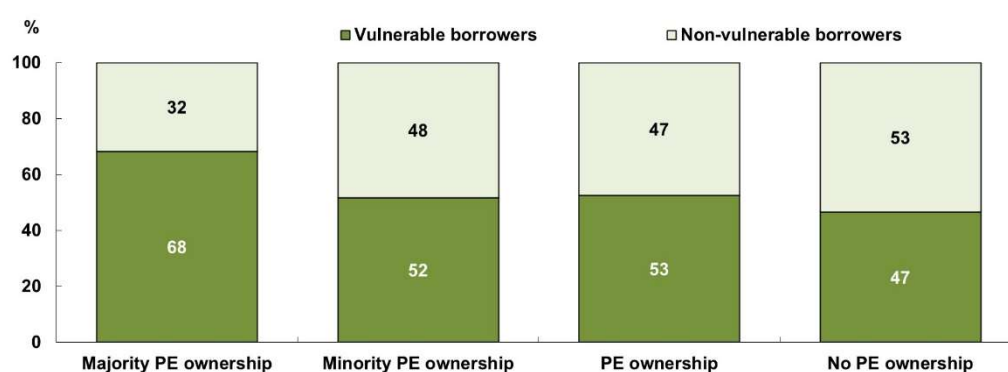


Notes: Figures are expressed as percentages of insurers' total direct lending at the end of 2024.

Unrated borrowers refer to corporations without a public rating from S&P or Moody's.

Sources: S&P Capital IQ Pro, LoanConnector and HKMA staff's estimates.

Figure 11. Share of APAC insurers' vulnerable borrowers



Note: Figures are expressed as percentages of insurers' total direct lending at the end of 2024.

Sources: S&P Capital IQ Pro, LoanConnector and HKMA staff's estimates.

Overall, these findings suggest that insurers with PE ownership tend to hold larger allocations to both relatively opaque and risky PC segments. This pattern underscores the potential implications of rising PE investments in the APAC insurance sector for regional financial stability.

5. CONCLUSION

In conclusion, this study documents APAC insurers' growing allocations to relatively opaque PC segments and the rise of PE investments in the region's insurance sector. More importantly, our empirical analysis highlights a close relationship between these two developments.

We find that PE ownership contributes to greater and opaquer PC exposure among APAC insurers. This exposure leans towards relatively risky PC segments. From a financial stability perspective, the growing role of PE investments in the APAC insurance sector may increase the risk of contagion from the private finance ecosystem to the insurance sector in the region. This emerging trend warrants closer monitoring, especially if these interconnections continue to deepen.

Despite these findings, our analysis is subject to data limitations. First, due to the limited granularity of the data, our estimate of APAC insurers' exposure to PC funds should be viewed as an upper-bound estimate. Second, the fund-level and loan-level datasets used to assess the risk level of PC funds and direct lending do not fully capture insurers' overall PC holdings. These results should therefore be interpreted with caution.

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ANNEX 1

For the estimates presented in Figure 6, we examine the effects of majority and minority PE ownership on insurers' allocation to PC, using the following fixed-effects linear regression model:

$$PC_{i,t} = \alpha_2 A_{i,k \geq 2} + \beta_2 M_{i,k \geq 2} + \alpha_1 A_{i,k=1} + \beta_1 M_{i,k=1} + \alpha_0 A_{i,k=0} + \beta_0 M_{i,k=0} + \alpha_{-2} A_{i,k \leq -2} + \beta_{-2} M_{i,k \leq -2} + \text{Control}_{i,t-1} + \text{FE} + \varepsilon_{i,t} \quad (1)$$

where $PC_{i,t}$ denotes insurer i 's allocation to PC, measured as a percentage of its total assets at the end of year t . We consider two versions of $PC_{i,t}$: (i) $PC_{i,t}^{\text{PPS}}$, which represents the insurer's allocation to PC funds, structured credit and private bonds; and (ii) $PC_{i,t}^{\text{DL}}$, which denotes its allocation to direct lending. $\text{Control}_{i,t-1}$ is a vector of insurer-level control variables lagged by one year. Table A1 defines these variables. FE is a vector of fixed effects, including insurer fixed effects, year fixed effects and insurer-type-by-year fixed effects.¹¹ $\varepsilon_{i,t}$ represents the error term. Time-series data for these variables are available for 61 of the 81 insurers in our full sample, representing around 72% of this sample by asset size.

$A_{i,k}$ and $M_{i,k}$ are event-time-specific binary indicators of PE ownership status. $A_{i,k}$ is equal to one if insurer i is partially or fully owned by a PE firm at event time k , and zero otherwise. $M_{i,k}$ is equal to one if PE firms hold a majority ownership of insurer i at event time k , and zero otherwise. Accordingly, for an insurer with minority PE ownership, $A_{i,k} = 1$ and $M_{i,k} = 0$; for an insurer with majority PE ownership, $A_{i,k}$ and $M_{i,k}$ are both equal to one. Hence, α_k captures the effect of minority PE ownership at event time k . β_k captures the additional

¹¹ Insurer types include (i) life and health insurance, (ii) property and causality insurance, (iii) multiline insurance, and (iv) reinsurance.

effect of majority PE ownership relative to minority PE ownership at event time k . Their sum $\alpha_k + \beta_k$ captures the effect of majority PE ownership.

k is the number of years between year t and the PE investment year. If the PE investment occurs during year t , the corresponding indicator (i.e., $A_{i,k}$ and/or $M_{i,k}$) is equal to one only for $k = 0$; if it occurs one year before year t , the corresponding indicator is equal to one only for $k = 1$; and if it occurs at least two years before year t , the corresponding indicator is equal to one only for $k \geq 2$.

Table A1. List of control variables

Variable	Definition	Source
$Asset_{i,t-1}$	Insurer's total assets (in logarithm)	S&P Capital IQ
$Lev_{i,t-1}$	Insurer's asset-to-liability ratio (in percentage)	Pro
$DER_{i,t-1}$	Insurer's debt-to-EBITDA ratio (in percentage)	
$ICR_{i,t-1}$	Insurer's interest coverage ratio (in percentage)	
$ROA_{i,t-1}$	Insurer's return on assets (in percentage)	
$IY_{i,t-1}$	Insurer's return on investments (in percentage)	
$Cash_{i,t-1}$	Insurer's cash-to-asset ratio (in percentage)	
$LALLR_{i,t-1}$	Insurer's ratio of long-term assets to long-term liabilities (in percentage)	
$NDM_{i,t-1}$	Binary variable equal to one if the insurer's $LALLR_{i,t-1}$ fall below the sample's lower quantile, and zero otherwise	HKMA staff's estimates
$LRR_{i,t-1}$	Binary variable equal to one if the insurer operates under less stringent capital requirements, and zero otherwise	
$PC_{i,t-1}^{PPS}$	Insurer's allocation to PC funds, structured credit and private bonds (in percentage of total assets)	Insurers' financial reports,
$PC_{i,t}^{DL}$	Insurer's allocation to direct lending (in percentage of total assets)	and HKMA staff's estimates

Given that $k = -1$ is omitted from Equation (1) as the benchmark year, α_k and β_k capture the effects of PE ownership at event time k relative to the year immediately preceding PE investment. If PE ownership contributes to greater PC exposure among insurers, α_k should be significant and positive for some $k \geq 0$;

if this effect is stronger when a majority equity stake is acquired, β_k should be significant and positive for $k > 0$.

Table A2. Regression results for Equation (1)

	(1) $PC_{i,t}^{PPS}$	(2) $PC_{i,t}^{DL}$
$A_{i,k \geq 2}$	7.99***	2.97
$M_{i,k \geq 2}$	4.62***	4.48**
$A_{i,k=1}$	-0.35	-0.24
$M_{i,k=1}$	16.92***	3.17
$A_{i,k=0}$	1.11	-1.15
$M_{i,k=0}$	0.27	3.39
$A_{i,k \leq -2}$	-1.54	-0.55
$M_{i,k \leq -2}$	-0.75	6.52**
$Asset_{i,t-1}$	-6.48**	0.30
$Lev_{i,t-1}$	-0.25**	0.09
$DER_{i,t-1}$	-0.00	0.00
$ICR_{i,t-1}$	-0.00	0.00
$ROA_{i,t-1}$	0.11	0.31*
$IY_{i,t-1}$	-0.00	-0.02
$Cash_{i,t-1}$	0.16	0.00
$LALLR_{i,t-1}$	-0.00	-0.00
$NDM_{i,t-1}$	-0.53	0.52
$LRR_{i,t-1}$	1.22	-0.56
$PC_{i,t-1}^{PPS}$	-0.03	0.04
$PC_{i,t-1}^{DL}$	-0.17**	0.09
$\alpha_2 + \beta_2$	12.61***	7.45**
$\alpha_1 + \beta_1$	16.57***	2.93
$\alpha_0 + \beta_0$	1.38	2.24
$\alpha_{-2} + \beta_{-2}$	-2.29	5.97*
Insurer FE	Yes	Yes
Year FE	Yes	Yes
Insurer Type x Year FE	Yes	Yes
Number of insurers	61	61
Observations	421	421

Note: ***, ** and * denote statistical significance at the 1%, 5% and 10% levels, respectively.

Column 1 of Table A2 presents the regression results for Equation (1) using $PC_{i,t}^{PPS}$ as the dependent variable. α_0 and β_0 are not statistically significant, indicating that the effect of PE ownership is not immediate. Instead, the effect materialises one to two years after PE investment, as $\alpha_1 + \beta_1$, α_2 , and $\alpha_2 + \beta_2$ are significant and positive. We also find no evidence that these results are driven by pre-trends, as α_{-2} and β_{-2} are not statistically significant.

Column 2 of Table A2 reports the regression results using $PC_{i,t}^{DL}$ as the dependent variable. We find limited evidence that PE ownership contributes to insurers' greater allocation to direct lending. Specifically, almost all coefficients of interest are not statistically significant. While $\alpha_2 + \beta_2$ is significant and positive, we cannot confidently attribute this effect to majority PE ownership, as $\alpha_{-2} + \beta_{-2}$ is also statistically significant suggesting the presence of pre-trends.

For the estimates presented in Figure 7, we analyse PE firms' investment preference using the following fixed-effects logit regression model:

$$\log\left(\frac{A_{i,k \geq 0}}{1 - A_{i,k \geq 0}}\right) = \gamma_1 NDM_{i,t-1} + \gamma_2 LRR_{i,t-1} + \text{Control}_{i,t-1} + FE + \varepsilon_{i,t} \quad (2)$$

where $A_{i,k \geq 0}$ is equal to one if insurer i was invested by a PE firm by year t , and zero otherwise. All other variables are defined as in Equation (1). $NDM_{i,t-1}$ denotes insurers with more liquid asset portfolios, as indicated by long-term assets falling short of long-term funding, which consists mainly of insurance liabilities. $LRR_{i,t-1}$ denotes insurers operating under less stringent capital requirements, as described in Section 3. We construct this indicator primarily on the basis of the IAIS's discussion of insurers' capital requirements (IAIS, 2025a, 2025b).¹² If PE firms are more likely to invest in these insurers, γ_1 and γ_2 should be significant and positive.

¹² To validate our classification of the stringency of capital requirements, we conduct a regression analysis. The findings suggest that insurers subject to more stringent capital requirements hold additional

Table A3 presents the regression results for Equation (2). Consistent with our conjecture, γ_1 and γ_2 are significant and positive, indicating that PE firms are more likely to invest in insurers with more liquid portfolios or operating under less stringent capital requirements. In economic terms, insurers with more liquid portfolios are, on average, 32% more likely to be invested by PE firms than insurers with less liquid portfolios. Similarly, insurers subject to less stringent capital requirements are, on average, 43% more likely to be invested by PE firms than those subject to more stringent capital requirements.

Table A3. Regression results for Equation (2)

	$A_{i,k \geq 0}$
$NDM_{i,t-1}$	9.75**
$LRR_{i,t-1}$	12.17**
$Asset_{i,t-1}$	-25.92**
$Lev_{i,t-1}$	0.43
$DER_{i,t-1}$	-0.00
$ICR_{i,t-1}$	0.00
$ROA_{i,t-1}$	-0.48
$IY_{i,t-1}$	-1.08
$Cash_{i,t-1}$	-1.03
$LALLR_{i,t-1}$	0.01
$PC_{i,t-1}^{PPS}$	0.15
$PC_{i,t-1}^{DL}$	-0.31
Insurer FE	Yes
Year FE	Yes
Insurer Type x Year FE	Yes
Number of insurers	61
Observations	421

Note: ***, ** and * denote statistical significance at the 1%, 5% and 10% levels, respectively.

We further confirm that insurers' PC allocations do not have a reverse impact on their likelihood of being invested by PE firms. Specifically, the

capital to cover incremental investments in PC funds, structured credit and private bonds, while those subject to less stringent capital requirements do not hold significantly more capital for additional PC investments. For the sake of brevity, the detailed results are not reported here.

coefficients of $PC_{i,t-1}^{PPS}$ and $PC_{i,t-1}^{DL}$ are not statistically significant, suggesting that PE firms are neither more nor less likely to invest in insurers with higher PC allocations. Combined with the estimates from Equation (1), these findings indicate that PE ownership leads to higher PC allocations among insurers, while higher PC allocations do not, in turn, affect the likelihood of PE investment.

For the estimates presented in Figure 8, we examine whether the effect of PE ownership on insurers' PC allocations hinges on insurer characteristics using the following fixed-effects linear regression model:

$$PC_{i,t+1} = \theta_1 A_{i,k \geq 0} + \theta_2 A_{i,k \geq 0} \times NDM_{i,t} + \theta_3 A_{i,k \geq 0} \times LRR_{i,t} + \theta_4 NDM_{i,t} + \theta_5 LRR_{i,t} + \text{Control}_{i,t} + \text{FE} + \varepsilon_{i,t+1} \quad (3)$$

where $PC_{i,t+1}$ denotes insurer i 's allocation to PC, measured as a percentage of its total assets at the end of year $t + 1$. As in Equation (1), we consider two versions of $PC_{i,t+1}$, namely (i) $PC_{i,t+1}^{PPS}$ and (ii) $PC_{i,t+1}^{DL}$. All other variables are defined as in Equations (1) and (2).

Our hypotheses are as follows. First, if insurers with more liquid assets increase their PC allocations by more than those with less liquid portfolios after PE investment, we expect θ_2 to be significant and positive. Second, if insurers subject to less stringent capital requirements increase their PC allocations by more than those subject to more stringent capital requirements, we expect θ_3 to be significant and positive.

Column 1 of Table A4 presents the regression results for Equation (3) using $PC_{i,t+1}^{PPS}$ as the dependent variable. These results are consistent with our hypotheses. Both θ_2 and θ_3 are significant and positive. This indicates that after PE investment, insurers with more liquid portfolios and those facing less

stringent capital requirements increase their exposure to PC funds, structured credit and private bonds by more than insurers without these two characteristics.

Table A4. Regression results for Equation (3)

	(1) $PC_{i,t+1}^{PPS}$	(2) $PC_{i,t+1}^{DL}$
$A_{i,k \geq 0}$	-1.94	-0.51
$A_{i,k \geq 0} \times NDM_{i,t}$	2.78*	0.74
$A_{i,k \geq 0} \times LRR_{i,t}$	5.31**	1.13
$NDM_{i,t}$	-1.30	0.26
$LRR_{i,t}$	-1.23	-1.21
$Asset_{i,t}$	-6.41**	-0.12
$Lev_{i,t}$	-0.24**	0.12
$DER_{i,t}$	-0.00	0.00
$ICR_{i,t}$	-0.00	0.00
$ROA_{i,t}$	0.15	0.31*
$IY_{i,t}$	-0.03	-0.02
$Cash_{i,t}$	0.07	-0.06
$LALLR_{i,t}$	-0.00	-0.00
$PC_{i,t}^{PPS}$	-0.03	0.04
$PC_{i,t}^{DL}$	-0.11*	0.14
$\theta_1 + \theta_2$	0.84*	0.23
$\theta_1 + \theta_3$	3.37**	0.62
Insurer FE	Yes	Yes
Year FE	Yes	Yes
Insurer Type x Year FE	Yes	Yes
Number of insurers	61	61
Observations	421	421

Note: ***, ** and * denote statistical significance at the 1%, 5% and 10% levels, respectively.

Column 2 of Table A4 reports the estimates using $PC_{i,t+1}^{DL}$ as the dependent variable. The results indicate no significant heterogeneity in the effect of PE ownership across insurer characteristics. This is consistent with our previous finding that PE ownership does not significantly affect insurers' allocation to direct lending.