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Deciphering the Debt: The Intersection of Syndicated Lending and Moral Hazard in East Asia's Financial Crisis

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Abstract

This paper investigates the dynamics of Western OECD syndicated bank lending to East Asian borrowers during the 1997-1998 Asian Financial Crisis (AFC), focusing on the interplay between sentiment volatility and moral hazard. Analysing loan data from Thomson-Reuters DealScan reveals that between 1993-2003 East Asian borrowers received disproportionately high loan volumes compared to other emerging market countries and this phenomenon is not fully explainable by economic fundamentals. Regression analysis highlights the paradoxical role of short-term debt: while it was associated with higher loan spreads and fees, reflecting an acknowledgment of risk, it simultaneously increased lending volumes, indicating conflicting risk assessment. The study employs the novel use of Generative AI to construct an estimate of volatility in sentiment towards East Asia from financial news headlines, offering an original assessment of how market sentiment influenced lending behaviour. The Difference-in-Differences analysis provides compelling evidence that, in the pre-crisis period, increased sentiment volatility spurred increased lending while post-crisis that same volatility deterred lending. This shift highlights how lenders engaged in excessive lending despite appreciable risk before the AFC, only to recalibrate their behaviour in response to the post-crisis fallout. These findings indicate that the "East Asia effect" was shaped not just by regional economic factors, but also by sentiment-driven decision-making which contributed to the financial instability that characterized the AFC. This research highlights the need for further investigation into the role of sentiment in international finance, particularly its influence on financial decision-making during periods of economic growth and crisis.

Introduction

The 1997-1998 Asian Financial Crisis (AFC) was a critical juncture in the history of global finance during which the rapid collapse of what was once celebrated as the "Asian economic miracle" exposed significant structural vulnerabilities within the financial systems of East Asia. Triggered by the sudden devaluation of the Thai baht in July 1997, the crisis quickly escalated into a dual currency and debt crisis as excesses of short-term debt began to

unwind. Marked by steep currency depreciations, collapsing financial markets, and severe economic contractions, the scale of the crisis was extraordinary, with the countries of Indonesia, South Korea, Malaysia, and Thailand witnessing GDP per capita declines from 27-56%.¹ Scholars such as Kaminsky, Reinhart, and Végh (2003) and Park, Ramayandi, and Shin (2013) contend that the AFC underscored the critical role of investor sentiment in exacerbating the crisis, particularly through mechanisms such as financial contagion. The "unholy trinity" of sudden capital flow reversals, surprise financial announcements, and the involvement of leveraged common creditors contributed to the rapid spread of financial instability across borders.²

Given the strong economic fundamentals and relatively swift post-crisis recovery, the drastic reversal from relentless economic growth to financial catastrophe from 1997 to 1998 invites further inquiry. Had the exorbitant investment and lending in the region truly been driven by the strength of regional fundamentals? Or were these flows of cross-border debt tainted by bull market frenzy and moral hazard?

Research Objectives

This study examines syndicated bank lending to emerging markets (EMs) from 1993 to 2003, focusing on how lending behaviours towards East Asian borrowers differed from those towards other EMs before the AFC. It investigates whether the preferential treatment of East Asian borrowers was driven by unobserved credit characteristics or sentiment-driven moral hazard in cross-border lending. Building on Eichengreen and Mody (2000), which found that East Asian borrowers received more favourable loan terms despite similar macroeconomic

¹ Russell Napier, *The Asian Financial Crisis 1995–98: Birth of the Age of Debt* (Petersfield, UK: Harriman House Limited, 2021), 9.

² Graciela L. Kaminsky, Carmen M. Reinhart, and Carlos A. Végh, "The Unholy Trinity of Financial Contagion," *Journal of Economic Perspectives* 17, no. 4 (2003): 57; Donghyun Park, Arief Ramayandi, and Kwanho Shin, "Chapter 4: Why Did Asian Countries Fare Better during the Global Financial Crisis than during the Asian Financial Crisis?" in *Responding to Financial Crisis: Lessons from Asia Then, the United States and Europe Now*, ed. Adam S. Posen and Changyong Rhee (Washington, DC: Peterson Institute for International Economics; Manila: Asian Development Bank, 2013), 103-140.

risks, this study scrutinizes the cross-border lending behaviour of OECD lenders from the US, UK, and Western Europe. Japanese lenders, key provisioners of short-term debt in the lead-up to the crisis, are excluded due to their distinct lending dynamics, which have been extensively studied and differ from the activity of Western lenders. By focusing on these Western lenders, the research seeks to determine whether qualitative factors like sentiment and moral hazard influenced the international lending practices that contributed to the AFC. The examination of syndicate lending dynamics and their potential contribution to financial instability in East Asia will provide insights into the broader implications of international lending during economic growth and crises.

To achieve a comprehensive understanding of the research problem, the study is guided by the following key research questions:

1. What were the specific factors that determined lending volume and loan terms for East Asian borrowers compared to other EMs?
2. How did the perceived and actual risks differ in the evaluation of East Asian borrowers by Western OECD lenders?
3. To what extent did moral hazard and sentiment reflected in financial news reporting influence the lending decisions of these Western financial institutions?

By integrating macroeconomic and financial data from sources such as Thomson-Reuters DealScan, the IMF, World Bank, BIS, and EIU with qualitative sentiment analysis of headlines from the Financial Times and South China Morning Post, this research uniquely combines objective financial indicators with subjective market perceptions. The chosen news sources capture prevailing attitudes within the financial services industry, especially from London, a major financial centre linking Europe and North America, and Hong Kong, a crucial regional hub for global investment and banking. This paper's central thesis posits that substantial lending to East Asian borrowers was shaped not only by financial and economic evaluations but also by sentiment-driven biases and the

resulting moral hazard. This research contributes to the literature by highlighting how qualitative factors, particularly investor sentiment, can shape financial market outcomes and potentially exacerbate financial crises.

Literature Review

This literature review adopts a thematic approach to explore key concepts and debates surrounding the AFC, particularly the pivotal role of short-term debt, moral hazard in lending practices, and the structure of syndicated loans. The review will also assess the current state of knowledge regarding syndicated bank lending during the AFC, highlighting influential studies that have shaped our understanding of lender and borrower behaviour, loan terms, and risk perception.

Stylized Facts of the AFC:

The AFC exposed critical vulnerabilities within East Asia's "miracle economies," previously celebrated for their rapid, export-driven growth. In July 1997 the Thai baht was devalued due to a speculative attack that depleted Thailand's foreign reserves, prompting a crisis which quickly spread across the region. Many East Asian currencies were pegged to the U.S. dollar, which provided stability during the preceding period of rapid economic growth but became a liability when the dollar appreciated in the mid-1990s. This appreciation eroded export competitiveness, exacerbated by rising competition from China, leading to large current account deficits and increased vulnerability to speculative attacks.³ As the fixed exchange rate systems that supported their export-oriented economies came under scrutiny, South Korea, Malaysia, Thailand, and Indonesia were confronted with the fallout from years of rising foreign debt, overinvestment, and inadequate risk management within their banking systems.⁴

³³ Kaminsky et al., "The Unholy Trinity of Financial Contagion," 58.

⁴ Steven Radelet, Jeffrey D. Sachs, Richard N. Cooper, and Barry P. Bosworth, "The East Asian Financial Crisis: Diagnosis, Remedies, Prospects," *Brookings Papers on Economic Activity*, no. 1998 (1): 3.

A particularly significant factor of the AFC was the region's dependence on short-term capital inflows to sustain economic growth and prop up money supply. With the liberalization of capital accounts during the 1990s, East Asian economies experienced a surge in foreign capital. East Asia's underdeveloped corporate bond markets, restrictive licensing regulations, and high levels of family ownership led to a situation where the surge in capital was primarily channelled into short-term, foreign-currency-denominated debt, which became the main source of external financing.⁵ This build-up of short-term debt was further exacerbated by governments' attempts to maintain currency value at artificially low exchange rates despite rising inflationary pressures.⁶ These inflows fuelled a credit boom, creating a fragile financial structure vulnerable to capital flow reversals, or "sudden stops", which played a pivotal role in triggering the crisis.

In general, bank credits accounted for the vast majority of the capital inflows that precipitated the crisis and sharp reversal of outflows experienced at the onset of the crisis. The level of banks' short-term debt was a particularly strong predictor of both the likelihood and severity of the crisis.⁷ While Japanese banks were initially major lenders, their role diminished as they faced domestic financial challenges. Meanwhile, European financiers rushed into East Asia, significantly increasing their lending to the region by 61.4% between June 1995 and June 1997.⁸ By 1997 European banks had surpassed Japanese banks as the region's top lenders, making them key players in the buildup to the crisis.

European and American banks, attracted by high returns and perceived regional stability, extended credit often without fully appreciating the risks. This behaviour, influenced by moral hazard—where lenders anticipated that defaults

⁵ Jonathan Coppel and Michael Davies, "Foreign participation in East Asia's banking sector," contribution to the CGFS Working Group on FDI in the Financial Sector of Emerging Market Economies, 2003.

⁶ Radelet et al., "The East Asian Financial Crisis: Diagnosis, Remedies, Prospects," 22.

⁷ Jacques Cailloux, Ricardo Gottschalk and Stephany Griffith-Jones, *International Capital Flows in Calm and Turbulent Times* (University of Michigan Press, 2009), 49.

⁸ Cailloux et al., *International Capital Flows in Calm and Turbulent Times*, 51.

would be covered by government bailouts—contributed to excessive risk-taking.⁹ Furthermore, foreign investors fundamentally misunderstood and optimistically overestimated the concept of "Asian values," equating them with strong business practices and a work ethic that invariably led to financial success. When the crisis hit, foreign investors rapidly rebranded these same values as "crony capitalism", revealing the fragility of their formerly stalwart assessments.¹⁰ The misalignment between perceived and actual risk was further complicated by interventions from international financial institutions like the IMF, which, while acting to stabilize the region's economies, largely protected Western banks from the worst effects of non-performing loans.¹¹ Thus, the crisis highlighted how the convergence of misplaced optimism, moral hazard, and inadequate risk assessment by foreign investors and banks resulted in a depth of crisis driven by factors beyond the economic fundamentals.

Theories of Contagion

The rapid spread of the financial crisis across East Asia and beyond has spurred extensive analysis, with several key theories emerging to explain the phenomenon of financial contagion. The "fundamentals" theory attributes the AFC to the weak macroeconomic fundamentals such as persistent current account deficits, overvalued currencies, and large volumes of short-term foreign debt, exacerbated by rigid exchange rate regimes, which became unsustainable under speculative pressure.¹² However, this theory does not fully explain why countries with similar fundamentals, like Taiwan, were less affected than others, such as Korea and Thailand.

On the other hand, the financial linkages and contagion theory, advocated by Kaminsky, Reinhart, and Végh (2003), focuses on the interconnectedness of

⁹ Peter C. Y. Chow, "What We Have Learned from the Asian Financial Crisis." In *Weathering the Storm: Taiwan, Its Neighbors, and the Asian Financial Crisis*, edited by Peter C. Y. Chow and Bates Gill, [specific page numbers]. Washington, DC: Brookings Institution Press, 2000, 200.

¹⁰ Napier, *The Asian Financial Crisis 1995–98: Birth of the Age of Debt*, 19.

¹¹ Barry Eichengreen and Harold James, "Monetary and Financial Reform in Two Eras of Globalization," *NBER Chapters*, January 2003, 515–48.

¹² William C. Hunter, George G. Kaufman, and Thomas H. Krueger, eds. *The Asian financial crisis: origins, implications, and solutions*. Springer Science & Business Media, 2012, 44-45.

financial systems through common creditors. When a crisis starts in one country, international creditors may withdraw funds en-masse, triggering widespread liquidity crises. This was seen with Japanese banks, which were heavily exposed to Thailand and, when they pulled back, caused ripple effects throughout Asia, especially in Korea. Investor sentiment and herding behaviour theories were expanded by Gaies, Nakhli, Ayadi, Sahut (2022), with integration of the psychological and behavioural aspects of financial markets. Gaies et al. used bootstrap rolling window sub-sample Granger causality to establish a causal link between investor sentiment and financial instability during the 2021 Covid-19 crisis. While 'bullish' sentiment contributes to financial stability by encouraging capital flows, once investors perceive risk in one market, the sharp turn to 'bearishness' causally worsens financial instability.¹³ Kaminsky's theory of herding behaviour takes this one step further. Investors, driven by fear, irrationally withdraw from surrounding markets, even from economies with relatively solid fundamentals.¹⁴ This theory is particularly compelling because it accounts for the "overshooting" seen during the crisis—where countries with less direct exposure to the initial shocks, such as Korea and even briefly Hong Kong, experienced disproportionate financial distress due to fear-fuelled investor frenzy. Herding behaviour is particularly relevant to syndicated lending as Eichengreen and Mody (2000) found syndicated lending to East Asia experienced deeper reversals during the AFC than bond markets.¹⁵

The applicability of investor sentiment and herding behaviour theories to syndicate lending during the AFC benefits from an extension that considers moral hazard. Moral hazard theory, particularly in the context of short-term lending and syndicated loans underscores how excessive risk-taking by both lenders and borrowers amplified the crisis. Essentially, how syndicate lending

¹³ Brahim Gaies, Mohamed Sahbi Nakhli, Rim Ayadi, and Jean-Michel Sahut, "Exploring the Causal Links Between Investor Sentiment and Financial Instability: A Dynamic Macro-Financial Analysis," *Journal of Economic Behavior & Organization* 204 (2022): 291.

¹⁴ Kaminsky et al., "The Unholy Trinity of Financial Contagion," 51–74.

¹⁵ Barry Eichengreen and Ashoka Mody, "Lending Booms, Reserves and the Sustainability of Short-Term Debt: Inferences from the Pricing of Syndicated Bank Loans," *Journal of Development Economics* 63, no. 1 (2000): 7.

acted as crucial mechanism of the financial linkages, investor sentiment, and herding behaviour that contributed to transmitting crisis across East Asia.

Moral Hazard in Syndicate Lending

Moral hazard arises when borrowers or lenders engage in riskier behaviour because they do not bear the full consequences of their actions, often due to implicit guarantees or bailout expectations. This was evident in the behaviour of both borrowers and lenders in contributing to the build-up of excess external debt before the AFC. This behaviour is particularly problematic in syndicated lending, where the arranger is responsible for bridging information asymmetries and risk is spread among multiple lenders, reducing the incentive for junior lenders to monitor the loans carefully.¹⁶ Although Peter Chow (2000) noted that “there has been no clear consensus as to the precise role of this moral hazard problem in generating the financial crisis in Asia”¹⁷, theoretical frameworks have since evolved to better capture the complexities of moral hazard within the intricacies of syndicated lending.

One of the foundational studies exploring moral hazard in international lending is Levy-Yeyati's (1999) model of international capital flows. This model illustrated how deposit insurance in low risk, developed countries incentivizes banks to lend to high-risk EMs, especially after capital controls are removed. The downside risks of these loans are mitigated by the implicit or explicit guarantees provided by deposit insurance, leading to a surge in lending to EMs.¹⁸ This setup leads to the "overborrowing syndrome," where artificial incentives result in credit expansion beyond economically efficient levels.¹⁹ This phenomenon was

¹⁶ Victoria Ivashina, “Asymmetric Information Effects on Loan Spreads,” *Journal of Financial Economics* 92, no. 2 (2009): 300–319; Amir Sufi, “Agency and renegotiation in corporate finance: Evidence from syndicated loans.” Unpublished working paper. Massachusetts Institute of Technology, 2005.

¹⁷ Chow, “What We Have Learned from the Asian Financial Crisis,” 200.

¹⁸ Eduardo Levy-Yeyati, *Global Moral Hazard, Capital Account Liberalization and the “Overlending Syndrome”* (International Monetary Fund, 1999).

¹⁹ Levy-Yeyati, *Global Moral Hazard, Capital Account Liberalization and the “Overlending Syndrome”*.

particularly evident in the eruption of cross-border lending to East Asia after they instigated incomplete financial liberalization programs in the early '90s.²⁰

Ivashina (2009) and Sufi (2005) both developed theoretical frameworks of information asymmetry and moral hazard in the syndicated loan market, although their empirical findings are limited to the U.S. domestic market. In both frameworks, a larger number of participants in a syndicate loan arrangement invites moral hazard by the lead arranger who has the informational advantage and looser monitoring, increasing incentives to profit from taking on greater risk.²¹ Gao & Jang (2021) further expanded the analysis of moral hazard by examining how differences in capital regulations impact global syndicated lending. They found that banks from countries with stringent capital regulations are more likely to participate in syndicates led by banks from countries with looser regulations. These syndicates, relying on the expertise of loosely regulated local banks to structure the transactions, often extended loans to higher-risk borrowers at higher spreads and were more likely to forego covenants, leading to higher default rates.²²

In his broad study of syndicate lending to EMs in the 1990s, Gadanez (2004) was among the first to use descriptive statistics to assert the role of syndicated loans in facilitating risk sharing among financial institutions in global lending. He established that the syndicated loan market was largely dominated by major U.S. and European banks, which often acted as lead arrangers. These loans, typically involving multiple lenders under a single agreement, allowed the distribution of credit risk across various institutions, thus minimizing the exposure of any single lender to a borrower's default.²³ Gadanez found that

²⁰ See Radelet, Sachs, Cooper, Bosworth (1998) for further discussion on 'partial' financialization of East Asian countries in the lead-up to the AFC.

²¹Victoria Ivashina, "Asymmetric Information Effects on Loan Spreads," 300–319; Amir Sufi, "Agency and renegotiation in corporate finance: Evidence from syndicated loans." Especially in Ivashina (2009) who assesses that smaller syndicates result in lower spreads (an indication of lower risk).

²² Janet Gao and Yeejin Jang, "What Drives Global Lending Syndication? Effects of Cross-Country Capital Regulation Gaps," *Review of Finance* 25, no. 2 (March 2021): 519-559.

²³ Blaise Gadanez, "The syndicated loan market: structure, development and implications," BIS Quarterly Review, December (2004), 87.

these large U.S. and European banks often originated loans for emerging market borrowers and allocated them to local banks. The presence of a reputable major foreign arranger had a “certification effect” for the local banks bearing the brunt of the risk.²⁴ This risk-sharing aspect was particularly vital for EMs during the AFC, as it enabled large loans to be extended from Western institutions evenly sharing a small portion of the risk while most of the risk was borne by local country banks.²⁵ Even more striking was Gadanecz’ finding that, between 1993-2003, 25% of U.S. originated loans and 10% of European loans were transferred via the secondary market. Essentially, U.S. and European arrangers could “sell” their risk by removing loans from their balance sheets.²⁶

These frameworks of moral hazard have various implications in the context of syndicated lending to East Asia in the run-up to the AFC. Levy-Yeyati’s model of implicit guarantees in financial frameworks of developed lending countries pairs well with the structure of Western lending to less financially robust East Asian nations. It is also supported by reporting of suspected implicit guarantees as discussed by historians such as Eichengreen (2019) and Chow (2011). Sufi and Ivashina’s assessment of opaque due diligence is certainly theoretically possible in the context of the AFC where most of the international lenders would have been far removed from the lender-borrower relationship promoted by the lead arranger and the average number of participant banks in EM syndicated loans was above 15 participant banks.²⁷ The issue of opaque due diligence is further confirmed by Gadanecz’ assessment of the “certification effect” by Western lenders who could convey a reputability to the East Asian banks that was unreflective of their actual financial robustness. These Western banks could even sell-off their exposure to the tenuous deal on secondary markets.

Conversely, Beyhaghi, Dai, Saunders, and Wald (2017) combined empirical data with legal analysis to conclude that, in general, cross-border syndicated lending

²⁴ Gadanecz, "The syndicated loan market: structure, development and implications," 87.

²⁵ Gadanecz, "The syndicated loan market: structure, development and implications," 92.

²⁶ Gadanecz, "The syndicated loan market: structure, development and implications," 77.

²⁷ Source: DealScan

reflects an acute appraisal of risks as borrower country creditor rights impact risk characteristics such as spreads, amounts, and maturities.²⁸ Moreover, Beyhaghi et al. emphasized the importance of covenants in managing loan risk as covenants often served as a substitute mechanism for risk mitigation, especially when lender-borrower relationships were not sufficiently strong.²⁹ However, in the DealScan loan dataset limited to European, US, and Canadian lenders, none of the syndicated deals included covenants. One conclusion that can be drawn from the lack of covenants in Western originated loans to East Asia is that there were strong lender-borrower relationships. This would align with Gadanez' assertion that a regional bank was usually connecting Western institutions to the borrowers. However, another equally valid interpretation is that the lack of covenants indicates deficit risk-management in these loans as asserted by Gao and Jang.

Syndicated Bank Lending During the AFC: Misalignment Between Perceived and Actual Risk

The above discussion has asserted that there are certainly structural opportunities for moral hazard in cross-border syndicated lending. However, assessing the specific role of syndicated bank lending during the AFC is essential for understanding the significant misalignment between perceived and actual risks resulting in moral hazard in international finance.

Eichengreen and Mody (2000) were pioneers in analysing the role of short-term debt during the AFC, emphasizing that the joint determination of loan extension and pricing was central to understanding the crisis. Their research highlighted that syndicated loan spreads, unlike bond spreads, exhibited less variation between 1991-1999, potentially indicating mispricing within the syndicated loan market.³⁰ Using OLS and Probit analysis, they determined that despite

²⁸ Medhi Beyhaghi, Rui Dai, Anthony Saunders, and John Wald. "International lending: The role of lender's home country." *Journal of Money, Credit and Banking* 53, no. 6 (2021): 1413.

²⁹ Beyhaghi, "International lending: The role of lender's home country." 1413.

³⁰ Eichengreen and Mody, "Lending Booms, Reserves and the Sustainability of Short-Term Debt: Inferences from the Pricing of Syndicated Bank Loans," 7.

comparable or greater macroeconomic risks relative to other EMs, East Asian countries secured more favourable loan terms. While a low ratio of international reserves to short-term debt significantly increased spreads in other regions, this factor did not have the same impact on spreads for East Asian countries. Additionally, although banks generally attached a higher risk premium to borrowers with substantial short-term debt, this relationship was less pronounced in East Asia.³¹ The distinct nature of East Asian lending terms is further underscored by the volume of loans, which remained relatively inelastic in East Asia unlike other regions where changes in UST rates altered lending probabilities. Eichengreen and Mody acknowledged the exceptionally favourable attitude towards “Asian values” could have played a role. They even posited that moral hazard further exacerbated this misalignment but relented that they could not substantially prove this.³²

Siregar and Choi (2010) added to the understanding of this misalignment by examining the persistence of international bank lending to East Asia during and after the AFC, despite rising financial risks. Their research found that banks continued to finance risky projects in countries like Thailand even as the crisis deepened, challenging the conventional view that financial instability deters lending.³³ This phenomenon of continued lending despite clear financial instability indicators, paired with the uneven recovery in international bank lending post-crisis—where U.S. and U.K. banks nearly returned to pre-crisis lending levels while Japanese banks significantly reduced their exposure—further illustrates the variability in lender behaviour and risk perception.³⁴

³¹ Eichengreen and Mody, “Lending Booms, Reserves and the Sustainability of Short-Term Debt: Inferences from the Pricing of Syndicated Bank Loans,” 18.

³² Eichengreen and Mody, “Lending Booms, Reserves and the Sustainability of Short-Term Debt: Inferences from the Pricing of Syndicated Bank Loans,” 24 & 30.

³³ Keen Meng Choy and Reza Y. Siregar, "Determinants of International Bank Lending from the Developed World to East Asia," *IMF Staff Papers* 57, no. 2 (2010): 484-516, 505.

³⁴ Cailloux et al., *International Capital Flows in Calm and Turbulent Times*, 51.

The Power of Sentiment and Failure of Moral Hazard

This literature review has thus far documented the theoretical mechanisms through which moral hazard was institutionally supported, as well as the incentives that encouraged risky lending behaviours during the AFC. However, these studies primarily measure the structural pathways that facilitated moral hazard, such as weak regulatory frameworks and implicit government guarantees, without deeply exploring the underlying sentiment that might have further skewed risk perception. In the lead-up to the AFC, the interplay between sentiment and moral hazard regarding macro-fundamentals played a crucial role in shaping the behaviour of investors and financial institutions. Napier (2021) analysed his own first-person experiences as an investment analyst in Hong Kong to establish how sentiment-driven investment resulted in a wilful disregard for underlying risks and contributed to the crisis. Moreover, selected primary sources from the period further underscore how these dynamics were not confined to equity markets but permeated the entire financial services industry, including syndicated lending.

Napier argues that the AFC was significantly driven by the failure of investors to recognize the risks associated with the region's economic boom. Instead of critically analysing factors such as credit expansion and money creation, investors focused on what they believed were robust company fundamentals.³⁵ Belief in the "Asian economic miracle" fostered a sentiment that high growth rates would naturally translate into high returns, leading to a herd mentality where dissenting views were sidelined.³⁶ David Chater's *Euromoney* reporting exemplifies how this sentiment was institutionalized within the financial services industry. In 1995, Baring Securities was selectively celebrated for its "intellectually brilliant" research, which was seen as deeply rooted in fundamentals and instrumental in reducing investor risk.³⁷ The article also notes that dissenting voices, while a "tiny minority", disparaged the Asian

³⁵ Napier, *The Asian Financial Crisis 1995–98: Birth of the Age of Debt*, 12.

³⁶ Napier, *The Asian Financial Crisis 1995–98: Birth of the Age of Debt*, 16.

³⁷ David Chater, "Baring Puts Winning Formula to Work," *Euromoney*, no. 06 (1994): 225.

market research produced by Barings and similar funds, questioning the transparency and quality,

*"but who's compiling them these days? 'Who's updating them?'...I'm looking for ideas and angles. U.S. and European fund managers may love Barings, but local fund managers aren't at all convinced."*³⁸

This early apprehension, an admittedly minority opinion, pointed to a disconnect between U.S. and European investors and the realities being observed discerning local fund managers.³⁹ By 1998, the perception of Asian financial research had dramatically shifted. This article by Michael Steinberger from the same newspaper illustrates how the research industry that had been lauded just a few years earlier was now criticized for its lack of objectivity and failure to acknowledge risks. Analysts were described as,

*"increasingly being dragged over the Chinese wall in order to help sell corporate finance deals... Nor is criticism always well received: in 1995, Thai officials lashed out at Credit Lyonnais economist Jim Walker, who had warned investors that Thailand was becoming over-reliant on short-term capital inflow."*⁴⁰

Steinberger expressly details a prevalent moral hazard issue in the regions' investment banking culture that stretched well beyond equity research. A mandate for optimistic consensus insisted upon both by East Asian governments and Western institutional investors,

"In their effort to win mandates, investment banks are determined above all not to ruffle feathers in corporate boardrooms and the corridors of power. 'The conflicts of interest are just huge,' says Bill Kaye, who runs the Hong Kong-based Asian Hedge Fund.... Last year, an analyst at Kleinwort Benson put his firm in hot water by calling Malaysia's economic policies "noddynamics". Kleinwort officials quickly had the paper recalled and apologized to the Malaysian government... [David Roche] has said that many of his biggest fights at Morgan Stanley, where he was chief strategist until 1994, concerned Asia... In fairness to the

³⁸ Chater, "Baring Puts Winning Formula to Work," 225.

³⁹ Soros Fund Management and Tiger Management are famous examples such funds skeptical of reported fundamentals.

⁴⁰ Michael Steinberger, "Impaired Intelligence," *Euromoney*, no. 334 (1998): 85-87.

investment banks and analysts, there is an element of hypocrisy in fund managers' griping. Although most institutional investors claim they never make picks based on recommendations, they get angry when the research they use fails to lead them to what they are looking for.... 'When that story doesn't materialize, they take it out on analysts. If they weren't looking for the next hot story, they would probably find an investment.'"

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This shift highlights a critical aspect in the evolution of a crashing bull market. Previously, financial institutions, influenced by the prevailing consensus and client directives, were incentivized to produce favourable reports that supported deal-making rather than challenging the assumptions underlying the market's exuberance. By December 1997, the industry was relenting that the true extent of the region's financial vulnerabilities had long been visible and systematically ignored. Peter Lee details how syndicated lending, which accounted for roughly 60% of new fund-raising by Asian entities, was central to the capital flows that had resulted in crisis.⁴² As the crisis spread, the once prevalent the belief that any downturn would be temporary and that the influx of capital would continue indefinitely, had turned to terror and confusion, resulting in a market downturn. Supporting new borrowing was out of the question and "spreads in Asia, in these extreme markets, [had] moved out of the range of any previously comprehensible relative-value analysis."⁴³

Positioning My Research

The prevailing literature has thus far established a few key facts 1) theories of contagion fail to explain the entirety of the dynamics of the AFC. Investor sentiment and herding theories explain the depth and severity of the crisis but fail to account for moral hazard in the short-term lending that was so key to the propagation of the crisis. 2) Theoretical moral hazard frameworks establish reasonable evidence that risky lending behaviour was institutionally supported but focus on institutional channels of hazard and overlook sentiment incentivizing risky behaviour. While these frameworks have yet to be directly

⁴¹ Steinberger, "Impaired Intelligence," 85-87.

⁴² Peter Lee, "When the World Started to Melt," *Euromoney*, no. 344 (1997): 32-37.

⁴³ Lee, "When the World Started to Melt," 32-37.

applied to the AFC, they are compatible with the financial infrastructure underpinning syndicated lending from Western OECD nations to East Asian countries during this period. 3) Research on syndicate lending during the AFC has established that East Asian countries were preferred borrowers compared to other EM countries, and this preference was not entirely supported by economic fundamentals. There is yet to be a consensus on whether the preference extended to lending volume, loan terms, or both. The researchers suspect moral hazard and market sentiment are at play but have yet to empirically prove this. 4) The contemporaneous evidence points to a proliferation of bad-faith, sentiment-driven moral hazard throughout the financial services industry in the build-up to the crisis. The primary source evidence also indicates that investor sentiment, particularly underreporting of regional risks, were also present in financial reporting.

This study addresses gaps in the literature by examining Western banks' lending behaviour and the role of sentiment in risky investor decisions, with a focus on moral hazard in international finance. There are two main analyses: first, assessing whether the large-scale lending to East Asia in the mid-1990s was driven by economic fundamentals or influenced more by sentiment and unobserved credit characteristics; and second, expanding moral hazard frameworks by emphasizing sentiment-driven incentives alongside the institutional structures. The study's limitations include the exclusion of company-level financial data, which omits certain dynamics specific to individual borrower-lender interactions, and the limitations of sentiment analysis, which may not fully capture the complexity of investor behaviour and overlook micro-level variations in sentiment that shape loan-level decisions. The sentiment scores derived from financial news headlines may not fully capture the complexity of investor sentiment and other unobserved factors influencing lending decisions may not be accounted for.

Discussion Of Data Sources⁴⁴

The primary data source for this study is the Thomson-Reuters DealScan database, a comprehensive repository of over 240,000 global syndicated bank loan transactions. DealScan offers extensive data on loan attributes such as deal amounts, interest rates, maturities, and participating institutions, making it essential for analysing global lending practices, especially in EMs. The study extracts critical indicators like Deal Active Date, Lender Parent characteristics, Borrower characteristics, Deal Amount, Base Reference Rate, and All-in Spread Drawn and All Fees. To manage the challenges posed by duplication due to the syndicated loan structure, loans were aggregated based on the ultimate lender parent bank and their operating country, focusing on the largest tranche with the earliest active date.⁴⁵

The World Bank Development Indicators (WDI) Database Archives offers comprehensive historical macroeconomic data. I ensured maximum coverage and consistency by sourcing from specific editions, April 2003 for 1993-2000 and April 2006 for 2001-2003.⁴⁶ The Economist Intelligence Unit (EIU) fills gaps in World Bank data, providing key external debt data and financial stability indicators such as International Reserves and Bureaucracy assessments compiled from the IMF, World Bank, BIS, and EIU estimates.

To address potential data limitations, Sovereign Credit Ratings from S&P, Moody's, and Fitch were sourced from The Global Economy, a website which covers 80 years and 400 indicators on 200 countries where data could be obtained from reliable official sources. Ratings were converted into a numerical scale,⁴⁷ and residuals were calculated to account for variations unexplained by macroeconomic indicators, ensuring that the analysis remains robust and

⁴⁴ Please see Appendix for full list of all indicators, definitions, and any adjustments made to them.

⁴⁵ Following best practices from Ivashina (2005).

⁴⁶ These two volumes had the most consistency in reporting, indicating that the same statistical methods were used in both.

⁴⁷ Following scale set by António Afonso, Pedor Gomes, and Philipp Rother. (2007). What 'Hides' Behind Sovereign Debt Ratings? *European Central Bank Working Paper*. 711. 10.2139/ssrn.954705.

comprehensive.⁴⁸ Additionally, the Debt in Default to Official Creditor indicator was sourced from the BoC-BoE Sovereign Debt Default Database, providing detailed records of sovereign defaults to official creditors such as the IMF, World Bank, and Paris Club across a wide range of countries and years.

To capture the sentiment surrounding Asian economic news, headlines were extracted from the Factiva archive, focusing on the *Financial Times* and *South China Morning Post* from 1993-2003. The initial export yielded 28,998 headlines, with 58% from FT and 42% from SCMP. The visual summaries provided by Factiva further validated the relevance of the extracted data with the coverage of subjects and industries, such as corporate/industrial news, banking/credit, and economic news, aligning closely with the focus of my research. It is relevant to note that SCMP has uneven country coverage with China taking 1/3 of the coverage so Regional Sentiment was constructed by separating country-level sentiment and averaging. Sentiment was analysed using VADER, a commonly used sentiment-dictionary in academic research, and further refined with Generative AI (GenAI) models with an estimated 82% accuracy.⁴⁹

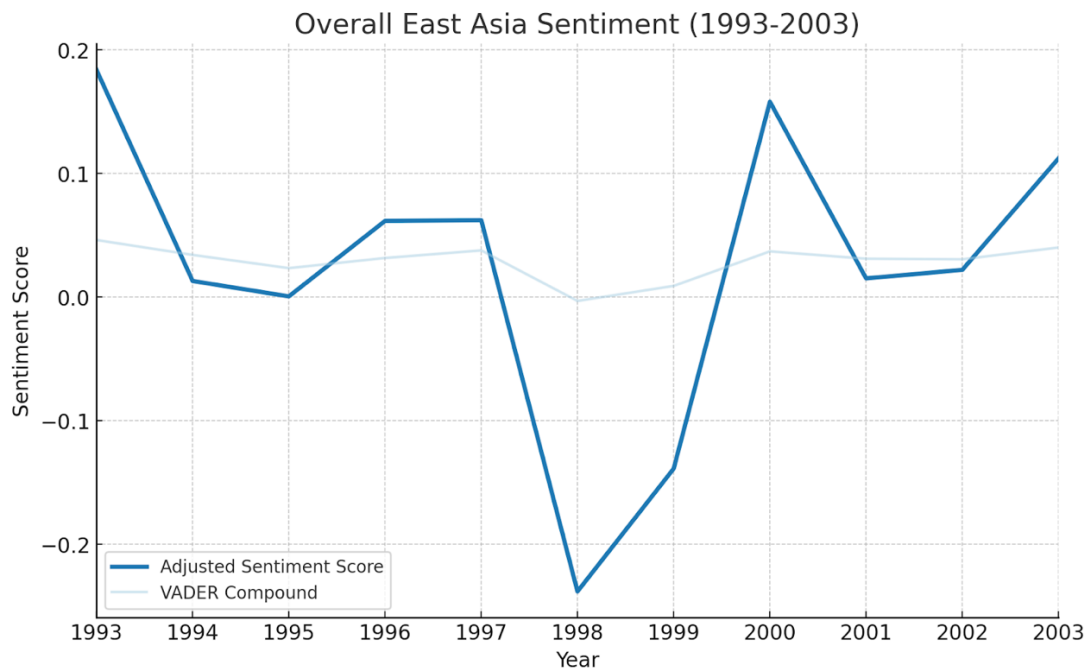
This approach captured not only the general sentiment but also the specific financial, economic, or political context in which that sentiment was expressed. Figure 1 shows that the GenAI adjustment to the VADER score proved more effective in capturing the sentiment of news headlines. The sentiment scores closely aligned with historical economic events, showing consistently positive sentiment until 1996/1997, when early signs of the crisis emerged. Sentiment sharply declined in 1997/1998, reflecting the crisis's impact and recovered from 1999 on. Individual country sentiment trends are available in the appendix, but overall follow the expected historical trends. Sentiment towards Korea is the

⁴⁸ Using the macroeconomic indicators assessed by Oluyomi A. Osobajo and Adeola E. Akintunde. 2019. "Determinants of Sovereign Credit Ratings in Emerging Markets." *International Business Research* 12 (5): 142.

⁴⁹ See Appendix for full quality and accuracy assessment on a sample of extracted article headlines.

exception, which sees a trend of steady decline since 1994, despite the continued influx of international capital during that period.⁵⁰

Figure 1:



Validation Through Descriptive Charts

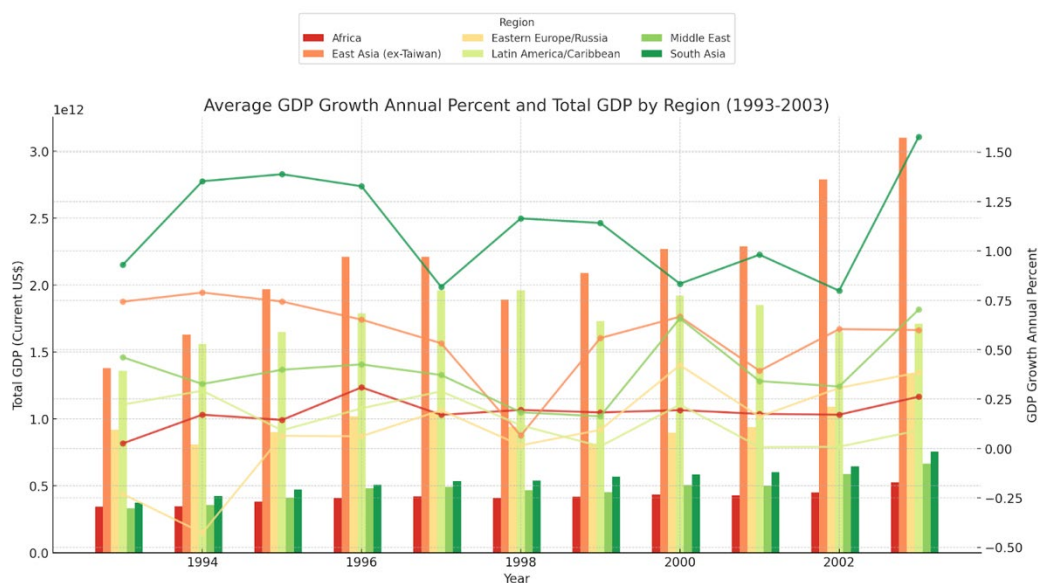
To validate the dataset and draw preliminary conclusions, descriptive charts were created to highlight trends in syndicated lending across EMs. This validation ensures that the data used in this study is both comprehensive and reflective of the financial environment during the AFC, providing a robust foundation for subsequent empirical work. These descriptive stats cover all EMs with syndicate loans and all OECD lenders including Japan. Please note that some indicators for Taiwan are excluded due to World Bank reporting excluding country level data for Taiwan. For later econometric work, Taiwan data was filled using EIU data.

⁵⁰ For example, China's sentiment was more volatile than other countries, with notable shifts in 1995 (WTO entry), 1997/1998 (Hong Kong's return), and 1999 (NATO's bombing of its embassy).

Macroeconomic Indicators⁵¹

Regional GDP⁵² - Consistent with the literature, Figure 2 confirms East Asia exhibited the highest GDP levels and robust growth rates compared to other EM regions. While South Asia, biased by India's GDP weighting, displayed higher growth rates, the GDP base was notably lower. Despite a continued rise in East Asian regional GDP from 1993-1998, the year-over-year growth rate decelerated leading up to 1998. The AFC's impact is evident in the 1998 GDP contraction, followed by a rapid recovery, with the post-crisis period characterized by fluctuating growth patterns and continued GDP expansion.

Figure 2:



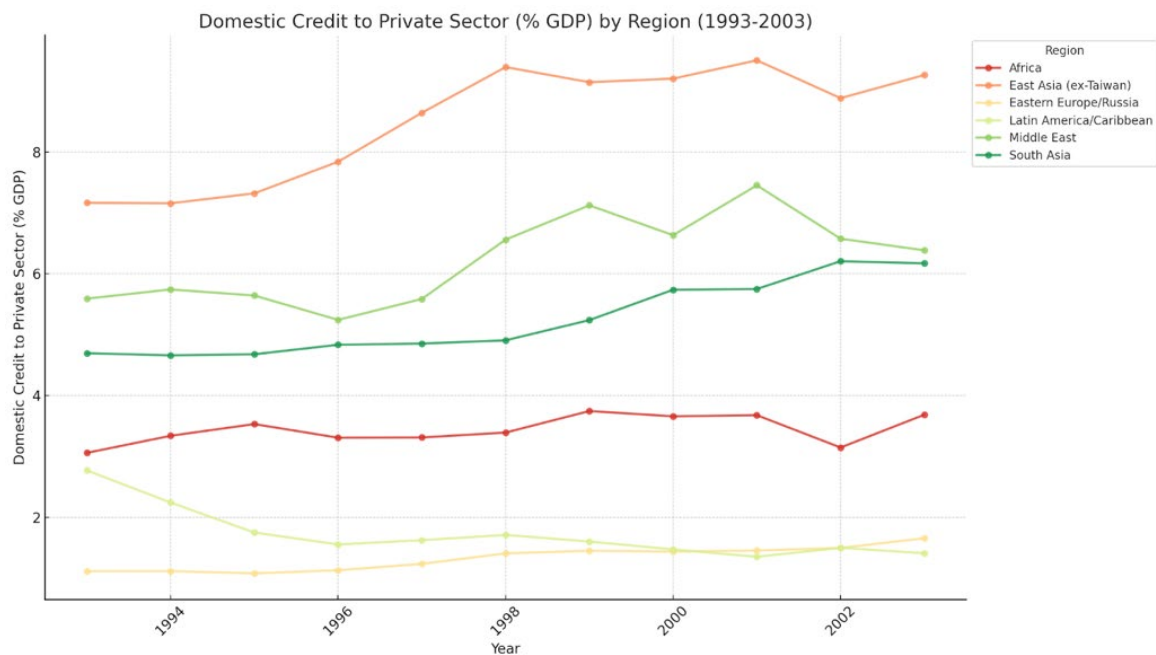
Domestic Credit to Private Sector⁵³ - East Asia consistently led in Domestic Credit to the Private Sector as a percentage of GDP, surpassing other EM regions throughout the period. Figure 3 indicates a more developed financial sector in East Asia, characterized by substantial financial intermediation between financial corporations and the private sector in provision of loans, non-equity security purchases, trade credits, and other accounts receivable.

⁵¹ The macroeconomic charts were created using country level data, aggregated to the regional level by weighted average - weights were assigned based on size of GDP.

⁵² Source: World Bank

⁵³ Source: World Bank

Figure 3:



Economic & Investment Forecasts⁵⁴ - Forecasts from the Global Economy database, including Economic Growth and Investment forecasts, provide insight into the financial community's expectations during the period. Figure 4 confirms the established narrative, with East Asia showing superior growth rates compared to all regions, except South Asia, from 1993-1998. Post-1998, while East Asia maintained high growth rates, other EM regions demonstrated notable catch-up. Similarly, in Figure 5 East Asia held the second-highest Investment forecast from 1993-1998, with only South Asia having higher expectations. Post-crisis, East Asia's investment forecasts remained elevated, matched closely by the Middle East.

⁵⁴ Source: The Global Economy

Figure 4:

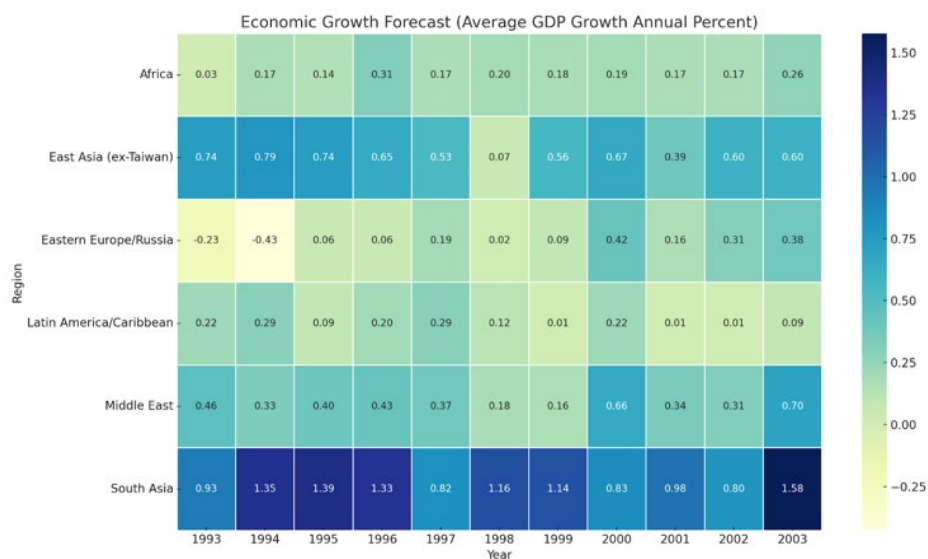
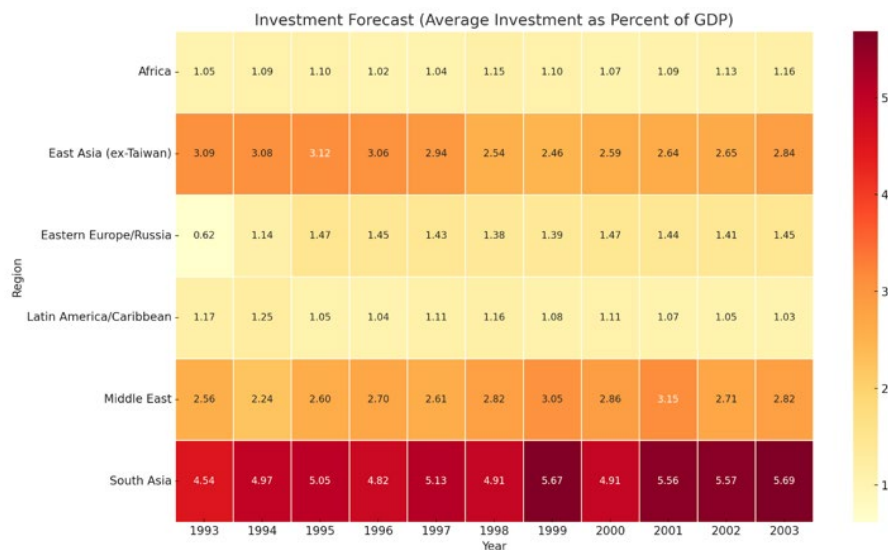


Figure 5:



External Debt Indicators⁵⁵ - Figures 6, 7, and 8 largely confirm the established literature on the AFC. East Asia exhibited higher levels of external debt compared to other emerging market regions, except for Latin America. External debt in East Asia peaked in 1998, followed by a decline as the region adjusted to more sustainable debt levels post-crisis. A particularly striking aspect was the risk profile of this debt: short-term debt as a percentage of total external debt was alarmingly high, reaching 25% in 1996. After the crisis, short-term debt

⁵⁵ Source: EIU

levels normalized between 1998 and 2000, although a concerning upward trend emerged again in the early 2000s.

Figure 6:

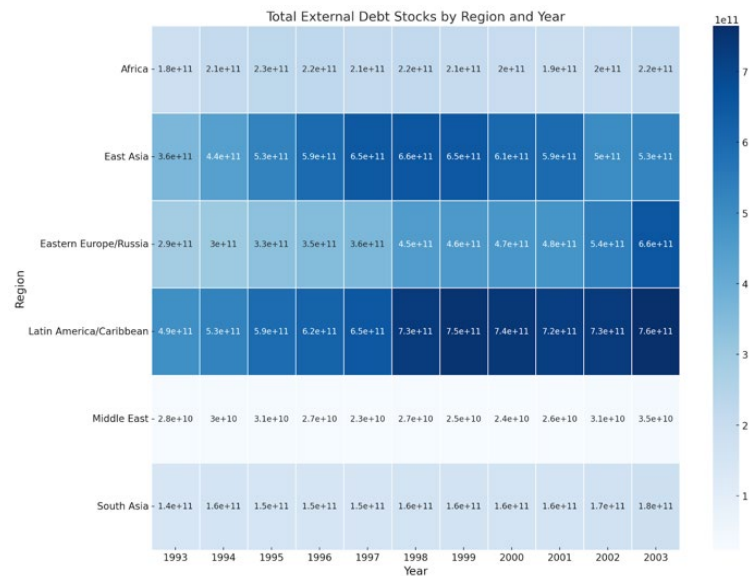


Figure 7:

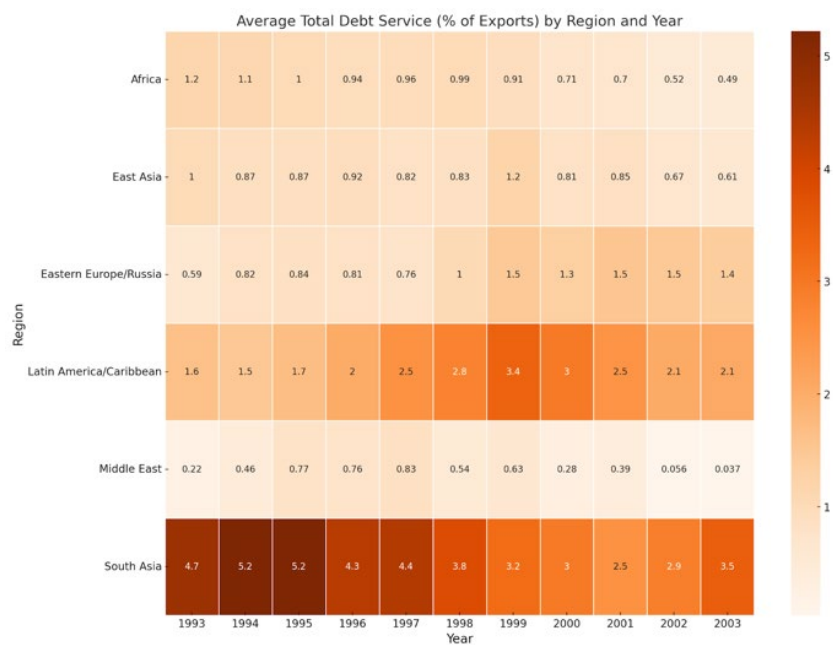
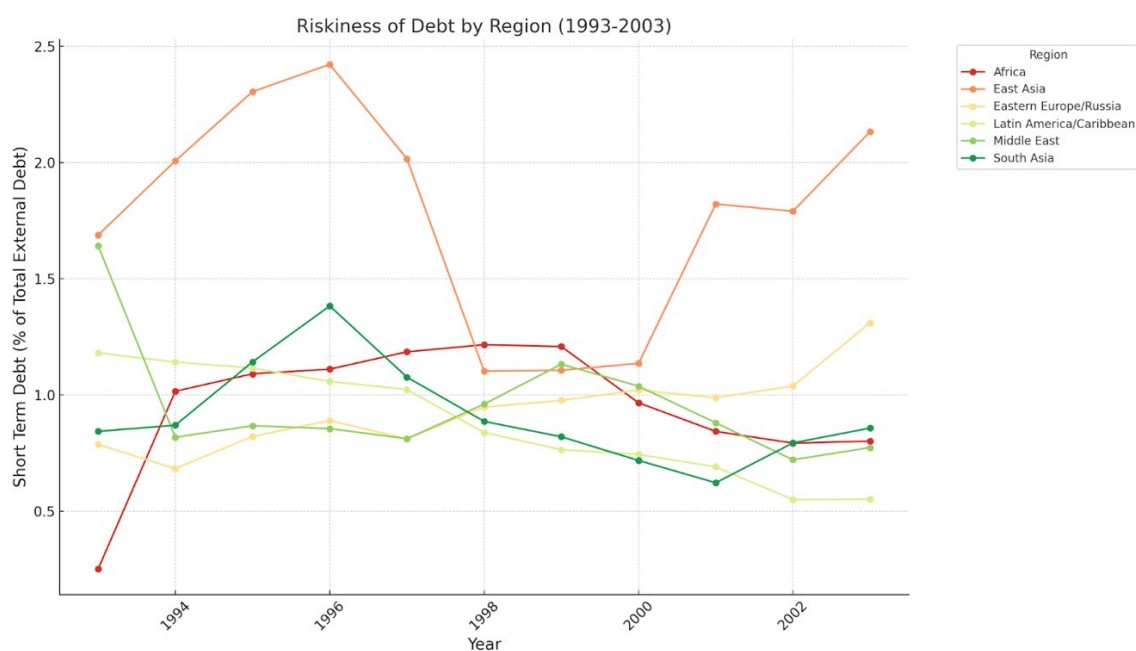


Figure 8:



Financial System Indicators⁵⁶ - East Asia's financial development, as measured by the Financial Development Index in Figure 9, was moderate, ranking similarly to the Middle East across most of the period studied. This suggests that, while East Asia had a relatively developed financial sector compared to other EMs, it was still comparable to that of the Middle East in terms of financial institutions and market development, as well as financial system deposits (Figure 10). Post-crisis, there was some growth in financial system deposits, reflecting ongoing development and liberalization efforts, but overall financial development remained stagnant⁵⁷.

⁵⁶ Source: World Bank. These indicators are subject to greater caution in interpretation as there was less complete data across countries compared to other variables.

⁵⁷ South Asia, however, consistently exhibited the highest levels across most financial indicators, except for Banking Sector Liquidity, which saw a decline, indicating a relatively advanced financial system in that region, heavily influenced by India's economic structure.

Figure 9:

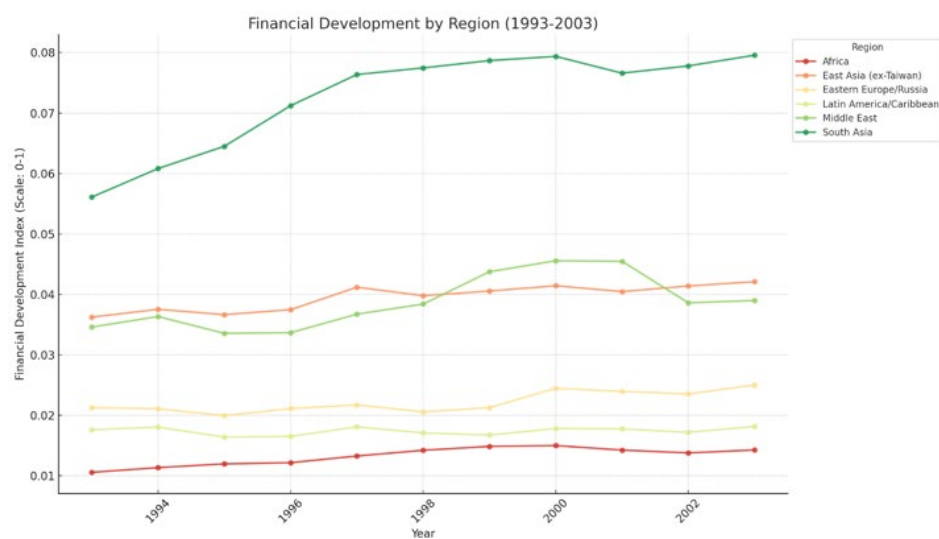
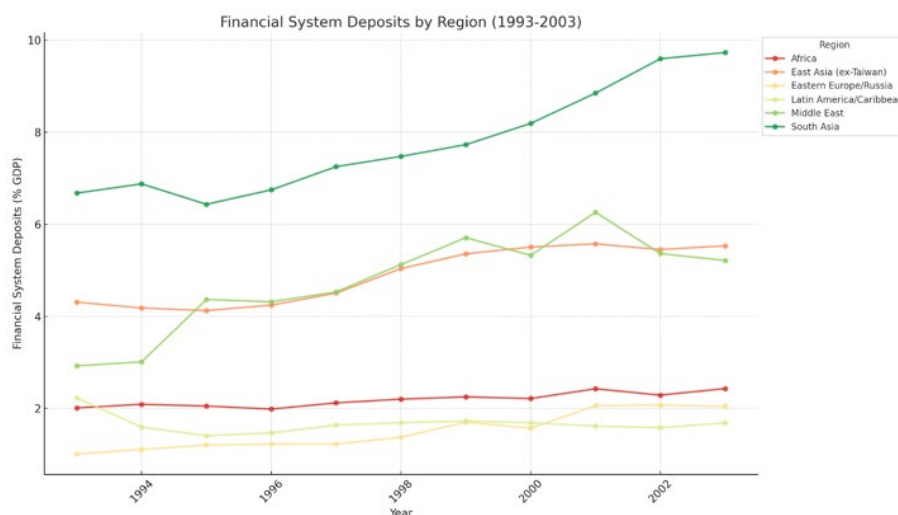


Figure 10:



Liquidity Indicators⁵⁸ - Liquidity, measured by M2 and banking sector liquidity in Figure 11, is crucial for assessing financial resilience, especially in regions heavily reliant on external debt. In East Asia, M2 levels were not significantly higher than in other EMs before the AFC, indicating a lack of sufficient liquidity buffers despite rising external debt. In Figure 12, comparable levels of banking sector liquidity in East Asia and other EMs suggest that East Asian banks were similarly vulnerable to liquidity risks. This inadequate liquidity management

⁵⁸ Source: World Bank

reflects the increasing risk of failing to meet short-term obligations while external debt levels were exploding.

Figure 11:

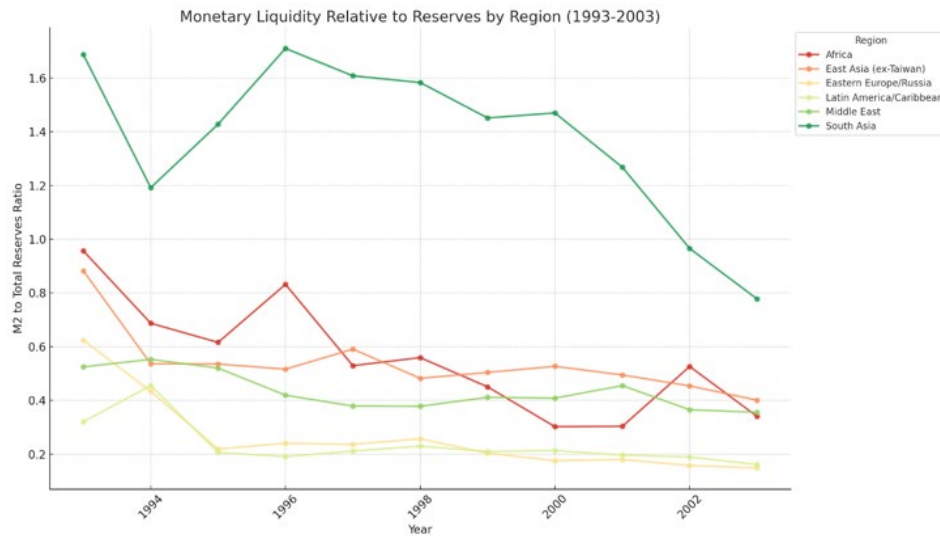
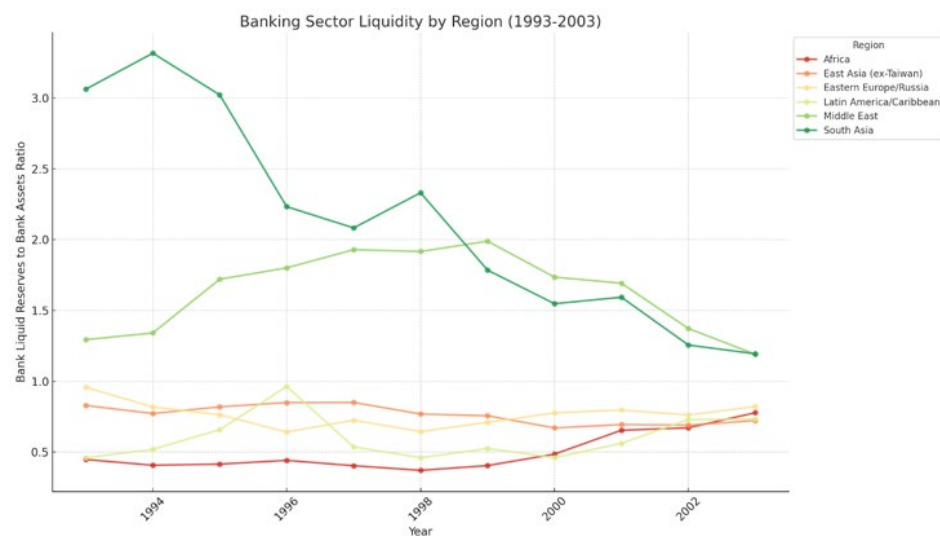


Figure 12:

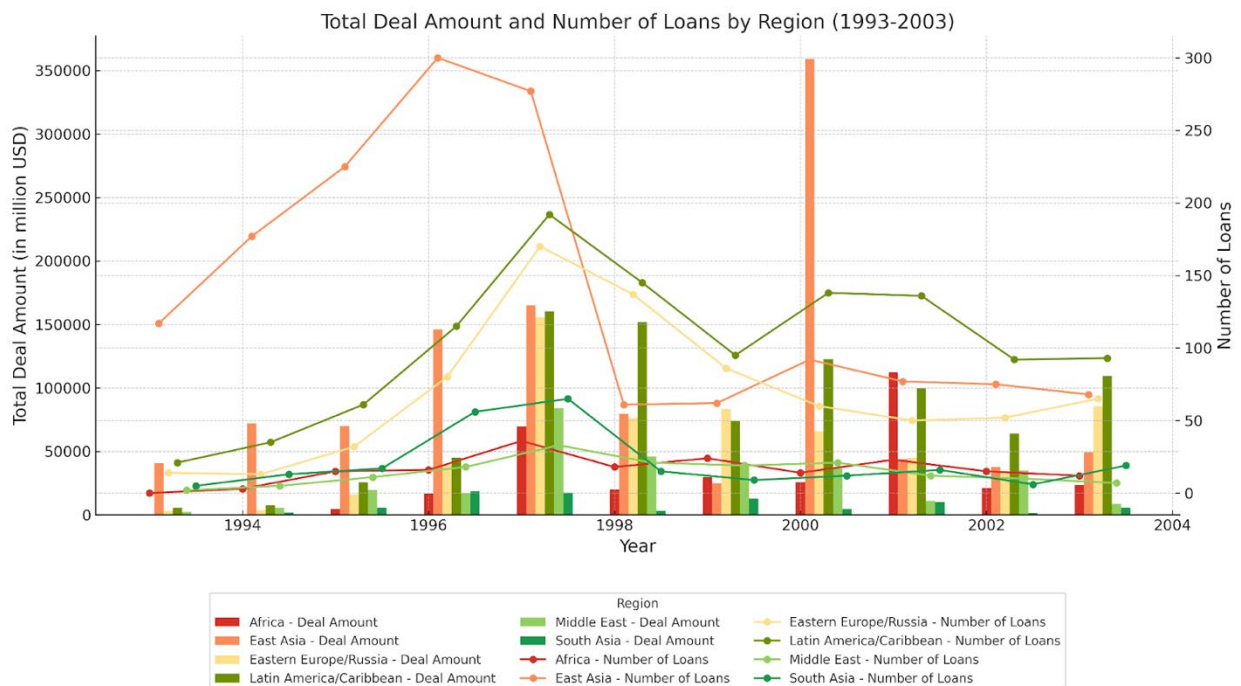


Conclusions on Macro & Debt Indicators - The data aligns with contemporary literature, confirming that while East Asia boasted high GDP growth and significant private sector activity, clear vulnerabilities were present before the AFC. Rising debt levels, particularly in short-term liabilities coupled with stagnant monetary liquidity, highlighted the region's fragility. Despite the surge in private sector financing, the underlying financial systems were not

significantly more advanced than those in other EMs, signalling a disconnect between financial growth and regulatory strength. However, the post-crisis period showed a robust economic recovery, suggesting that the crisis was not fundamentally driven, as the region quickly regained and even improved its economic footing in some respects.

Loan-Level Indicators⁵⁹ - The analysis of loan-level data reveals that despite growing vulnerabilities, there was a significant increase in loans from OECD countries to East Asia between 1993 and 1998 (Figure 13). The region saw the highest deal values until 1997, after which regional disparities evened out. The financial crisis in 1998 led to a sharp decline in both the number of loans and total deal value, with levels never fully recovering to pre-crisis heights, except for a notable spike in 2000 due to a major aerospace loan in Hong Kong.

Figure 13:



⁵⁹ Source: DealScan

Lending Terms⁶⁰ - A closer look at lending terms—spreads, fees, and maturities—reveals a complex risk-pricing dynamic. While spreads for East Asian countries were relatively low (Figure 14), risk was primarily reflected in higher fees, resulting in East Asia having a higher combined Spread + Fees compared to other EMs (Figure 15), confirming Benyaghi et al.’s assertion that syndicates properly priced risk. Moreover, in Figure 16, East Asian loans had shorter maturities, akin to those seen in Latin American countries, indicating lenders' caution despite the region’s strong economic growth.

Figure 14

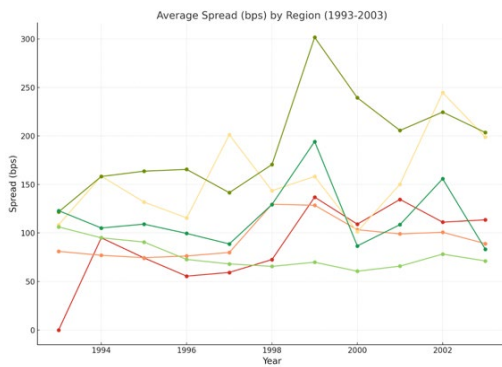


Figure 15

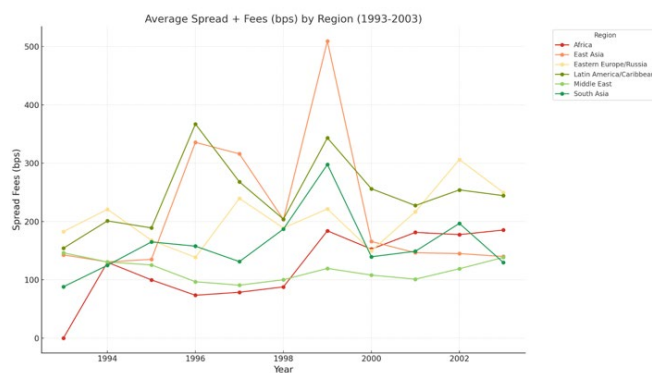
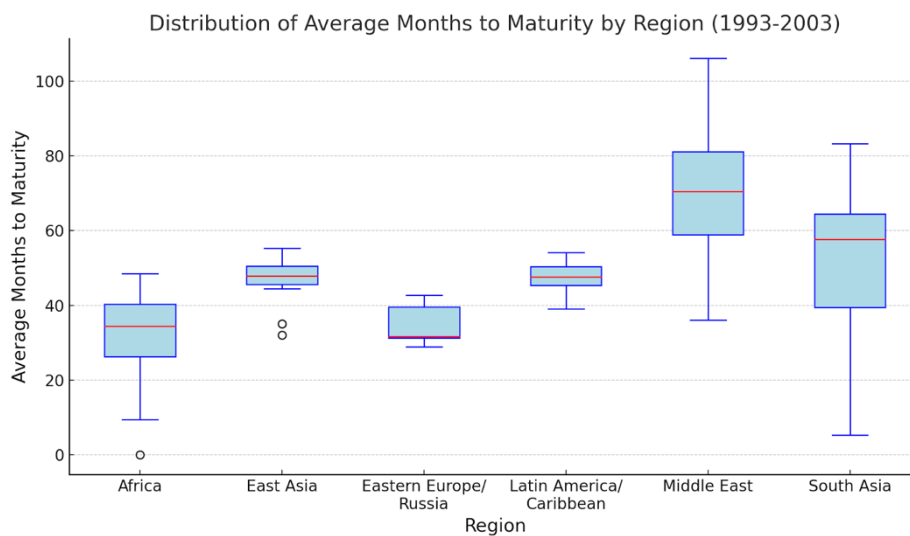


Figure 16



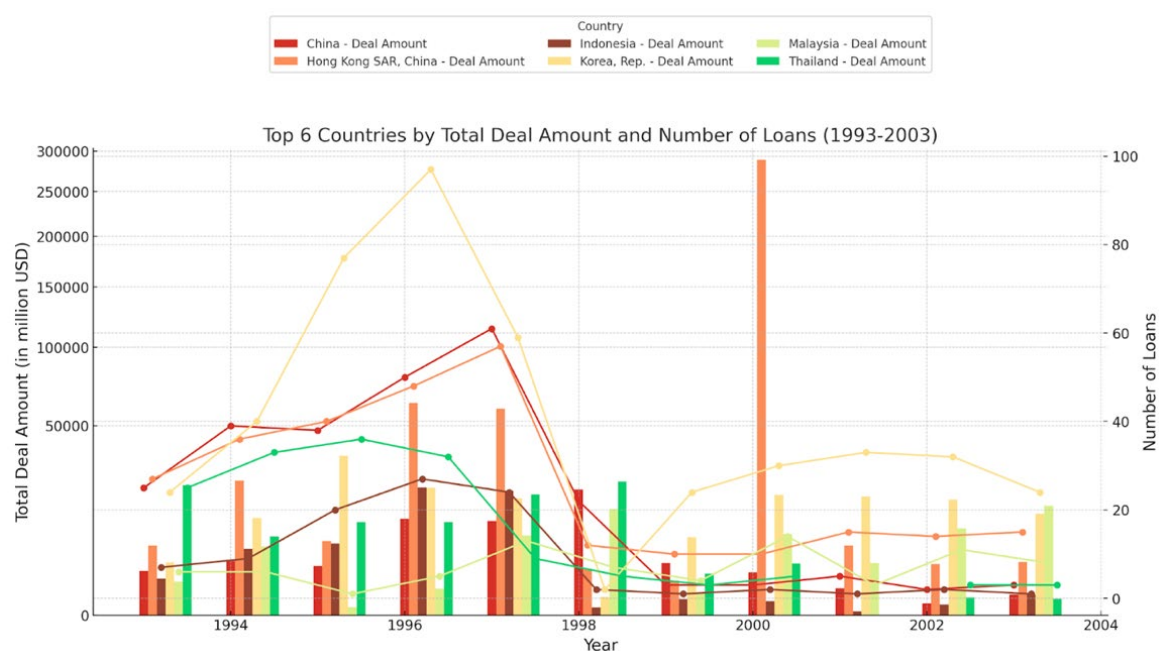
⁶⁰ Source: DealScan

Loan-Level Conclusions - While lenders accounted for the identified risks through adjusted spreads, fees, and shorter loan maturities, the overall volume of lending to East Asia far exceeded what economic fundamentals of rapid growth and substantial private sector financing would justify. This disproportionate lending suggests influences beyond mere risk assessment, likely driven by the reduction of capital controls in the early 1990s, which made East Asian markets more accessible, and liquid compared to other EMs. However, the sheer volume of loans indicates lending practices influenced by market frenzy and potential moral hazard.

Lending Volume to East Asian Countries⁶¹ - Analysing lending behaviour at the country level within East Asia (Figure 17) reveals several key trends consistent with contemporary literature. Between 1993-1994, lending was relatively balanced, with China leading in the number of loans but not in total deal value. From 1995-1997, Korea emerged as the largest recipient of syndicated loans by volume, though the total value remained comparable to other countries with the exception of 1995. During this period, Hong Kong also experienced a sharp increase in loan values. In 1998, lending collapsed across the region, but China, Malaysia, and Indonesia continued to attract high-value loans—China due to its relatively stronger fundamentals and the others likely due to IMF-coordinated rescue efforts. Post-1999, Korea saw a recovery in loan value, with lending stabilizing, unlike Thailand and Indonesia, where lending did not rebound.

⁶¹ Source: DealScan

Figure 17



*Lender-Level Dynamics*⁶²

A comparative analysis of loan terms extended by lenders from Japan and Australia, Western Europe, and North America reveals key differences that contributed to short-term lending vulnerabilities.⁶³ As established in prior studies, Japanese lenders dramatically increased their loan volumes and total deal values in East Asia leading up to the crisis. Notably, these loans were extended at shorter maturities and higher spreads, especially post-1995, reflecting Japan's aggressive risk pricing. Post-crisis, Japanese lending sharply declined.⁶⁴

Figure 18 shows that Western European lenders exhibited a similar explosion in loan numbers, particularly from 1995-1996, although the total deal amounts were less extreme compared to Japan. The longer maturities and lower spreads

⁶² Source: DealScan. It is essential to note that loans involving multiple regions are double-counted and attributed to each region individually. This approach acknowledges the limitations posed by overlap in single loans across regions.

⁶³ Australian banks were active, but the sample is biased toward Japan due to sheer lending amount.

⁶⁴ As previously noted, the aerospace deal in Hong Kong in 2000 is an outlier which also influenced lending statistics for U.S. and European firms due to the large number of involved lenders.

on loans from Western Europe suggest a less aggressive approach to risk pricing. Post-crisis, lending from Western Europe stabilized but shifted focus towards South Asia and Eastern Europe, reflecting a regional rebalancing of capital flows.⁶⁵ U.S. and Canadian lenders displayed more balanced lending behaviour, with East Asia being a significant but not dominant focus. The spreads, fees, and maturities from North American lenders were consistent across regions, though their loan maturities were comparatively shorter. Post-crisis, lending to East Asia from North American lenders significantly decreased, with a pivot towards South Asia and the Middle East. These figures reinforce the established understanding of Japanese lending behaviour but also highlight under-pricing of risk and excess lending from Western Europe in 1996 as a critical factor in the buildup of debt vulnerabilities preceding the AFC.

⁶⁵ Eastern European lending make sense regionally and historically as Eastern European countries were beginning to build up private sector investment after the end of the Soviet Union.

Figure 18:



Country-Level Risk Pricing⁶⁶ - Analysing the risk pricing among top OECD lenders (Japan, Germany, France, USA, UK) across different East Asian countries reveals significant shifts pre-and post-crisis. Before the crisis (Figure 19), spreads and fees were strikingly similar across countries, suggesting a broad application of "regional" risk assessment rather than individual country fundamentals. This uniformity reflects the earlier discussed "Asian values" narrative, where lenders underestimated specific country risks. Post-crisis (Figure 20), there is much greater variability in spread and fee pricing,

⁶⁶ Source: DealScan

indicating that the crisis prompted lenders to reassess and price risk more appropriately based on individual country fundamentals.

Figure 19:

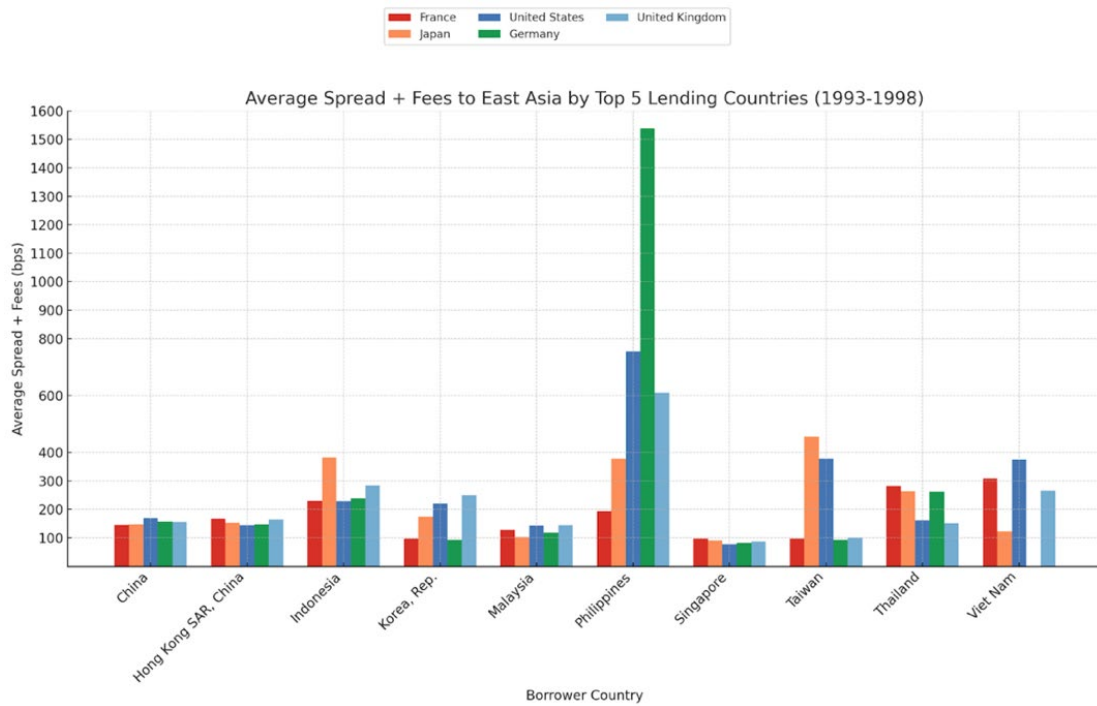
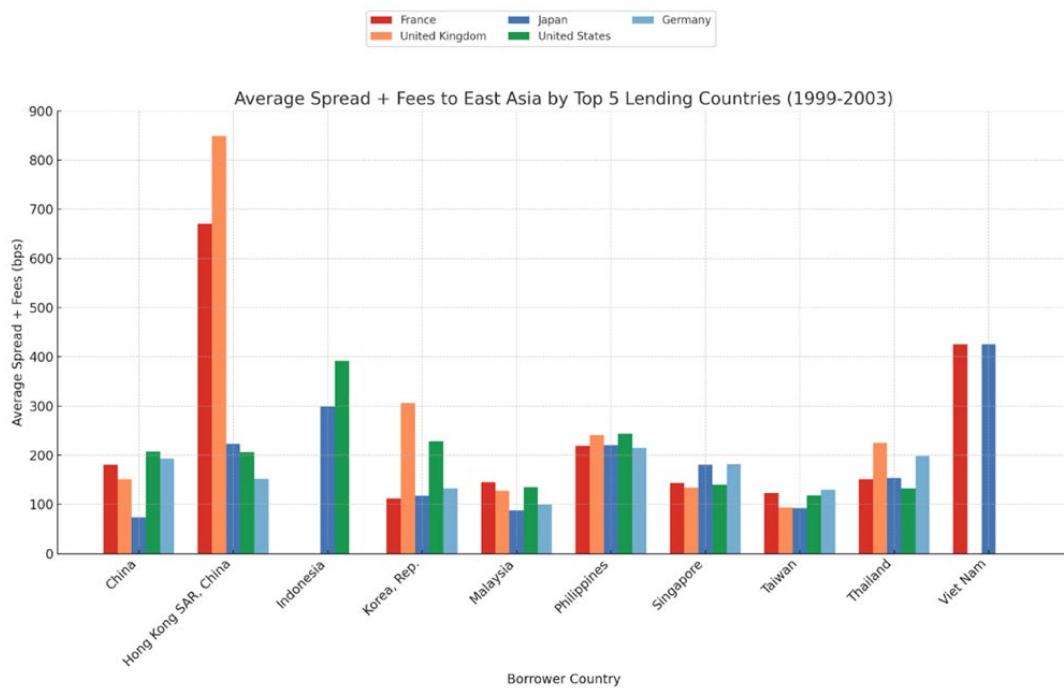


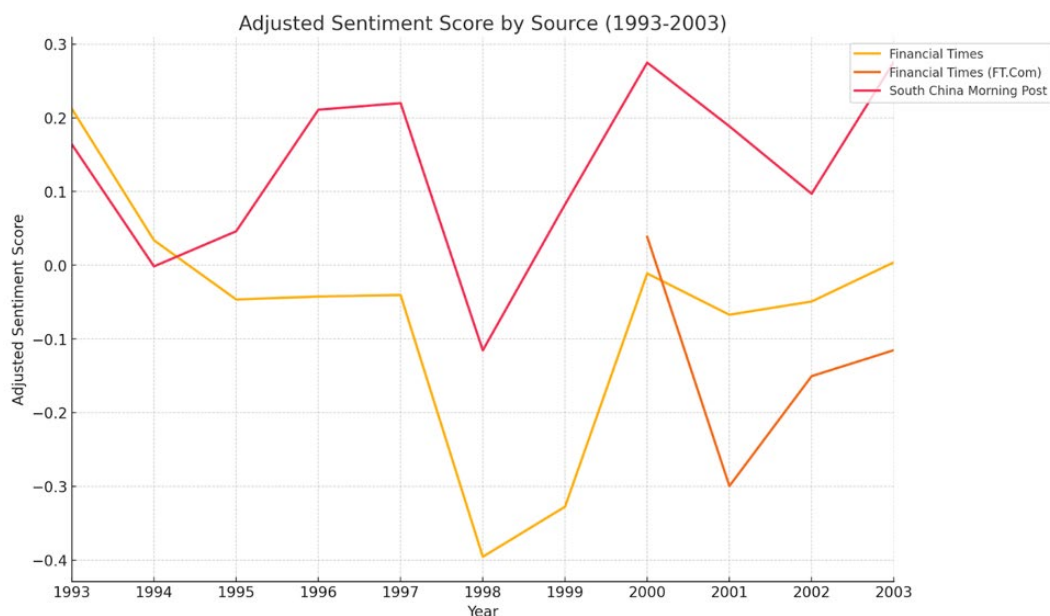
Figure 20:



Sentiment in Financial News from 1993-2003

When reviewing financial news sentiment in Figure 22, SCMP shows significantly higher sentiment compared to FT. While the sentiment in news reporting in the hub of Asian finance was climbing from 1994-1996, the reporting from the key Western financial hub of London, saw neutral to increasingly negative sentiment well before the financial crisis. Confirming the resiliency and quick recovery of the East Asian countries post-crisis, we see a rebound in sentiment by both newspapers post-1998, with SCMP sentiment hitting new highs in 2000.

Figure 21:



Descriptive Charts Conclusion - The descriptive statistics presented in this section validate the dataset used in this study by confirming the prevailing consensus of East Asia's economic growth and financial vulnerabilities leading up to the AFC. The data corroborates well-established views that East Asia experienced robust economic growth accompanied by significant private sector financial activity, but this was coupled with fragile liquidity, underdeveloped financial system structures, and burgeoning debt. These vulnerabilities were not uniformly reflected in the terms and volume of the syndicated loans extended to the region, leading to an unsustainable boom in cross-border lending. The

sentiment analysis in Figure 21 provides further depth. While declining fundamentals and regional issues were clearly affecting sentiment in Western financial reports, the sentiment on the ground in Hong Kong, where many Western firms had regional offices generating key research on lending opportunities and making investment decisions, was significantly more optimistic.

Moreover, the analysis adds depth to the discussion by revealing specific lending dynamics across various East Asian countries and contrasting these with the behaviour of major OECD lending countries. For instance, while Japanese lenders played a dominant role in East Asia's pre-crisis debt accumulation, Western European lenders also contributed significantly, particularly through small-value loans extended at slightly longer maturities and lower spreads. Post-crisis, the reluctance of lenders to return to East Asia, despite the region's rapid economic recovery and improvements in its macroeconomic weaknesses, suggests that sentiment played a significant role in both the pre-crisis lending surge and the post-crisis lending hesitancy. Overall, the visual analysis of the interaction between macroeconomic conditions, lending dynamics, and sentiment provides a robust foundation for the following empirical analysis.

Research Methodology

1. Estimating the Effects of Country Characteristics on Loan Spreads & Loan Volume

In this study, the research design investigates the degree to which East Asian borrowers were treated preferentially compared to other EM borrowers (the "East Asia effect") and assesses the influence of macroeconomic fundamentals in this treatment. To address these research questions, the methodology integrates a combination of descriptive regressions. The OLS regressions provide foundational insights into how economic indicators influenced loan spreads and volumes across all EMs, establishing that while East Asia faced higher spreads due to perceived risks, this did not significantly deter lending volumes. For all

models, diagnostic checks were done with Variance Inflation Factor (VIF), Residuals vs Fitted Plots, Q-Q Plots (Normality of Residuals), Scale-Location Plots (Homoscedasticity), and Residuals vs Leverage Plots.

Selection: The research focuses on 50 EM countries that had sufficient data on syndicated loans and macroeconomic indicators from 1993 to 2003. These countries were chosen based on criteria such as having received a minimum of five syndicated loans during the period and at least one loan before and after 1998. The analysis includes countries across the regions of Africa, Latin America/Caribbean, Eastern Europe/Russia, South Asia and the Middle East, with an emphasis on East Asia. The dataset was limited to loans involving lenders from North American and Western European countries ensuring a focus on OECD lenders' behaviours.⁶⁷ This selection process ensures that the analysis captures the effects of the AFC on Western OECD institution lending practices.

Region	Country Name
Africa	Angola Egypt Ghana South Africa Tunisia
East Asia	China Hong Kong SAR, China Indonesia Korea Philippines Taiwan, China Thailand Vietnam Malaysia Singapore
Eastern Europe / Russia	Croatia Czech Republic Estonia Hungary Kazakhstan Latvia Lithuania Romania Russia Slovak Republic Slovenia Turkey Ukraine Poland
Latin America / Caribbean	Argentina Bahamas, The Brazil Chile Colombia Mexico Panama Peru Venezuela El Salvador
Middle East	Bahrain Israel Kuwait United Arab Emirates Oman Qatar Saudi Arabia
South Asia	India Pakistan Papua New Guinea Sri Lanka

1.1 OLS Regression - Loan Spreads:

- Aggregation = unique LPC Deal ID & Deal Active Year, includes annual country characteristics for the Borrower Country attached to the deal.
Period = 1993-2003. Total observations = 3697

⁶⁷ Lender Country Selection: United States, Germany, United Kingdom, Netherlands, Spain, Switzerland, France, Canada, Belgium, Italy, Austria, Denmark, Norway, Sweden, Portugal, Finland, Ireland, Luxembourg.

The primary question I investigate is how macroeconomic indicators influence loan spreads from Western OECD lenders to EM borrowers. As established in the descriptive statistics, East Asian countries do not appear to be mispriced compared to other EM countries in terms of spread and maturity - this regression seeks to confirm these initial assumptions on the central tendency of the data. The analysis was structured in four progressive models, each adding layers of complexity and interaction to capture nuanced relationships.

Dependent Variable: log of Average Loan Spread plus Fees

Loan + Borrower Characteristics: log UST 5Year Average,⁶⁸ log Months to Maturity, Private Borrower Dummy, Latin America Dummy, East Asia Dummy, log Number of Borrowings.

⁶⁸ Quarterly rates averaged per year, extracted Board of Governors of the Federal Reserve System (US), Market Yield on U.S. Treasury Securities at 5-Year Constant Maturity, quoted on an Investment Basis [DGS5], retrieved from FRED, Federal Reserve Bank of St. Louis; <https://fred.stlouisfed.org/series/DGS5>, September 1, 2024.

1.1 Data Quality Assessment for Country Characteristics

Variable	Data Availability	Notes
Rating Interaction	65% of country-years	
Default to Official Creditor	66% of country-years	Made into a factor: 0 = no default, 1 = default, 2 = missing default information
Missing Default Information	34% of observations	Default to Official Creditor = 2
log Total External Debt to Exports	89.8% complete	100% unavailable for Angola; partially unavailable for Bahrain, Chile, Hong Kong, Kazakhstan, Latvia, Qatar, Russia, Singapore, Slovenia, Ukraine, Vietnam, South Africa
log Debt Service due to Exports	89.2% complete	100% unavailable for Angola; partially unavailable for Bahrain, Chile, Hong Kong, Kazakhstan, Latvia, Poland, Qatar, Russia, Singapore, Slovenia, Ukraine, Vietnam, South Africa
log GDP Growth	100% complete	
log Exports Growth	99.45% complete	Missing for Qatar 1993; UAE 1993-1994
log Reserves to Short-term Debt	92.9% complete	100% missing for Bahamas and Estonia; partially missing for Angola, Bahrain, Panama, Singapore
log Short-term Debt to Total External Debt	93% complete	100% missing for Bahamas and Estonia; partially missing for Bahrain, Panama, Singapore
log Domestic Credit to Private Sector % GDP	99.991% complete	Missing for years 1993-1994 for Angola; 1993-1995 for Romania
log Consumer Prices % Change	98.3% complete	Missing 3 years for Angola, Lithuania, Slovakia, Ukraine

Caveats: Due to data completeness observable in the table above, there is a small bias underestimating external debt characteristics. Given the missingness in Rating is accurate (no sovereign credit ratings were issued by official ratings agencies), missing ratings do not bias the sample.

Robustness: None of the VIF checks for multicollinearity suggested problematic multicollinearity. During the diagnostic checks of our OLS models, I observed the significant non-normality of residuals raising concerns about the reliability of hypothesis testing.⁶⁹ Quantile regression was employed to address the non-normality and potential residual issues identified in the OLS model. Unlike OLS,

⁶⁹ Contrary to the Q-Q plots, Breusch-Pagan test indicated no significant issues with heteroscedasticity.

which focuses on the mean, quantile regression provides a more detailed analysis across different points in the distribution, making it more robust in the presence of non-normality and heteroscedasticity.

1.2 OLS Regression - Number of Loans:

- Aggregation = Borrower Country & Year, includes annual country characteristics for the Borrower Country attached to the deal. Period = 1993-2003, Total observations = 550

To explore whether the same factors that influence loan spreads also determine the number of loans issued, a separate OLS regression was conducted. This regression mimicked the structure of the loan spread models but used the total number of loans as the dependent variable. This table will be included in the appendix, but was compiled as follows.

Dependent Variable: log Total Number of Loans

Loan + Borrower Characteristics: log UST 5Year Average, log Months to Maturity complete, Latin America Dummy, East Asia Dummy

1.2 Data Quality Assessment for Country Characteristics

Variable	Data Availability	Notes
log Total External Debt to Exports	89.8% complete	100% unavailable for Angola; partially unavailable for Bahrain, Chile, Hong Kong, Kazakhstan, Latvia, Qatar, Russia, Singapore, Slovenia, Ukraine, Vietnam, South Africa
log Debt Service due to Exports	89.2% complete	100% unavailable for Angola; partially unavailable for Bahrain, Chile, Hong Kong, Kazakhstan, Latvia, Poland, Qatar, Russia, Singapore, Slovenia, Ukraine, Vietnam, South Africa
log GDP Growth	100% complete	
log Exports Growth	99.45% complete	Missing for Qatar 1993; UAE 1993-1994
log Reserves to Short-term Debt	92.9% complete	100% missing for Bahamas and Estonia; partially missing for Angola, Bahrain, Panama, Singapore
log Short-term Debt to Total External Debt	93% complete	100% missing for Bahamas and Estonia; partially missing for Bahrain, Panama, Singapore
log Domestic Credit to Private Sector % GDP	99.991% complete	Missing for years 1993-1994 for Angola; 1993-1995 for Romania
log Consumer Prices % Change	98.3% complete	Missing 3 years for Angola, Lithuania, Slovakia, Ukraine

Caveats: Due to data completeness, there is a small bias underestimating external debt characteristics.

Robustness: While there is higher multicollinearity compared to regression 1.1, it is still within an acceptable level (>10). The diagnostic checks confirm that the model exhibits appropriate linearity, normality, and homoscedasticity, and there is no significant evidence of influential outliers.

2. Measuring the Impact of Sentiment on Loan Volume Pre- and Post-Crisis

Building on these insights, the Difference-in-Differences (D-i-D) model incorporates sentiment measures with interaction terms, directly analysing the impact of the 1998 financial crisis on East Asian lending, revealing nuanced lender behaviour pre- and post-crisis. The models were designed to capture both the "East Asia effect" and the influence of regional and country-level sentiment volatility on lending behaviour before and after the crisis. This methodological

approach allows for a comprehensive exploration of differential treatment in lending practices as well as allowing for the identification of causal effects by comparing changes over time between a treatment group (East Asia) and a control group (other EM regions). These models directly address the core research question by focusing on the interaction between the pre- and post-1998 financial crisis periods and sentiment towards East Asia, specifically how short-term debt impacted lending behaviour in this region. The year of 1998 is not assessed in the models due to macroeconomic volatility and extremely high multicollinearity with the sentiment volatility indicators.

2.1 & 2.2 Differences-in-Differences

- Aggregation = Borrower Country & Year, Period = 1994-2003⁷⁰, Total observations = 500

2.1 East Asia Dummy – Models 1-3: The first two models employ a traditional D-i-D approach, where the "East Asia effect" is captured using a dummy variable for East Asian countries. This dummy variable identifies whether a country is in East Asia and interacts with the period dummy to assess how the periods before and after 1998 financial crisis influenced lending volumes specifically to East Asian countries compared to other EMs.

2.2 Sentiment Volatility Indicators – Models 1S, 2S, 3S: The second two models take a more nuanced approach by directly measuring the "East Asia effect" through indicators of Regional Sentiment Volatility and Country Sentiment Volatility. These models aim to capture how sentiment towards East Asia, as reflected in financial news coverage, influenced lending volumes before and after the crisis.

- Regional Sentiment Volatility: Constructed by aggregating daily sentiment scores from newspaper headlines about each East Asian country (or the

⁷⁰ The period is limited to include a bureaucracy score which only begins in 1994 - important determinant of regional lending decisions as established by Siregar and Choi (2010).

region when discussed collectively) into a yearly volatility score per country. These scores were then averaged to create a composite measure of "Regional Sentiment Volatility."

- Country Sentiment Volatility: To account for the influence of country-specific fundamentals on sentiment, this measure was constructed by regressing yearly country sentiment volatility on a set of macroeconomic fundamentals. The residuals from this regression were then used as the measure of "Country Sentiment Volatility", isolating the sentiment effects not explained by fundamentals.
- Mean Sentiment: Measures for mean regional and country sentiment were also constructed but had no significant effect on the models (even when interacted with the volatility scores) and were excluded.

Variable Selection: The variables selected for this model were carefully chosen to minimize multicollinearity and to ensure the robustness of the results.

Dependent Variable: log Total Number of Loans

2.1 & 2.2 Data Quality Assessment for Country Characteristics

Variable	Data Availability	Notes
log GDP Growth	100% complete	
log UST 5 Year Average	100% complete	
Rating Interaction	69% of country-years	
Default to Official Creditor Dummy	66.2% complete	33.8% assigned '0' since no debt information available
log Debt Service due to Exports	91% complete	100% unavailable for Angola; partially unavailable for Bahrain, Chile, Hong Kong, Kazakhstan, Latvia, Qatar, Singapore, Ukraine, Vietnam
log Exports Growth	99.8% complete	Missing UAE 1994
log Short-term Debt to Total External Debt	93.4% complete	100% missing Bahamas and Estonia; partially missing for Bahrain, Panama, Singapore
log Domestic Credit to Private Sector % GDP	99.99% complete	Missing for 1994 in Angola; 1994-1995 for Romania
log Consumer Prices % Change	99.2% complete	1994-1995 missing for Lithuania, Slovakia
log Bureaucracy Score 1-5	77.8% complete	Missing for Angola, UAE, Bahrain, Estonia, Croatia, Kuwait, Lithuania, Latvia, Qatar, El Salvador, Slovenia, Tunisia; these countries coded to 0, equating no score to low estimation of bureaucracy

Caveats: Due to data completeness, there is a small bias underestimating debt characteristics, a decent bias underestimating debt in default and a substantial bias underestimating Bureaucracy, especially for Eastern European countries.

2.1 & 2.2 Robustness and Diagnostics

- **Multicollinearity:** Across all models, VIF checks indicated acceptable levels of multicollinearity. The inclusion of more complex interaction terms in Model 3 and 3S led to a notable increase in VIF for Pre/Post-1998 Dummy and Sentiment Volatility, indicating some multicollinearity, but this is expected in interaction-heavy models.
- **Residual Diagnostics:** Models 2,3 and 2S,3S: The residuals vs. fitted plots indicated some deviation from homoscedasticity, with increasing variance

in residuals at higher fitted values. The Q-Q plots suggested minor deviations from normality, especially in the tails. The BP test confirmed the presence of heteroskedasticity across all models, which was addressed using robust standard errors.

Results

1 Influence of Country Characteristics on Loan Spreads: OLS and Quantile Regression Results

Table 1: Influence of Country Characteristics on Loan Spreads, OLS Regression Results

Indicator	Model 1	Model 2	Model 3	Model 4
(Intercept)	4.840*** (0.190)	4.972*** (0.205)	4.896*** (0.190)	5.020*** (0.210)
log UST 5Year Average	-0.287*** (0.076)	-0.136 (0.074)	-0.214** (0.075)	-0.228** (0.074)
log Months to Maturity	0.097*** (0.018)	0.052** (0.017)	0.089*** (0.017)	0.095*** (0.017)
Private Borrower Dummy	0.139 (0.079)	0.106 (0.075)		
Latin America Dummy	0.142*** (0.042)	0.088* (0.038)	0.145*** (0.040)	0.162*** (0.036)
East Asia Dummy		0.278*** (0.038)	0.344*** (0.040)	-0.011 (0.132)
log Number of Borrowings	-0.191*** (0.022)	-0.187*** (0.021)	-0.211*** (0.020)	-0.204*** (0.020)
Country Characteristics				
Rating Interaction	-0.059*** (0.007)	-0.067*** (0.007)	-0.087*** (0.007)	-0.092*** (0.007)
Default to Official Creditor	0.208*** (0.041)	0.272*** (0.037)	0.211*** (0.037)	0.249*** (0.035)
Missing Default Information	0.006 (0.038)	-0.144*** (0.040)	0.033 (0.048)	-0.010 (0.044)
log Total External Debt to Exports	-0.038 (0.024)	-0.016 (0.022)	0.062** (0.024)	0.091*** (0.023)
log Debt Service due to Exports	-0.194** (0.064)	-0.138* (0.061)	-0.295*** (0.071)	0.307*** (0.063)
log GDP Growth	0.140*** (0.028)	0.003 (0.024)	-0.083** (0.026)	-0.169** (0.055)
log Exports Growth	0.049** (0.016)	-0.079* (0.034)	0.008 (0.036)	
log Reserves to Short-term Debt		0.019 (0.011)	0.015 (0.011)	0.091*** (0.023)
log Short-term Debt to Total External Debt		-0.033 (0.018)	-0.053** (0.018)	-0.172*** (0.027)
log Domestic credit to private sector percent-GDP			0.052* (0.026)	-0.095* (0.051)
log Consumer prices percent change			0.144*** (0.015)	0.131*** (0.014)
<hr/>				
log Total External Debt to Exports:				
log Debt Service to Exports	0.048*** (0.010)	0.035*** (0.009)	0.041*** (0.010)	0.055*** (0.012)
log GDP Growth:				
log Domestic credit to private sector percent-GDPP	0.064** (0.027)	0.067*** (0.018)	0.013 (0.020)	0.064* (0.027)
East Asia Dummy:				
log Short-term Debt to Total External Debt				0.134*** (0.041)
<hr/>				
R-squared	0.157	0.182	0.210	0.216
Adjusted R-squared	0.154	0.178	0.206	0.212
Residual Std. Error	0.716	0.713	0.698	0.695
F-statistic	43.02	44.61	49.24	54.19

Note: *p<0.05; **p<0.01; ***p<0.001

Standard errors in parentheses.

The OLS and quantile regression results collectively suggest that East Asian borrowers faced higher loan spreads, particularly due to their short-term debt levels, which were perceived as a significant risk by lenders. In both Models 1 and 2, the East Asia dummy is highly significant, with positive coefficients, suggesting that lenders perceived East Asia as riskier, warranting higher loan spreads compared to other EMs. However, in Model 3, where interaction terms are introduced, the East Asia dummy loses its significance and even turns negative. This shift suggests that the influence of being an East Asian country on loan spreads is complex and heavily influenced by the levels of short-term debt in these countries. The Short-term Debt to Total External Debt Ratio, while not significant in Model 1, becomes significant and negative in Models 2 and 3, implying that higher short-term debt ratios are generally associated with lower spreads—contrary to initial expectations. However, the interaction with the East Asia dummy in Model 3, positive and highly significant, reveals a more nuanced interpretation, while short-term debt generally leads to lower spreads, this effect is reversed for East Asian countries. This result aligns with the hypothesis that lenders viewed East Asia's short-term debt as a significant risk factor and priced this risk into higher loan spreads in the region. In terms of macroeconomic characteristics, GDP growth has an inconsistent effect across models and does not significantly influence spreads once other factors are accounted for. Debt service (due) to exports shows a negative impact on spreads in the earlier models, but this relationship shifts when interactions with other variables are considered, reflecting complex dynamics in how lenders assess debt servicing capacity.

The findings from these models strongly support the conclusion that OECD lenders treated East Asian borrowers differently, particularly considering their high short-term debt levels. The robustness of these results across both OLS and quantile regressions strengthens the argument that lenders priced in additional

risk for East Asia into the ‘risk premium’ on their loans.⁷¹ It is worth noting that the relatively small explanatory power of around 20% is expected given the examination of macroeconomic factors on loan-level characteristics.

2 Influence of Country Characteristics on Loan Volume: OLS Descriptive Regression Results

Table 2: Influence of Country Characteristics on Total Loans, OLS Regression Results

Indicator	Model 1	Model 2	Model 3
(Intercept)	-13.892 (14.828)	-11.471 (15.035)	-12.043 (15.369)
log UST 5Year Average	12.748 (8.356)	12.822 (8.430)	12.482 (8.567)
log Months to Maturity	4.326 (3.873)	3.991 (3.889)	3.906 (3.940)
Latin America Dummy	-1.580 (3.374)	-1.483 (3.398)	-1.349 (3.454)
East Asia Dummy	8.671*** (2.971)	8.478*** (3.047)	8.120*** (3.112)
Country Characteristics			
log Total External Debt to Exports	-0.837 (3.018)	1.652 (3.340)	2.379 (3.695)
log Debt Service due to Exports	12.165* (6.074)	5.216 (6.936)	3.439 (7.884)
log GDP Growth	1.816 (1.669)	1.866 (1.686)	2.293 (1.735)
log Exports GS Growth	4.184 (5.358)	3.344 (5.530)	3.381 (5.637)
log Reserves to Short-term Debt	16.343* (9.673)	12.827 (10.726)	10.730 (11.437)
log Short-term Debt to Total External Debt	14.803* (8.204)	11.634 (9.378)	10.184 (10.067)
log Domestic credit to private sector % GDP	2.408 (1.966)	2.227 (1.991)	2.099 (2.050)
log Consumer prices percent change	2.389 (1.926)	2.209 (1.960)	2.123 (2.005)
<hr/>			
log Total External Debt to Exports:			
log Debt Service due to Exports		-1.763 (2.132)	-1.626 (2.191)
East Asia Dummy:log Short-term Debt to Total External Debt		7.653*** (2.419)	7.490*** (2.466)
Log GDP Growth:log Domestic credit to private sector % GDP			0.274 (1.100)
R-squared	0.219	0.223	0.224
Adj. R-squared	0.213	0.216	0.215
Log-Likelihood	-906.0	-903.6	-902.9
AIC	1841.9	1839.2	1838.0
BIC	1895.7	1899.3	1902.3
<hr/>			
Note:	*p<0.05; **p<0.01; ***p<0.001		Standard errors in parentheses.

The OLS regressions on loan levels reveal that East Asian borrowers were significantly more likely to receive loans, a trend that cannot be fully explained

⁷¹ The quantile regression results are available in the Appendix and further corroborate the findings from the OLS models while introducing nuances to the levels of spread effect from the East Asia * Short-term debt interaction.

by conventional economic indicators alone. The East Asia dummy variable is consistently positive and highly significant across all models ($p < 0.001$), reinforcing the descriptive charts conclusion that, independent of other economic indicators, East Asia attracted an outsized share of syndicated lending during the study period. In Model 1, the log of short-term debt as a percentage of total external debt shows a positive and significant relationship with the number of loans, implying that countries with higher short-term debt ratios were more likely to secure additional loans. However, the significance of this variable diminishes in Models 2 and 3, suggesting that its influence is mediated by the East Asia Dummy * Short-Term Debt Interaction. The interaction between the East Asia dummy and short-term debt is both positive and highly significant in Models 2 and 3, underscoring the finding that the relationship between high short-term debt levels and increased lending is unique to East Asia. Lenders were particularly inclined to extend credit to East Asian countries despite—or perhaps because of—their higher short-term debt levels. GDP growth, exports growth, and other economic indicators do not show significant predictive power for the number of loans across the models which contrasts with their importance in determining loan spreads across all regions in 1.1. The lack of significance in these variables suggests that the volume of lending to EMs—and particularly to East Asia - were driven by region-specific characteristics and possibly by non-economic factors such as lender competition, regional market potential, or geopolitical considerations.

2.1 & 2.2. Difference-in-Differences (D-i-D) Analysis: Summary of Results

Table 3: Difference-in-Differences Results (East Asia Dummy)

Indicator	Model 1		Model 2		Model 3	
	Pre-1998	Post-1998	Pre-1998	Post-1998	Pre-1998	Post-1998
(Intercept)	0.069 (0.560)	0.567 (0.630)	-1.780 (0.655)	-1.263 (0.710)	-1.595 (0.655)	-1.095 (0.710)
Pre/Post-1998 Dummy	-0.140 (0.144)	-0.100 (0.142)	-0.166 (0.140)	-0.091 (0.138)	-0.167 (0.139)	-0.085 (0.137)
East Asia Dummy	0.123 (0.189)	0.943*** (0.189)	0.113 (0.191)	0.980*** (0.189)	-0.641 (0.368)	-0.791*** (0.234)
Rating Interaction	-0.011 (0.024)	-0.008 (0.024)	-0.034 (0.026)	-0.031 (0.026)	-0.048 (0.026)	-0.045 (0.026)
log GDP Growth	0.020 (0.102)	0.007 (0.103)	0.014 (0.099)	-0.002 (0.099)	0.039 (0.099)	0.023 (0.099)
log Exports Growth	-0.118* (0.049)	-0.106* (0.050)	-0.094 (0.048)	-0.082 (0.049)	-0.098* (0.048)	-0.086* (0.048)
log Consumer Prices Change	-0.043 (0.044)	-0.050 (0.044)	0.067 (0.051)	0.060 (0.051)	0.053 (0.051)	0.047 (0.051)
log Short-term to Total External Debt Ratio			0.123** (0.047)	0.114* (0.047)	0.065 (0.052)	0.057 (0.052)
log Debt Service to Exports			0.176** (0.054)	0.187*** (0.054)	0.152** (0.054)	0.164** (0.055)
log Domestic credit to private sector percent GDP			0.271** (0.083)	0.275** (0.083)	0.254** (0.083)	0.258** (0.083)
log UST 5Year Average	0.766* (0.300)	0.498 (0.297)	0.754** (0.289)	0.456 (0.286)	0.790** (0.288)	0.500* (0.285)
Default to Official Creditor Dummy	-0.306*** (0.067)	-0.315*** (0.067)	-0.240*** (0.070)	-0.244*** (0.070)	-0.247*** (0.069)	-0.251*** (0.070)
log Bureaucracy Score	0.669*** (0.089)	0.667*** (0.089)	0.482*** (0.092)	0.475*** (0.093)	0.513*** (0.093)	0.506*** (0.093)
Pre/Post-1998 Dummy: East Asia Dummy	0.974*** (0.244)	-0.731** (0.245)	0.999*** (0.235)	-0.790** (0.236)	0.972*** (0.234)	-0.757** (0.235)
East Asia Dummy: log ST to TED ratio					0.260* (0.109)	0.252* (0.109)
R-squared	0.340	0.333	0.395	0.389	0.405	0.399
Adj. R-squared	0.322	0.314	0.372	0.366	0.381	0.374
Residual Std. Error	0.919	0.924	0.884	0.889	0.879	0.883
F-statistic	18.07	17.50	17.43	17.01	16.81	16.37

Note: *p<0.05; **p<0.01; ***p<0.001

Standard errors in parentheses.

Table 4: Difference-in-Differences Results (Sentiment Indicators)

Indicator	Model 1S		Model 2S		Model 3S	
	Pre-1998	Post-1998	Pre-1998	Post-1998	Pre-1998	Post-1998
(Intercept)	0.067 (0.560)	0.564 (0.630)	-1.778** (0.656)	-1.263 (0.711)	-1.587* (0.656)	-1.096 (0.710)
Pre/Post-1998 Dummy	-0.140 (0.144)	-0.100 (0.142)	-0.165 (0.140)	-0.091 (0.138)	-0.166 (0.139)	-0.085 (0.137)
Regional Sentiment Volatility	1.320 (2.115)	10.12*** (2.032)	1.208 (2.143)	10.489*** (2.037)	-7.205 (4.071)	1.997 (4.150)
Country Sentiment Volatility	127.5* (64.02)	-256.3 (222.4)	0.157 (0.714)	0.117 (0.717)	0.135 (0.709)	0.099 (0.713)
Rating Interaction	-0.011 (0.024)	-0.008 (0.024)	-0.034 (0.026)	-0.031 (0.026)	-0.049 (0.026)	-0.045 (0.026)
log GDP Growth	0.021 (0.102)	0.007 (0.103)	0.014 (0.099)	-0.001 (0.099)	0.040 (0.099)	0.024 (0.099)
log Exports Growth	-0.118* (0.049)	-0.106* (0.050)	-0.094* (0.048)	-0.082 (0.049)	-0.098* (0.048)	-0.086 (0.048)
log Consumer Prices Change	-0.043 (0.044)	-0.051 (0.044)	0.067 (0.051)	0.060 (0.051)	0.053 (0.051)	0.047 (0.051)
log Short-term to Total External Debt Ratio			0.123** (0.046)	0.114* (0.047)	0.064 (0.052)	0.056 (0.052)
log Debt Service to Exports			0.175** (0.054)	0.187*** (0.054)	0.151** (0.054)	0.163** (0.054)
log Domestic Credit to private sector % GDP			0.272*** (0.083)	0.276*** (0.083)	0.254** (0.083)	0.258** (0.083)
log UST 5 Year Avg	0.766* (0.300)	0.499 (0.297)	0.751** (0.290)	0.455 (0.287)	0.787** (0.288)	0.499 (0.285)
Default to Official Creditor Dummy	-0.305*** (0.067)	-0.315*** (0.067)	-0.240*** (0.070)	-0.244*** (0.070)	-0.247*** (0.069)	-0.251*** (0.070)
log Bureaucracy Score	0.670*** (0.089)	0.668*** (0.089)	0.483*** (0.092)	0.476*** (0.093)	0.515*** (0.093)	0.507*** (0.093)
Pre/Post-1998 Dummy: Regional Sentiment Interaction	10.44*** (2.680)	-7.79** (2.701)	10.69*** (2.584)	-8.42** (2.610)	10.41*** (2.569)	-8.06** (2.598)
Regional Sentiment Interaction: log ST to TED Ratio					2.89** (1.194)	2.82* (1.202)
R-squared	0.340	0.333	0.395	0.389	0.405	0.399
Adj. R-squared	0.321	0.314	0.370	0.364	0.380	0.374
Residual Std. Error	0.920	0.925	0.886	0.890	0.880	0.884
F-statistic	18.05	17.48	16.13	15.74	15.65	15.25

Note: *p<0.05; **p<0.01; ***p<0.001

Standard errors in parentheses.

The 6 D-i-D models reveal that while the East Asia Dummy models capture a broad "East Asia effect," the sentiment volatility indicators provide a more nuanced understanding, improving model fit and explanatory power. The shift from a positive East Asia dummy significance pre-1998 to a negative significance post-1998 suggests that being an East Asian nation influenced lending likelihood both before and after the crisis. However, the significant negative interaction between regional sentiment volatility and lending volumes post-1998 indicates that pre-crisis, high sentiment volatility spurred lending, while post-crisis,

sentiment volatility acted as a lending deterrent. This reflects a growing market sensitivity to risks linked with sentiment fluctuations after the AFC. The fact that sentiment measures not only match but also improve upon the East Asia Dummy's explanatory power reframes the "East Asia effect" as a dynamic interplay between regional conditions and global sentiment, rather than a static regional attribute. With an explanatory power of around 39%, the D-i-D models provide a reasonable interpretation, particularly given the complexity of international lending. Overall, key models 2, 3, 2S, and 3S are validated by robust standard errors in the Appendix, confirming the significance and direction of the key variables, especially the interaction terms.

Across all six models, consistent findings emerge. The Pre/Post-1998 Dummy shows no significant impact, indicating the periods didn't uniformly affect lending volumes. Variables like GDP Growth, Consumer Prices Change, and Rating Interaction consistently lack significance, while Bureaucracy Score remains significant, suggesting lenders favoured countries with stable governance. The Default to Official Creditor Dummy and Debt Service to Exports Ratio are consistently significant, emphasizing their importance in influencing lending volumes. Domestic Credit to Private Sector (% GDP) is positive and significant across all periods, aligning with the idea that more developed financial sectors attracted more loans, though its influence diminishes when factoring in short-term debt and regional sentiment. The UST 5-Year Average is consistently significant, particularly pre-crisis, indicating that higher U.S. interest rates correlated with increased lending volumes. However, post-crisis, its impact weakens in the sentiment models, suggesting sentiment volatility became more influential. While Exports Growth is consistently negative and significant across all East Asia Dummy models, this significance only occurs pre-1998 in the sentiment models. This might suggest that higher export growth was seen as a sign of an overheated economy, prompting caution before 1998.

The Short-term Debt to Total Debt Ratio emerges as a crucial factor in understanding lending practices and moral hazard, particularly in East Asia. A

higher ratio indicates a greater reliance on short-term borrowing, which was particularly risky in pre-1998 East Asia. In Models 2 and 2S, this indicator is highly significant, suggesting that higher short-term debt levels generally led to increased loan volumes. However, in East Asia, this relationship is more complex. In Models 3 and 3S, short-term debt alone loses significance while its interaction with sentiment volatility becomes significant, indicating that high short-term debt levels were particularly influential in East Asia when sentiment was volatile. These dynamic underscores lenders' heightened sensitivity to sentiment fluctuations in East Asia, with short-term debt becoming an even stronger driver of lending when market perceptions were unstable. The continued significance of short-term debt post-crisis, albeit with a reduced effect, suggests that while there was increased caution, short-term external debt remained a key determinant of lending volumes.

In considering the relationship between short-term debt levels and increased lending volumes, it is crucial to acknowledge challenges to the moral hazard interpretation. It is conceivable that both short-term debt levels and lending volumes are driven by a common set of underlying factors. Rather than short-term debt levels directly inviting more lending, both variables could be responding to broader economic signals, leading to an observed correlation. Reverse causality, while a potential concern, seems less likely in this context. Given that syndicated loans are typically made on a firm-by-firm basis, the aggregate level of a country's short-term debt should not directly inform an individual firm's ability to roll over its debt. However, if investors are operating under the assumption of implicit guarantees—believing that governments would step in to cover firms' debt obligations in a crisis—then high short-term debt might be perceived as less risky than it truly is. This belief would align with the moral hazard argument, where investors take on more risk based on the assumption of external support.

Finally, the complete insignificance of the country-level sentiment variable suggests that lenders viewed East Asia as a cohesive region, leading to a regional

rather than country-specific approach to lending. This uniformity in approach could have contributed to the rapid spread of financial contagion during the AFC, as lenders reacted to regional cues rather than the unique conditions of each country.

Concluding Remarks

This research has explored the intricate dynamics between Western OECD lenders and East Asian borrowers during the period surrounding the AFC, focusing particularly on the roles of sentiment volatility and moral hazard. The descriptive analysis provided a dual narrative: on one hand, it showcased the economic strengths of East Asian economies compared to other EMs, evidenced by superior GDP growth and higher domestic credit to the private sector. On the other hand, it also revealed significant weaknesses, including high levels of short-term external debt, limited liquidity, and stagnation in financial system development. This analysis also confirmed the existence of an outsized syndicated lending boom to East Asia pre-crisis, especially from Western European lenders in 1996. The pre-crisis period was characterized by amplified positive sentiment regarding East Asia, especially in Hong Kong, where much of the international lending was coordinated.

A critical finding was the paradoxical role of short-term debt. While it was associated with higher loan spreads and fees, indicating an acknowledgment of risk, it simultaneously drove up lending volumes, suggesting moral hazard. This pattern—where lenders, despite pricing in risk, continued to extend significant credit—reflects a fundamental inconsistency in their behaviour, indicative of moral hazard dynamics. The D-i-D analysis further emphasized this dynamic where pre-crisis, heightened sentiment volatility significantly increased lending to East Asia, while post-crisis, the same volatility reduced lending. The persistent significance of short-term debt, especially when interacted with sentiment volatility, highlights that even post-crisis, high short-term debt in East Asia remained attractive to lenders, particularly in volatile sentiment

environments. While this dynamic could indicate an attempt by investors to hedge the risk of volatile sentiment with short-term lending, the descriptive analysis revealed low liquidity across East Asia, challenging the notion that the high short-term debt was manageable.

These findings shift the understanding of the "East Asia effect," particularly in the pre-crisis period where sentiment volatility and lending behaviour interplay as clear evidence of moral hazard. This dynamic reveals that Western OECD lenders, influenced by fluctuating sentiment rather than solely by economic indicators, continued risky lending practices even as warning signs emerged, likely under the expectation of high returns or implicit guarantees. While this study provides valuable insights, its limitations—chiefly the reliance on macroeconomic data to infer loan-level behaviours and financial news sentiment as an imperfect proxy for lenders' attitudes—suggest avenues for future research. A key area for further exploration would be to incorporate microeconomic data to capture firm-level dynamics, particularly available balance sheet data to see if this outsized lending was justified by the quality of borrowing firms. The use of GenAI for large-scale sentiment analysis could be further refined to develop a standardized model for consistently applying sentiment analysis in financial history research. A broader sentiment analysis could offer clearer insights into how national versus international sentiment influences lending behaviour during the AFC, enhancing our understanding of sentiment's role in financial decision-making and moral hazard in international finance.

Appendix

<u>Indicator</u>	<u>Source</u>	<u>Definition</u>
GDP growth (annual %)	World Bank national accounts data, and OECD National Accounts data files	Annual percentage growth rate of GDP at market prices based on constant local currency.
Domestic Credit to Private Sector (% GDP)	International Monetary Fund, International Financial Statistics and data files, and World Bank and OECD GDP estimates	Domestic credit to private sector refers to financial resources provided to the private sector by financial corporations, such as through loans, purchases of nonequity securities, and trade credits and other accounts receivable, that establish a claim for repayment.
GDP constant 2010 USD	World Bank national accounts data, and OECD National Accounts data files.	GDP at purchaser's prices is the sum of gross value added by all resident producers in the economy plus any product taxes and minus any subsidies not included in the value of the products. It is calculated without making deductions for depreciation of fabricated assets or for depletion and degradation of natural resources. Data are in current U.S. dollars. Dollar figures for GDP are converted from domestic currencies using single year official exchange rates.
Bank liquid reserves to bank assets ratio (%)	WDI Archive - International Monetary Fund, International Financial Statistics	Ratio of bank liquid reserves to bank assets is the ratio of domestic currency holdings and deposits with the monetary authorities to claims on other governments, nonfinancial public enterprises, the private sector, and other banking institutions.
Money and quasi money (M2) to total reserves ratio	WDI Archive - International Monetary Fund, International Financial Statistics	Money and quasi money comprise the sum of currency outside banks, demand deposits other than those of the central government, and the time, savings, and foreign currency deposits of resident sectors other than the central government.
Exports of goods and services (BoP, current US\$)	WDI Archive - International Monetary	Exports of goods and services comprise all transactions between residents of a country and the rest of the world involving a change of ownership from residents to non-residents of general

	Fund, Balance of Payments Statistics Yearbook	merchandise, net exports of goods under merchanting, nonmonetary gold, and services. Data are in current U.S. dollars
Financial System Deposits (% GDP)	WDI Archive - International Monetary Fund, International Financial Statistics	Demand, time and saving deposits in deposit money banks and other financial institutions as a share of GDP.
Bureaucracy score (1 to 5)	EIU, Business Environment Rankings	EIUs business environment rankings quantify the attractiveness of the business environment. The quality of bureaucracy indicator scores countries between 1 and 5, with 1 being "very low" and 5 being "very high".
Consumer prices (% change pa; av)	EIU – Derived from IMF, International Financial Statistics and from country central banks' statistics	Percentage change in consumer price index in local currency (period average), over previous year.
Total foreign debt (USD)	EIU derived from BIS, World Bank, External Debt Statistics; EIU estimates	Total external debt stock, comprising public and publicly guaranteed long-term debt, private non-guaranteed debt, use of IMF credit and Special Drawing Right (SDR) allocations and short-term debt, at end-period.
Total debt/exports of G&S (%)	EIU derived from World Bank, International Debt Statistics; World Bank, World Development Indicators	Total external debt stock as a percentage of exports of goods, non-factor services, income, and workers remittances.
Debt-service ratio, due (%)	EIU derived from BIS, World Bank, External Debt Statistics, OECD; EIU estimates	Total external debt service due as a percentage of exports of goods, non-factor services, income and workers remittances.

Short term debt (USD)	EIU derived from BIS, World Bank, External Debt Statistics; EIU estimates	Disbursed external debt owed by all sectors, having an original maturity up to one year, including capitalized interest arrears, at period-end.
International reserves (USD)	Derived from IMF, International Financial Statistics and country central banks' statistics.	Stock of foreign reserves plus gold (national valuation), end-period.
Market Yield on U.S. Treasury Securities at 5-Year – Quarterly	FRED, Federal Reserve Bank of St. Louis	Market Yield on U.S. Treasury Securities at 5-Year Constant Maturity, Quoted on an Investment Basis
Total Debt in Default (USD)	Bank of England, Bank of Canada Sovereign Debt Default Database – 2024 edition	USD value of a default that has occurred when either of the following is true: debt service is not paid on the due date or within a specified grace period, or payments are not made within the period specified under a guarantee
Sovereign Credit Rating	The Global Economy	All credit ratings by Fitch , Moody's , S&P , and Scope issued for a sovereign within a given year
Economic Growth Forecast	The Global Economy	Year-on-year percent changes in constant price GDP. The base year is country-specific. Expenditure-based GDP is the total final expenditure at purchasers' prices including the f.o.b. value of exports of goods and services, less the f.o.b. value of imports of goods and services. The series includes actual historical values for past years and forecast values for the current and the next few years.
Investment Forecast	The Global Economy	Expressed as a ratio of total investment in current local currency and GDP in current local currency. Investment or gross capital formation is measured by the total value of the gross fixed capital formation and changes in inventories and acquisitions less disposals of valuables for a unit or sector. The series includes actual historical values for past years and forecast values for the current and the next few years.

Financial Development	The Global Economy - Svirydzenka, Katsiaryna (IMF, 2016)	An index for overall financial development based on the two subindexes for financial institutions development and financial markets development.
Primary Role	DealScan	The Role or Title of the lender(s) involved in the loan.
Borrower Name/ID	DealScan	The unique ID assigned to the borrower's name.
Country	DealScan	The recognized operating country of the borrower company. Filtered to EM countries only.
Region	DealScan	The recognized operating region of the borrower company. Reassigned based on my region-country matrix.
Major Industry Group	DealScan	The borrower company's broad industry classification.
Number of Lenders	DealScan	The number of banks who participated in some capacity on the loan.
Lender Parent Name/ID	DealScan	The parent name of the lender on the loan.
Lender Parent Operating Country	DealScan	The country where the Parent Lender(s) on the loan operate.
Lender Institution Type	DealScan	The type of Institution the lender is. Filtered to includes Western European Bank or U.S./Canada Bank.
LPC Deal ID	DealScan	The unique ID assigned to a Deal
Deal Amount Converted (m)(USD)	DealScan	The converted amount of the loan package based on Currency selection. Defaults to \$USD.
Deal Active Date	DealScan	The active or closing date of the loan package.
Tranche Maturity Date	DealScan	The maturity date of the tranche/facility.
Tranche Amount Converted (m)(USD)	DealScan	Only used in conjunction with first Tranche Maturity Date for choosing between duplicate deal IDs.

Base/Reference Rate	DealScan	The rate of interest that banks charge each other for loans. Banks lend to borrowers at some mark above the base rate. Filtered to the most common base rate is the London Inter-Bank Offer Rate (LIBOR).
All-in Spread Drawn	DealScan	Describes the amount the borrower pays in basis points over LIBOR for each dollar drawn down. It adds the spread of the loan with any annual (or facility) fee paid to the bank group.
All Fees	DealScan	All fees associated with the loan.
Covenants (Y/N)	DealScan	Loan covenants are a series of small, independent agreements made between a debtor (borrower) and a creditor (lender). Loan covenants expressly outline behaviours that a borrower must – or must not – engage in.

Constructed Indicators

Average Spread plus Fees – added all fees to the spread of each unique LPC Deal ID, aggregated to country – year level by averaging.

Months to Maturity – calculated months between Deal Active Date and Tranche Maturity Date

Private Borrower Dummy – when DealScan ‘Major Industry Group’ does not equal Government.

Number of Borrowings – number of individual loans by unique Borrower ID.

Default to Official Creditor – when sovereign default recorded >0 USD.

Export (goods & services) Growth – Y-o-Y percent change of Exports of goods and services (BoP, current USD)

UST 5 Year Average – Reported Quarterly Market Yield on U.S. Treasury Securities at 5-Year averaged per year.

Short-Term Debt to Total External Debt Ratio - Short term debt (USD) / Total foreign debt (USD)

Reserves to Short-Term Debt Ratio - International reserves (USD) / Short term debt (USD)

Rating Interaction – average of all available credit ratings for a country in a given year regressed on World Bank indicators - Total Reserves including gold (USD), Inflation consumer prices (annual %), GDP per Capita (LCU), Government debt percent GDP, Total External Debt (USD). Residuals extracted and used in analysis.

Regional Sentiment Volatility –

- Sentiment scores for every article that referred to a specific East Asian country were aggregated by **1)** Calculating the daily mean sentiment score, **2)** for each day, subtracting the daily mean from the sentiment score to get deviations. **3)** Squaring these deviations to get daily variance, **4)** summing these squared deviations for the entire year, **5)** dividing by the total number of days to get average daily variance, **6)** taking the square root of this average daily variance to get the yearly volatility, **7)** average of all country scores at step 6 was taken to measure “regional” volatility.

Country Sentiment Volatility – same process as above without final step, volatility remained assigned to the specific East Asian country. Volatility scores were then regressed on GDP Growth, Exports Growth, Consumer price change (% annual), Short-term to total external debt ratio, Total external debt to exports ratio, Domestic credit to private sector (% GDP), Default to Official Creditor Dummy, Bureaucracy score, Exchange rate stability score (source: EIU), M2 to reserves ratio. Residuals extracted and used in analysis.

Supplementary Tables

Table 1: Combined Table - Quantile Regression (Q=0.5) Results for Models 1-4

Indicator	Model 1 Q=0.5	Model 2 Q=0.5	Model 3 Q=0.5	Model 4 Q=0.5
(Intercept)	5.135*** (0.189)	5.321*** (0.239)	5.167*** (0.196)	5.178*** (0.263)
log_UST_5Year_Average	-0.520*** (0.077)	-0.396*** (0.087)	-0.446*** (0.082)	-0.375*** (0.084)
log_Months_to_Maturity	0.101*** (0.018)	0.057** (0.018)	0.099*** (0.018)	0.095*** (0.018)
Private_Borrower_Dummy	0.237*** (0.064)	0.159** (0.053)		
Latin_America_Dummy	0.074 (0.042)	0.034 (0.042)	0.086** (0.042)	0.159*** (0.042)
East_Asia_Dummy		0.271*** (0.038)	0.357*** (0.040)	-0.002 (0.162)
log_Number_of_Borrowings	-0.223*** (0.020)	-0.212*** (0.021)	-0.242*** (0.018)	-0.223*** (0.020)
Country Characteristics				
Rating_Interaction	-0.048*** (0.007)	-0.054*** (0.007)	-0.077*** (0.007)	-0.089*** (0.008)
Default_to_Official_Creditor	0.267*** (0.040)	0.325*** (0.042)	0.256*** (0.042)	0.293*** (0.042)
Missing_Default_Information	0.025 (0.038)	-0.129*** (0.036)	0.062 (0.050)	0.021 (0.045)
log_Total_External_Debt_to_Exports	-0.135*** (0.026)	-0.108*** (0.027)	-0.029 (0.027)	-0.029 (0.027)
log_Debt_Service_to_Exports	-0.154 (0.080)	-0.077 (0.079)	-0.264** (0.086)	0.332*** (0.075)
log_GDP_Growth	0.165*** (0.026)	0.012 (0.025)	-0.051* (0.020)	-0.098 (0.068)
log_Exports_Growth	0.068*** (0.017)	-0.046 (0.032)	-0.015 (0.026)	
log_Reserves_to_Short-term_Debt		0.032*** (0.014)	0.035*** (0.011)	0.101*** (0.028)
log_Short-term_Debt_to_Total_External_Debt		-0.032** (0.024)	-0.054*** (0.018)	-0.202*** (0.040)
log_Domestic_credit_to_private_sector_percent_GDP			0.071** (0.027)	-0.038 (0.064)
log_Consumer_prices_percent_change			0.136*** (0.013)	0.140*** (0.015)
log_Total_External_Debt_to_Exports: log_Debt_Service_to_Exports	0.073*** (0.011)	0.054*** (0.011)	0.065*** (0.012)	-0.057*** (0.015)
log_GDP_Growth: log_Domestic_credit_to_private_sector_percent_GDP		0.069*** (0.015)	0.041*** (0.013)	0.033* (0.033)
log_Res_to_STDebt_ratio:log_Debt_Service_to_Exports	-0.057*** (0.012)	-0.045** (0.015)	-0.082** (0.017)	-0.057*** (0.015)
East_Asia_Dummy: log_Short-term_Debt_to_Total_External_Debt				0.127** (0.049)

Note:

*p<0.05; **p<0.01; ***p<0.001
Standard errors in parentheses.

Table 2: Multi-Quantile Regression Results for Model 4

Variable	Quantile 0.25	Quantile 0.5	Quantile 0.75	Quantile 0.9
(Intercept)	3.84721 (0.000)***	5.17807 (0.000)***	6.12742 (0.000)***	6.21560 (0.000)***
log_UST_5Year_Average	-0.11650 (0.255)	-0.37546 (0.000)***	-0.47885 (0.000)***	-0.37365 (0.000)***
log_Months_to_Maturity	0.16622 (0.000)***	0.09522 (0.000)***	0.05483 (0.000)***	0.05709 (0.001)***
Latin_America_Dummy	0.22582 (0.000)***	0.15878 (0.000)***	0.13949 (0.000)***	0.21525 (0.000)***
East_Asia_Dummy	0.09763 (0.443)	-0.00209 (0.990)	0.12128 (0.414)	0.16768 (0.324)
log_ST_to_TD_ratio	-0.15225 (0.000)***	-0.20246 (0.000)***	-0.23190 (0.000)***	-0.19554 (0.000)***
log_Number_of_Borrowings	-0.18516 (0.000)***	-0.22343 (0.000)***	-0.26882 (0.000)***	-0.18612 (0.000)***
Country Characteristics				
Rating_Interaction	-0.09751 (0.000)***	-0.08898 (0.000)***	-0.07950 (0.000)***	-0.09399 (0.000)***
Default_to_Official_Creditor	0.21296 (0.000)***	0.29343 (0.000)***	0.33326 (0.000)***	0.28620 (0.000)***
Missing_Default_Information	0.03359 (0.449)	0.02056 (0.651)	-0.02523 (0.572)	-0.00543 (0.924)
log_GDP_Growth	-0.08854 (0.093)	-0.09822 (0.150)	-0.18501 (0.010)**	-0.25338 (0.000)***
log_Domestic_credit_to_private_sector_percent_GDP	-0.08036 (0.116)	-0.03808 (0.549)	-0.11149 (0.093)	-0.20023 (0.007)***
log_Reserves_to_Short-term_Debt	0.07213 (0.001)***	0.10078 (0.000)***	0.15792 (0.000)***	0.15928 (0.000)***
log_Debt_Service_to_Exports	0.31901 (0.000)***	0.33192 (0.000)***	0.41212 (0.000)***	0.38764 (0.000)***
log_Consumer_prices_percent_change	0.16534 (0.000)***	0.14011 (0.000)***	0.11333 (0.000)***	0.11238 (0.000)***
log_GDP_Growth:				
log_Dom_credit_to_ps_GDP	0.02229 (0.353)	0.03295 (0.317)	0.07990 (0.023)**	0.12469 (0.002)***
log_Res_to_STDebt_ratio:				
log_Debt_Service_to_Exports	-0.04525 (0.000)***	-0.05723 (0.000)***	-0.08193 (0.000)***	-0.08053 (0.000)***
East_Asia_Dummy:				
log_Short-term_Debt_to_Total_External_Debt	0.12139 (0.001)***	0.12737 (0.010)**	0.06130 (0.179)	0.03758 (0.512)
<i>Note:</i>	*p<0.05; **p<0.01; ***p<0.001 Standard errors in parentheses.			

Table 3: D-i-D East Asia Dummy (Robust Standard Errors)

	Model 2		Model 3	
	Pre-1998	Post-1998	Pre-1998	Post-1998
(Intercept)	-1.780** (0.685)	-1.263 (0.738)	-1.595* (0.686)	-1.595* (0.686)
Pre/Post-1998 Dummy	-0.166 (0.131)	-0.091 (0.125)	-0.167 (0.131)	-0.167 (0.131)
East Asia Dummy	0.113 (0.178)	0.980*** (0.208)	-0.641. (0.336)	-0.641. (0.336)
Rating Interaction	-0.034 (0.024)	-0.031 (0.024)	-0.048* (0.024)	-0.048* (0.024)
log GDP Growth	0.014 (0.105)	-0.002 (0.106)	0.039 (0.102)	0.039 (0.102)
log Exports Growth	-0.094* (0.040)	-0.082* (0.040)	-0.098* (0.040)	-0.098* (0.040)
log Consumer Prices Change	0.067 (0.069)	0.060 (0.069)	0.053 (0.068)	0.053 (0.068)
log ST to TD Ratio	0.123** (0.040)	0.114** (0.040)	0.065 (0.046)	0.065 (0.046)
log Debt Service to Exports	0.176*** (0.048)	0.187*** (0.048)	0.152** (0.049)	0.152** (0.049)
log Domestic Credit	0.096 (0.096)	0.097 (0.097)	0.095 (0.095)	0.095 (0.095)
log UST 5 Year Avg	0.754** (0.272)	0.456 (0.272)	0.790** (0.274)	0.790** (0.274)
Default to Official Creditor Dummy	-0.240*** (0.071)	-0.244*** (0.071)	-0.247*** (0.070)	-0.247*** (0.070)
log Bureaucracy Score	0.482*** (0.087)	0.475*** (0.089)	0.513*** (0.089)	0.513*** (0.089)
Pre/Post-1998 Dummy:East Asia Dummy	0.999*** (0.245)	-0.790*** (0.242)	0.972*** (0.240)	0.972*** (0.240)
East Asia Dummy: log ST to TD Ratio			0.260** (0.097)	0.260** (0.097)

Significance Codes

Signif. codes: 0 '****' 0.001 '***' 0.01 '**' 0.05 '.' 0.1

Table 4: D-i-D Sentiment Indicator (Robust Standard Errors)

	Model 2S		Model 3S	
	Pre-1998	Post-1998	Pre-1998	Post-1998
(Intercept)	-1.777** (0.687)	-1.263. (0.740)	-1.587* (0.687)	-1.096 (0.742)
Pre/Post-1998 Dummy	-0.165 (0.131)	-0.091 (0.125)	-0.166 (0.132)	-0.085 (0.125)
Regional Sentiment Interaction	1.208 (2.005)	10.489*** (2.241)	-7.205. (3.706)	2.997 (3.607)
Country Sentiment Interaction	0.157 (0.716)	0.117 (0.724)	0.135 (0.697)	0.099 (0.703)
Rating Interaction	-0.034 (0.024)	-0.031 (0.024)	-0.049* (0.024)	-0.045. (0.023)
log GDP Growth	0.014 (0.105)	-0.001 (0.106)	0.040 (0.102)	0.024 (0.104)
log Exports Growth	-0.094* (0.040)	-0.082* (0.040)	-0.098* (0.040)	-0.086* (0.040)
log Consumer Prices Change	0.067 (0.069)	0.060 (0.069)	0.053 (0.068)	0.047 (0.068)
log ST to TD Ratio	0.123** (0.040)	0.114** (0.040)	0.064 (0.046)	0.056 (0.046)
log Debt Service to Exports	0.175*** (0.048)	0.187*** (0.048)	0.151** (0.049)	0.163** (0.049)
log Domestic Credit	0.096 (0.096)	0.097 (0.097)	0.095 (0.095)	0.096 (0.096)
log UST 5 Year Avg	0.752** (0.272)	0.455 (0.272)	0.787** (0.274)	0.499. (0.274)
Default to Official Creditor Dummy	-0.240*** (0.071)	-0.244*** (0.071)	-0.247*** (0.070)	-0.251*** (0.070)
log Bureaucracy Score	0.482*** (0.087)	0.476*** (0.089)	0.515*** (0.089)	0.507*** (0.091)
Pre/Post-1998 Dummy: Regional Sentiment Interaction	10.693*** (2.687)	-8.417** (2.663)	10.407*** (2.635)	-8.055** (2.608)
Regional Sentiment Interaction: log ST to TD Ratio			2.894** (1.033)	2.816** (1.054)

Significance Codes

Signif. codes: 0 '****' 0.001 '***' 0.01 '**' 0.05 '.' 0.1

GenerativeAI Sentiment Score Evaluation

To assess the sentiment of 29,129 financial news headlines (FT and SCMP) extracted from Factiva, Python and the OpenAI API were used. The GenerativeAI model was instructed as follows:

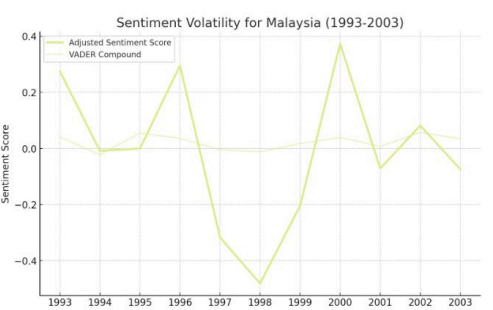
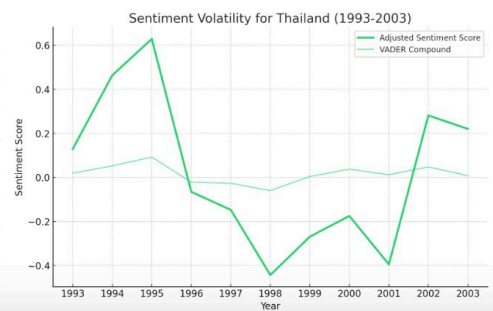
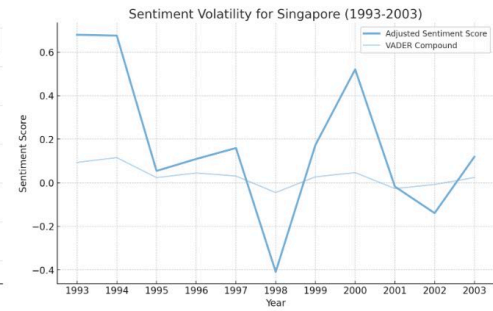
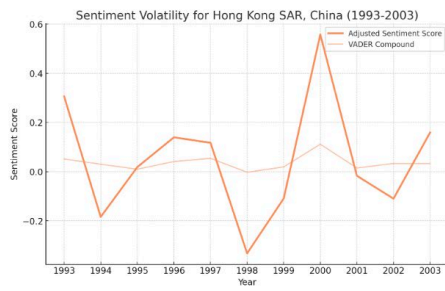
1. **Sentiment Evaluation:** Financial Sentiment Analyst, evaluate the sentiment of the headline, considering both the tone and the underlying economic and financial conditions. The adjusted sentiment score should range from -4 to +4 with 0 representing a neutral sentiment. The outermost range values capture excessively negative (-4) or excessively positive (+4) sentiment with highly emotional or exaggerated language.
2. **Justification:** Provide a brief 1-2 sentence explanation for the assigned score.
3. **Country Identification:** Identify the Asian country or city mentioned in the headline. In the case where more than one country was identified, I manually reviewed to see which country the sentiment score was directed towards.

For validation, a random sample of 380 headlines out of 29,192 was manually checked against these criteria. The model accurately assessed 82.11% of the headlines. In 12.63% of cases, the model correctly identified the sentiment direction but slightly misjudged the sentiment strength. The model was incorrect in 5.26% of cases, either misclassifying the sentiment or misinterpreting key terms. Specific issues included:

- 15 instances of sentiment being rated slightly too high.
- 23 instances of sentiment being rated slightly too low.
- A minor bias towards interpreting neutral sentiment as slightly positive was observed in 15 cases.
- In one case, the sentiment was correct based on the headline's wording but might have been interpreted differently considering the broader context.
-

Overall country coverage of the articles:

Country	Coverage
China	12,802 headlines
Hong Kong	3221
Taiwan	2460
Singapore	1687
Korea	1164
Malaysia	1018
Vietnam	959
Indonesia	860
Thailand	615
Philippines	478



Bibliography

- Beers, David, Obiageri Ndukwe, and Alex Charron. BoC–BoE Sovereign Default Database: Methodology and Assumptions. No. 124. Bank of Canada, 2023 – 2024 Edition of Data.
- Beyhaghi, Mehdi, Rui Dai, Anthony Saunders, and John Wald. "International lending: The role of lender's home country." *Journal of Money, Credit and Banking* 53, no. 6 (2021): 1373-1416. <https://doi.org/10.1111/jmcb.12850>
- Chater, David. "Baring Puts Winning Formula to Work." *Euromoney*, no. 06 (1994): 225.
- Chow, Peter C. Y. "What We Have Learned from the Asian Financial Crisis." in *Weathering the Storm: Taiwan, Its Neighbors, and the Asian Financial Crisis*, edited by Peter C. Y. Chow and Bates Gill, [specific page numbers]. Washington, DC: Brookings Institution Press, 2000.
- Coppel, Jonathan, and Michael Davies. "Foreign participation in East Asia's banking sector." Contribution to the CGFS Working Group on FDI in the Financial Sector of Emerging Market Economies, 2003.
- Dailami, Mansoor, Paul R. Masson, and Jean Jose Padou. "Global monetary conditions versus country-specific factors in the determination of emerging market debt spreads." *Journal of International Money and Finance* 27, no. 8 (2008): 1325-1336. <https://doi.org/10.1016/j.jimonfin.2008.07.003>.
- Economist Intelligence Unit. Global Data. London: Economist Intelligence Unit, 2024. Accessed 2 September 2024. <https://www.eiu.com>.
- Eichengreen, Barry. *Globalizing Capital: A History of the International Monetary System*. Princeton University Press, 2019.
- Eichengreen, Barry, and Ashoka Mody. "Lending Booms, Reserves and the Sustainability of Short-Term Debt: Inferences from the Pricing of Syndicated Bank Loans." *Journal of Development Economics* 63, no. 1 (2000): 5–44. [https://doi.org/10.1016/S0304-3878\(00\)00098-5](https://doi.org/10.1016/S0304-3878(00)00098-5).
- Eichengreen, Barry, and Harold James. "Monetary and Financial Reform in Two Eras of Globalization." *NBER Chapters*, January 2003, 515–48. <https://doi.org/10.7208/9780226065991-013>.
- Gadanecz, Blaise. "The syndicated loan market: structure, development and implications." *BIS Quarterly Review*, December (2004), Available at SSRN: <https://ssrn.com/abstract=1967463>.
- Gaies, Brahim, Mohamed Sahbi Nakhli, Rim Ayadi, and Jean-Michel Sahut. "Exploring the Causal Links Between Investor Sentiment and Financial Instability: A Dynamic Macro-Financial Analysis." *Journal of Economic Behavior & Organization* 204 (2022): 290-303. <https://doi.org/10.1016/j.jebo.2022.10.013>.
- Gao, Janet, and Yeejin Jang. "What Drives Global Lending Syndication? Effects of Cross-Country Capital Regulation Gaps." *Review of Finance* 25, no. 2 (March 2021): 519-559. <https://doi.org/10.1093/rof/rfaa019>.
- Griffith-Jones, Stephany, Ricardo Gottschalk, and Jacques Cailloux. *International Capital Flows in Calm and Turbulent Times*. University of Michigan Press, 2009.

- Hunter, William C., George G. Kaufman, and Thomas H. Krueger, eds. *The Asian financial crisis: origins, implications, and solutions*. Springer Science & Business Media, 2012, 44-45.
- Ivashina, Victoria. "Asymmetric Information Effects on Loan Spreads☆." *Journal of Financial Economics* 92, no. 2 (2009): 300–319. <https://doi.org/10.1016/j.jfineco.2008.06.003>.
- Kaminsky, Graciela L., Carmen M. Reinhart, and Carlos A. Végh. "The Unholy Trinity of Financial Contagion." *Journal of Economic Perspectives* 17, no. 4 (2003): 51–74. DOI: 10.1257/089533003772034899.
- Lee, Peter. "When the World Started to Melt." *Euromoney*, no. 344 (1997): 32-37.
- Levy-Yeyati, Eduardo. *Global Moral Hazard, Capital Account Liberalization and the "Overlending Syndrome"*. International Monetary Fund, 1999.
- Napier, Russell. *The Asian Financial Crisis 1995–98: Birth of the Age of Debt*. Harriman House Limited, 2021.
- Park, Donghyun, Arief Ramayandi, and Kwanho Shin. "Chapter 4: Why Did Asian Countries Fare Better during the Global Financial Crisis than during the Asian Financial Crisis?" in *Responding to Financial Crisis: Lessons from Asia Then, the United States and Europe Now*, edited by Adam S. Posen and Changyong Rhee, 103-140. Washington, DC: Peterson Institute for International Economics; Manila: Asian Development Bank, 2013.
- Osobajo, Oluyomi A., and Adeola E. Akintunde. 2019. "Determinants of Sovereign Credit Ratings in Emerging Markets." *International Business Research* 12 (5): 142. <https://doi.org/10.5539/ibr.v12n5p142>.
- Radelet, Steven, and Jeffrey D. Sachs. "The East Asian Financial Crisis: Diagnosis, Remedies, Prospects." *Brookings Papers on Economic Activity*, no. 1998 (1): 1–90. <https://doi.org/10.2307/2534670>.
- Refinitiv. *DealScan-LPC Connector*. Wharton Research Data Services. Accessed 2 September 2024. <https://wrds-www.wharton.upenn.edu>.
- Siregar, Reza Y., and Keen Meng Choy. "Determinants of international bank lending from the developed world to East Asia." *IMF Staff Papers* 57, no. 2 (2010): 484-516. <https://doi.org/10.1057/imfsp.2009.28>.
- Steinberger, Michael. "Impaired Intelligence," no. 334 (1998): 85-87.
- Sufi, Amir. "Agency and renegotiation in corporate finance: Evidence from syndicated loans." Unpublished working paper. Massachusetts Institute of Technology, 2005.
- TheGlobalEconomy.com. Economic Data. Accessed 2 September 2024. <https://www.theglobaleconomy.com>.
- World Bank. *World Development Indicators*. Washington, DC: The World Bank, September 2003. Accessed 2 September 2024. <https://databank.worldbank.org/source/world-development-indicators>.
- World Bank. *World Development Indicators*. Washington, DC: The World Bank, September 2006. Accessed 2 September 2024. <https://databank.worldbank.org/source/world-development-indicators>.