Sovereign Defaults and Trade: External vs. Domestic Creditors*

Dennis Essers†
National Bank of Belgium

Silvia Marchesi‡
University of Milano-Bicocca

Nejat Gökhan Okatan§
University of Milano-Bicocca

November 6, 2026

Work under revision

Revise-and-Resubmit at the Journal of International Economics

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Abstract

This paper shows that the trade costs of sovereign default depend on the identity of defaulted creditors. Comparing external and domestic defaults on privately held debt across 128 developing countries over 1980–2019, and applying both two-way fixed effects and stacked difference-in-differences estimators, we find that external defaults are associated with large and persistent import contractions, while domestic defaults have smaller and short-lived effects. This asymmetry is concentrated in imports of capital goods and is mirrored by declines in international lending to the private sector and in medium-to-long-term export credit insurance after external, but not domestic, defaults. By contrast, exports do not change significantly after either type of default. The results point to disruptions in cross-border trade finance as a key channel linking external defaults to trade, and highlight creditor composition as a central determinant of default-related trade costs.

JEL codes: F14; F34; G15; H63

Keywords: sovereign default; external debt; domestic debt; international trade; international lending; trade finance

*The views expressed are those of the authors and do not necessarily represent the views of the National Bank of Belgium, the Eurosystem, the Berne Union, or its member organizations. We thank Roberto A. De Santis, Pascaline della Faille, Matteo Lanzafame, Enrico Mallucci, Lucas Argentieri Mariani, Mirela Miescu, Ugo Panizza, Romanie Peters, and participants at the 8^{th} DebtCon, 15^{th} Economics of Global Interactions Conference, 2^{nd} Sovereign Debt Workshop of the University of Milano-Bicocca, 7^{th} Conference on European Economics and Politics, 26^{th} Conference of European Trade Study Group, and seminar participants of the University of Milano-Bicocca for discussions, comments and valuable feedback. We also thank, without implicating, EK Gray and Lewis Evans for compiling and providing guidance on the Berne Union data.

†Email: Dennis.Essers@nbb.be

‡Email: Silvia.Marchesi@unimib.it

§Email: nejatgokhan.okatan@unimib.it

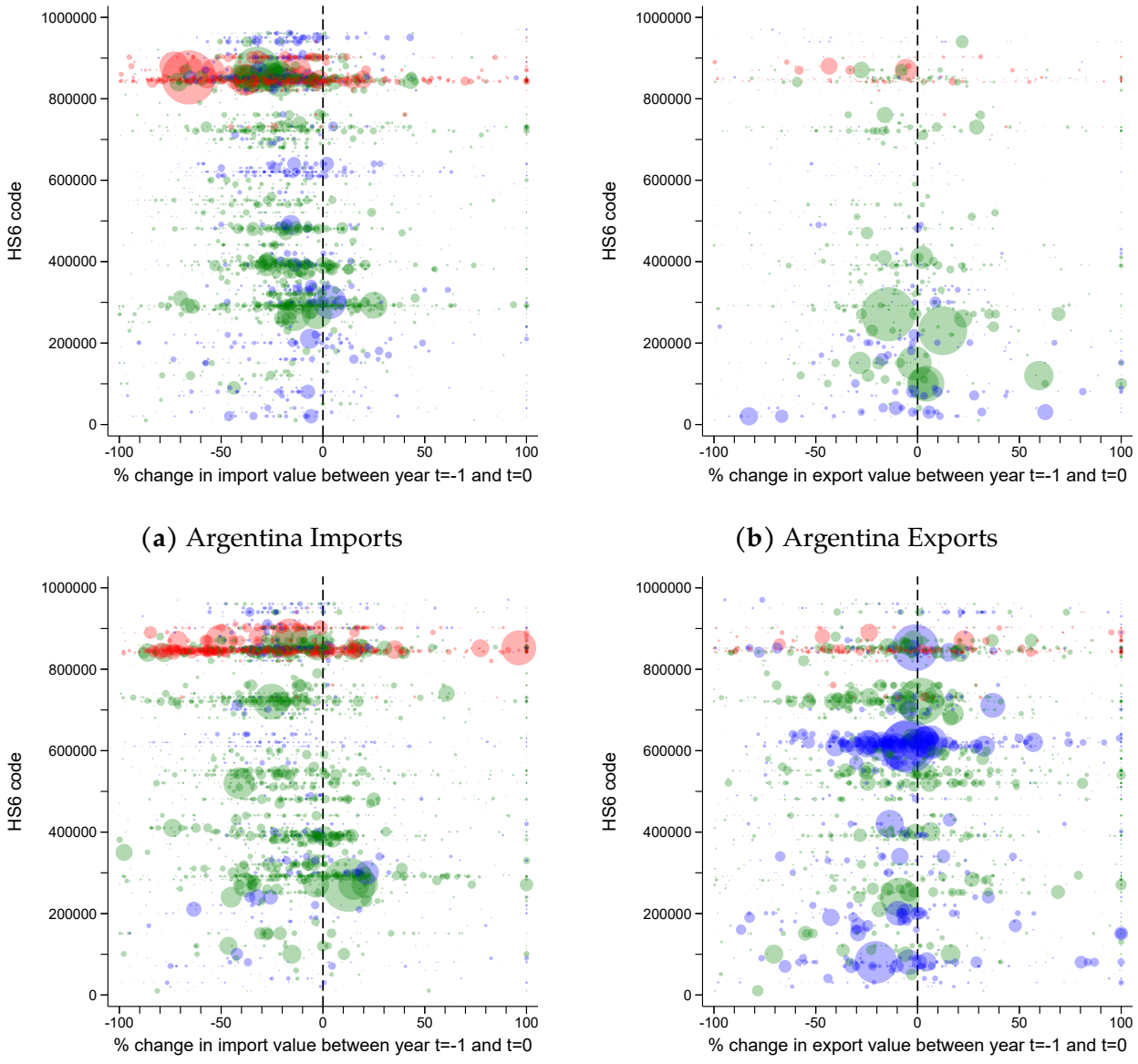
1 Introduction

It is well documented that countries typically experience a contraction in international trade following a sovereign default. Understanding how and through which channels these trade disruptions materialize has become increasingly relevant in light of the renewed surge in global public debt and the centrality of trade in shaping macroeconomic adjustment. Yet, whether the trade response to default depends systematically on *who holds the defaulted debt* – external versus domestic creditors – remains largely unexplored. This question is more than a refinement. External and domestic defaults differ in the jurisdiction and currency of the debt involved, in the identity of the affected creditors, and in their links to cross-border finance, and these differences plausibly shape how, and how persistently, default transmits to trade. This paper fills this gap by examining the heterogeneous trade effects of sovereign defaults, comparing import and export dynamics following defaults on external versus domestic private debt, identifying which categories of traded goods drive these patterns, and tracing the international-finance channels through which they operate.

Motivation. Figure 1 provides motivating descriptive evidence for the questions we study. Figure 1a and Figure 1b display the change in Argentina's product-level import and export values between 2000 and 2001, the initial year of its landmark default (Makoff, 2024).[1] Two patterns stand out. First, imports dropped sharply: total import value fell by around 19%, with imports of capital goods – mostly machinery and electrical equipment – experiencing the steepest declines, 28% on average and up to 65% and more.[2] Intermediate and consumption goods imports also contracted, but somewhat less severely (by 17% and 13% on average, respectively). Second, exports exhibited a strikingly different pattern: aggregate export values were essentially unchanged between 2000 and 2001, with export goods categories such as food preparations, mineral products, and vegetable products either holding steady or recording modest gains. While this single episode cannot be taken as causal evidence, it illustrates the core phenomena our paper documents and seeks to explain: a large and product-differentiated contraction in imports alongside a broadly stable export performance following an external default. We verify whether these patterns generalize systematically across countries and default episodes, and examine whether comparable patterns arise in the aftermath of domestic defaults.

[1] Argentina 2001 is classified, first and foremost, as an external default in our data because the episode primarily involved internationally issued dollar-denominated debt held by foreign private creditors, notwithstanding that domestic obligations were also affected.

[2] By 2002, when the Argentine debt crisis was in full swing, import values declined much further, by 64% overall and by 77% for capital goods, compared to 2000.



(**a**) Argentina Imports

(**b**) Argentina Exports

(**c**) Türkiye Imports

(**d**) Türkiye Exports

Figure 1
Argentina vs Türkiye: changes in trade values around an external and a domestic sovereign default, by product category

Notes. Each bubble represents an HS6 product code. The horizontal axis shows the percentage change in trade value between the year before default ($t = -1$) and the first year of default ($t = 0$, i.e. 2001 for Argentina and 1999 for Türkiye), winsorized at 100%. The vertical axis shows the HS6 code, and bubble size is proportional to trade value in the year before default. Capital goods (red), intermediate goods (green), and consumption goods (blue) are defined following BEC/SNA classifications. Unclassified goods are excluded.

Figure 1c and Figure 1d provide a contrasting illustration from Türkiye's domestic default episode, following the 1999 Marmara earthquake (Başkaya et al., 2024).[3] Compared to Ar-

[3]Türkiye 1999 is classified as a domestic default in our data because the episode primarily involved local

gentina, Türkiye displays a milder collapse in overall imports (-12%), and the pattern for capital goods imports is less stark (-14% on average). This contrast is only descriptive and episode-specific, but it illustrates the central question of the paper: whether defaults involving external creditors generate systematically larger import disruptions than defaults involving domestic creditors. This distinction is especially relevant in light of the rising importance of domestic debt in emerging and developing economies, where an increasing share of public liabilities is now held by resident investors and local financial institutions (World Bank, 2024; Atsebi and Menkulasi, 2025), potentially reshaping the real and trade-related consequences of sovereign distress.[4]

Sovereign defaults may disrupt international trade through several channels. Following a default, overall credit provision to the private sector typically declines (Arteta and Hale, 2008). In particular, the contraction in credit during crises is often more pronounced for trade-finance instruments such as letters of credit (Amiti and Weinstein, 2011).[5] The literature highlights trade finance as a potential key transmission mechanism. Rose (2005) finds that defaults reduce both imports and exports, attributing this effect to a contraction in trade credit. Borensztein and Panizza (2010) confirm the relevance of this channel and show that export-oriented industries experience larger declines in value added following defaults.[6] Similarly, Zymek (2012) argue that reduced access to foreign credit, including trade finance, serves as the primary channel through which sovereign defaults depress trade. In a theoretical framework, Mendoza and Yue (2012) show that sovereign defaults can trigger a sharp contraction in intermediate goods imports via the trade-financing channel. Another potential mechanism is the direct exclusion from international trade itself (Auboin, 2004). However, using bilateral trade data between defaulters and their creditor countries, Martinez and Sandleris (2011) find no evidence of either bilateral or multilateral trade sanctions. Aggregate domestic demand may also shape the trade response to default. Asonuma et al. (2025) show that countries with higher ex-ante domestic demand experience larger post-default import contractions. Finally, the trade effects of default can also be transmitted through exchange rate depreciation and the availability of foreign exchange reserves.

A common thread in these channels is that they operate through *international* finance, and should therefore depend on whether the default falls on external or domestic creditors.[7]

currency obligations that were issued domestically, under domestic jurisdiction, and held by local banks.

[4]Over the past four decades, 134 sovereign debt restructurings involving domestic debt governed by domestic law have been recorded, with a marked increase since the 1990s and a parallel decline in external debt restructurings (Erce et al., 2022) This shift reflects a broader move toward domestic debt financing, driven by financial deepening, the development of local bond markets, and more recently, by constrained access to international capital markets, especially in the wake of the COVID-19 pandemic.

[5]Trade finance typically carries higher risk than standard credit because of uncertainties in shipment, delivery, and cross-border payment, and therefore is one of the first forms of credit that is curtailed.

[6]Borensztein and Panizza (2010) also suggest that controls on the exchange rate and on capital flows may contribute to the contraction in trade credit.

[7]In the sovereign debt literature, creditor composition is sometimes disaggregated into more granular categories, such as foreign and domestic banks, non-bank private investors, and official bilateral or multilateral creditors (see, e.g., Arslanalp and Tsuda, 2014; Fang et al., 2024). Following Erce et al. (2024), we classify all

When a sovereign restructures its external debt, issued under foreign jurisdiction and typically denominated in foreign currency, foreign creditors absorb payment delays or losses (i.e., haircuts, coupon reductions, and/or maturity extensions). Conversely, restructuring domestic debt, issued under domestic jurisdiction and generally in local currency, primarily imposes delays or losses on domestic creditors, like local banks, insurance companies or pension funds. These distinctions can be crucial: external debt repayment depends more heavily on the sovereign's access to foreign exchange and directly affects the portfolio of external creditors – who are often based in trading-partner countries and connected to the institutions that finance cross-border trade – whereas domestic debt can be serviced with domestic resources and primarily affects the lending capacity of domestic creditors. As a result, whether a country defaults on external or domestic debt can shape the mechanisms, and especially the international-finance mechanisms, through which defaults transmit to international trade.

Main findings. Using data from 63 external and 59 domestic sovereign restructuring episodes in a sample of 128 developing countries spanning the years 1980 to 2019, we find that external sovereign defaults, on average, result in an 11% decline in imports of the defaulting countries compared to imports of non-defaulting countries. This effect persists even after 5 years and is driven primarily by a contraction in imports of capital goods, which is concentrated in the first two years following default. The differential effect on imports is much more muted and short-lived after domestic sovereign defaults. We find that domestic sovereign defaults result in an average 5.4% decline in imports of the defaulting countries relative to imports of non-defaulters, with the effect concentrated in the year of default and the year that follows, and fading thereafter. Exports, by contrast, show no significant change following either type of default, in the aggregate or across broad product categories. The asymmetric response of imports and exports is consistent with several offsetting forces on the export side. After default, exporters may benefit from exchange-rate depreciation, may receive priority access to scarce foreign exchange or trade credit, and may rely more on foreign buyers or intermediaries for financing than domestic importers do. These forces can mute the export response even when external defaults tighten international credit conditions.[8] The asymmetry in trade costs therefore operates almost entirely on the import side.

We then ask why trade outcomes differ so sharply across external and domestic defaults. The differential import response is concentrated in capital goods, typically the most costly and most external-credit-dependent items in the import basket, often financed through medium-to-long-term trade credit. This pattern points to the differential disruption of international lending to the private sector – and of trade finance in particular – as a key

obligations as domestic or external based on the jurisdiction of issuance.

[8] These mechanisms are consistent with evidence that firms may shift sales toward external markets when domestic demand weakens, especially in case of exchange rate depreciation (e.g., Asonuma et al., 2025); that scarce foreign exchange and working capital may be reallocated toward export-oriented sectors to sustain debt-service capacity (Arellano et al., 2018); and that international lenders reduce credit more sharply to non-exporting firms than to exporting firms (Arteta and Hale, 2008).

mechanism behind the asymmetry.[9] Consistent with a trade-finance interpretation, we show that international lending to the private sector contracts significantly after external defaults but not after domestic defaults. We also provide more direct evidence using proprietary data from the Berne Union, the main international association of export credit and investment insurers. We find that medium-to-long-term export credit insurance – which primarily covers the capital-goods transactions most affected in our trade data – falls sharply after external defaults, while no comparable decline follows domestic defaults. We acknowledge that the larger decline in capital goods imports in the aftermath of external defaults may also reflect other channels such as limited access to foreign exchange. Exchange rate depreciation may reinforce this effect: external defaults are typically accompanied by sharper depreciation than domestic defaults, which raises the price of (foreign currency-denominated) capital goods imports and amplifies the import contraction after external defaults.[10] Countries that default on external debt may also impose capital controls to restrict foreign-exchange outflows, which could amplify differential post-default import outcomes. We control for the latter channels in our empirical setting to isolate the role of international lending to the private sector in the differential trade outcomes.

Empirical challenges. Studying the trade effects of sovereign defaults poses several identification challenges. An important concern is the endogenous selection into defaults – both in the decision to default and in the choice between external and domestic default. Countries that default may already be on different macroeconomic or trade trajectories compared to non-defaulters, and external and domestic defaulters may systematically differ in ways that affect post-default trade. We address these concerns in a number of ways: (i) we restrict the sample to developing countries to enhance the comparability of treated and control units; (ii) we examine pre-default characteristics and trends and show that external and domestic defaulters exhibit similar observable characteristics and similar trade trajectories prior to default, reducing concerns about differential pre-trends across default types; and (iii) we implement the stacked difference-in-differences estimator following Cengiz et al. (2019), and further verify robustness using the heterogeneity-robust estimator of de Chaisemartin and D'Haultfoeuille (2026). The stacked diff-in-diff estimates align closely with our baseline two-way fixed effect results: external defaults lead to a persistent decline in imports with no detectable effect on exports, whereas domestic defaults are followed only by a short-lived decline in imports. Despite these additional steps, we acknowledge that residual confounding may remain, and therefore interpret the estimates as evidence of systematic trade responses around sovereign defaults rather than as fully isolated causal effects.

A further identification concern is that observed trade flows are equilibrium outcomes that also depend on trading-partner conditions. To isolate the component of trade shifts

[9] Indeed, firms that are involved in international trade are typically more sensitive to credit shocks than other firms (Feenstra et al., 2014), and importer finance is as important for trade as exporter finance (Schmidt-Eisenlohr, 2013).

[10] Following defaults on foreign-currency-denominated debt, exchange rate devaluation may be an optimal outcome to reduce the real value of wages and involuntary unemployment in the presence of downward nominal wage rigidities (Na et al., 2018).

driven by default events, we control for partner import demand and export supply using weighted trading-partner GDP growth following Borensztein and Panizza (2010). Furthermore, sovereign defaults often coincide with recessions, banking crises, or currency crises that may affect trade independent of defaults. We control for domestic GDP growth to account for recession-driven trade fluctuations, and include the crisis dummies from Laeven and Valencia (2020) to net out the effects of concurrent banking and currency crises. Finally, defaults on external and domestic debt frequently overlap with defaults on official debt. Since we are interested in the trade outcomes of private-debt defaults, we control for official default episodes using data compiled by Cheng et al. (2019) and Horn et al. (2022).

Related literature. Our paper contributes to three strands of the literature. We primarily contribute to the growing literature on the characteristics and the economic relevance of the heterogeneity in defaults and debt restructurings which has focused on preemptive versus post-default restructurings (Asonuma and Trebesch, 2016), hard versus soft defaults (Trebesch and Zabel, 2017), and private versus official defaults (Reinhart and Trebesch, 2016; Marchesi and Masi, 2020, 2021; Marchesi et al., 2024). Closest to our paper in this strand of literature are Reinhart and Rogoff (2011) and Erce et al. (2024) who compare sovereign defaults on private external versus domestic debt. While Reinhart and Rogoff (2011) compile a historical database of domestic debt and highlight the importance of domestic debt obligations in overall public debt, Erce et al. (2024) use more recent data and reveal important differences between defaults on external and domestic debt: particularly, the duration of resolution, individual creditor losses, and the political, geoeconomic landscape and macro-financial environment in which they occur. We contribute to this literature by showing that the difference in creditor types also matters for post-default trade outcomes, and by identifying the international-finance channel through which it operates.

Our paper also contributes to the broader literature on default costs[11], specifically in relation to trade.[12] The seminal contribution by Rose (2005) shows that sovereign defaults reduce bilateral trade as a result of disruptions in provision of trade credit between debtors and creditors, rather than trade sanctions imposed by creditors. Martinez and Sandleris

[11]The seminal contributions by Eaton and Gersovitz (1981) and Bulow and Rogoff (1989) established the theoretical foundations for understanding the incentives and potential costs associated with sovereign defaults. Following these contributions, a vast literature has, among others, contributed to the understanding of the effects of sovereign defaults or spikes in default risk on credit markets (Arteta and Hale, 2008; Borensztein and Panizza, 2009; Gelos et al., 2011; Cruces and Trebesch, 2013; Gennaioli et al., 2014; Bocola, 2016; Acharya et al., 2018; Gennaioli et al., 2018; Asonuma et al., 2024; Başkaya et al., 2024; Marchesi and Marcolongo, 2025), creditor losses (Sturzenegger and Zettelmeyer, 2008; Asonuma et al., 2023; Graf von Luckner et al., 2025), currency depreciation (Reinhart, 2002; Na et al., 2018; Ottonello and Perez, 2019), firm outcomes (Borensztein et al., 2013; Gopinath and Neiman, 2014; Almeida et al., 2017; Hébert and Schreger, 2017), future borrowing by sovereigns (Schumacher et al., 2021; Lang et al., 2023; Graf von Luckner and Horn, 2025), GDP growth (Arellano, 2008; Levy Yeyati and Panizza, 2011; Cheng et al., 2019; Kuvshinov and Zimmermann, 2019; Esteves et al., 2026; Hinrichsen et al., 2026), public investment (Asonuma and Joo, 2024), sectoral reallocation (Arellano et al., 2018), and recently, social indicators (Farah-Yacoub et al., 2024). See Das et al. (2012), Tomz and Wright (2013) and Bolton et al. (2023) for extensive surveys of the literature.

[12]Similarly, a large body of literature studies the trade outcomes of financial crises (e.g., Levchenko et al., 2010; Ahn et al., 2011; Amiti and Weinstein, 2011; Gopinath et al., 2012; Eaton et al., 2016), specifically of banking crises (Iacovone et al., 2019), and more generally, of financial frictions (Manova, 2013).

(2011) confirm that defaults are associated with a reduction in bilateral trade, and that this reduction is not driven by bilateral or multilateral trade sanctions. Closest to our paper is Asonuma et al. (2025), who study the heterogeneous trade outcomes of sovereign debt restructurings, distinguishing preemptive from post-default restructurings. Consistent with our findings, they document that the trade effects fall mainly on imports rather than exports, and that capital (manufactured) goods imports are the most severely affected. The two papers are complementary: Asonuma et al. emphasize heterogeneity along the *timing* of restructuring (preemptive versus post-default), whereas we focus on heterogeneity in *creditor composition* (external versus domestic private debt). Both dimensions independently shape the trade costs of default.

Finally, we also contribute to the understanding of the role of international lending to the private sector in the aftermath of sovereign defaults. A large body of literature consistently shows the disruption in external credit provision after external defaults (Rose, 2005; Zymek, 2012; Arellano et al., 2018), particularly for non-exporters (Arteta and Hale, 2008), while few studies specifically consider the role played by trade finance in this context (Kroeger, 2022). We contribute to this literature by showing that international lending to the private sector, and medium-to-long-term export credit insurance in particular, contracts significantly following external defaults while remaining muted after domestic defaults, and by linking this contraction directly to the product composition of the import response.

The remainder of the paper is organized as follows. Section 2 describes the data. Section 3 outlines the baseline methodology and identification strategy. Section 4 presents the baseline results. Section 5 implements an alternative methodology. Section 6 reports a series of robustness checks. Section 7 examines the trade outcomes at the product-group level, and Section 8 discusses the underlying mechanisms. Section 9 concludes.

2 Data

2.1 Definition of Sovereign Defaults

To identify sovereign defaults, we closely follow the definitions of Asonuma and Trebesch (2016), Farah-Yacoub et al. (2024), and Graf von Luckner et al. (2025). A sovereign default occurs when the sovereign borrower, voluntarily or involuntarily, fails to meet its debt payment obligations after the expiration of a grace period, which marks the beginning of the default episode.[13] Historically, hard default has been the most common form of sovereign debt restructuring but more recently, so-called 'preemptive' debt restructurings have been on the rise (Asonuma and Trebesch, 2016). In line with this trend, two additional events should also be treated as the beginning of sovereign debt restructurings: instances where the terms of the debt are altered in a way that disadvantages private external creditors

[13] In theory, default can be voluntary and may even be preferable, as it allows resources to be redirected toward the domestic economy instead of being used for payments to (external) creditors (Na et al., 2018).

compared to the original debt contract, such as through distressed exchanges that lower repayment obligations, or instances where the debtor enforces unilateral changes in other terms, like a forced currency redenomination, that diminish its financial commitments. In both cases, the debt restructuring date marks the beginning of the 'default' episode although, strictly speaking, no hard default takes place.

We define the end of a default/restructuring process as the year in which the final agreement with creditors and/or the debt exchange took place, again following Asonuma and Trebesch (2016). This typically happens through an official signing ceremony for bank debt or a complete debt exchange for bond debt. As repeated defaults are common among developing countries, we follow Graf von Luckner et al. (2025) and Farah-Yacoub et al. (2024) and treat defaults that start within 2 years after the end of a previous default / restructuring as part of the same default episode.

To identify domestic debt restructurings, we follow Erce et al. (2024) and define restructuring events as domestic based on the jurisdiction of the market of issuance of the debt instruments involved.[14] This approach is different from the identification of external restructuring events by Asonuma and Trebesch (2016), which relies on the residence of creditors to identify defaults as external. Erce et al. (2024) show that the difference in definitions only creates minor inconsistencies across the identification of restructuring events as domestic and external. In our case, this does not invalidate the comparison of the two.

2.2 Data Sources

Our analysis relies on information from several databases. We present the data sources in three categories: default episodes, outcome variables, and controls. Table A1 and Table A2 in the appendix provide more detailed information about the data sources, variable definitions, and default episodes.

Default episodes. To identify the start and end dates as well as the duration of sovereign defaults on private *external* debt, we rely on information from Asonuma and Trebesch (2016).[15] We rely on information from Erce et al. (2022) to identify the start, end, and duration of sovereign defaults on private *domestic* debt. Finally, as part of our robustness checks, we control for official defaults. We use information from Cheng et al. (2019) and Horn et al. (2022) to determine the start, end, and duration of official default episodes based on Paris Club restructurings.[16]

[14] Erce et al. (2024) define domestic restructurings following Erce et al. (2022) and we refer to the latest version throughout the paper for consistency.

[15] The database provided by Asonuma and Trebesch (2016) is updated by the database provided by Horn et al. (2022) and information provided by Graf von Luckner et al. (2025) and Farah-Yacoub et al. (2024). We use the most recent information on sovereign defaults in these papers whenever possible.

[16] We do not consider (often symbolic) Chinese debt restructurings, or Chinese participation in the Debt Service Suspension Initiative (DSSI). See Horn et al. (2022) for further details on these types of restructuring events.

Outcome variables and concordance tables. For the first part of our analysis, we use trade data at the country-year level. We retrieve information on the aggregate nominal import and export values from the United Nations Commodity Trade Statistics Database (UN Comtrade) database. For the second part of our analysis, we use product-level data from CEPII's BACI database, which harmonizes imports and exports and product categorization over time based on UN Comtrade data. The version of CEPII-BACI we use classifies traded products according to the 6-digit Harmonized Commodity Description and Coding System 1992 (HS92) classification.[17] We map 6-digit product-level information classified by HS92 codes to the Broader Economic Category (BEC) classes using the HS92 to BEC Revision 4 concordance table from the World Integrated Trade Solution (WITS) database of the World Bank. Whenever necessary, we use HS92 to HS96 and HS96 to BEC Revision 4 concordance tables from the United Nations Statistics Division (UNSD) database. This mapping translates about 5,000 6-digit HS92 codes into 19 broader economic classifications. We then use BEC Revision 4 to System of National Accounts (SNA) concordance tables provided by UNSD to map these 19 BEC categories to 3 basic classes in SNA: capital goods, intermediate inputs, and consumption goods.[18]

To study the transmission mechanisms of sovereign defaults to trade outcomes, we use two indicators: first, net transfers of private non-guaranteed external debt from the World Bank's International Debt Statistics (IDS) database – as a general measure of new resource transfers to the debtor country's private sector – and second, proprietary information on export credit insurance from the Berne Union, the leading international association of export credit and investment insurers. The Berne Union compiles confidential, aggregated data reported by its member institutions, which include public export credit agencies, multilateral insurers, and private credit and political risk insurers.[19] Members report on the new business they underwrite (i.e., newly insured exports and outstanding insurance commitments) at the destination-country level, separately for short-term (up to one year) and medium-to-long-term (above one year) coverage. Short-term insurance primarily supports working capital and routine commercial transactions, while medium- and long-term insurance typically finances larger capital goods exports and investment projects.[20] Because these instruments cover the risk of non-payment by foreign buyers, including risks associated with sovereign distress, the data provide a direct window into how the supply of trade finance responds to sovereign default episodes in the destination country.

Controls. Our primary source for the control variables, specifically population and real

[17] Indeed, different versions of CEPII-BACI code products according to HS92, HS96, HS02, HS07, HS12, HS17, or HS22 classifications. Since HS92 provides the largest coverage for our study period, we proceed with this particular version.

[18] The BEC classification was revised in 2016, resulting in BEC Revision 5, but our study sample covers a period that is better represented with BEC Revision 4 codes.

[19] As of 2024, the Berne Union counts more than 80 member institutions across over 70 countries and collectively insures around 13% of global cross-border trade, making it the most comprehensive source of internationally comparable data on export credit insurance.

[20] This split between short-term and medium- and long-term insurance allows us to disentangle the trade finance channel for different types of transactions, which maps to the product group-level results documented in Section 7.

GDP, is the World Development Indicators (WDI) database of the World Bank. We retrieve trade partner-weighted real effective exchange rate information from the International Financial Statistics (IFS) database of the IMF. Whenever necessary, we complement data from WDI with information from the IMF.[21]

Our source for the price level of imports and the price level of exports is the Penn World Tables (PWT version 10.01) by Feenstra et al. (2015). We use this information to calculate the terms of trade at the country-year level. PWT is also our source for investment at the country-year level.

As part of the robustness checks, we verify if banking and currency crises confound our results. To do so, we retrieve dummies for banking and currency crises using the episodes defined by Laeven and Valencia (2020) and include both as controls. We also check whether our findings are robust to the existence of capital controls. To do so, we retrieve information on capital controls from Ilzetzki et al. (2019).

2.3 Sample Characteristics

Our baseline analysis covers the period from 1980 to 2019, and the final sample consists of 4,362 observations from 128 developing countries. 45 of these countries experienced at least one episode of default on their external private debt, while 39 countries defaulted on their domestic debt during the study period. Our sample only includes emerging and developing countries (as defined by the IMF) to avoid too extreme differences between defaulting and not-defaulting countries. We focus entirely on the defaults on private external and domestic debt, including publicly guaranteed liabilities.[22]

In Panel A of Table 1, we present the summary statistics for the key variables. On average, a country has about 25 billion US dollars worth of imports, about 2.5 billion US dollars less than its exports. The mean GDP is about 121.9 billion US dollars, but like most other variables (except terms of trade), GDP is right-skewed. For the average observation in the sample, investment accounts for about one-third of GDP. Real exchange rate information is partner-weighted to take the potential effect of bilateral exchange rates with major trading partners into account. For the average country, the exchange rate depreciates over time. The average population is 31.7 million, but the population data is again highly right-skewed due to the inclusion of countries such as China (1.2 billion residents, on average) and Indonesia (246 million residents) in the sample. Terms of trade ratios exhibit relatively less variation across countries over time.

[21] For example, the real exchange rate coverage of WDI is limited and heavily restricts our analysis to a small set of defaulting countries. We therefore retrieve real exchange rate information from IMF databases.

[22] To minimize potential differences and increase the comparability between Erce et al. (2022) and Asonuma and Trebesch (2016) with regards to the identification of default types, Erce et al. (2024) limit their sample to the restructurings events that exclusively involve bond or bank loans. Our results do not change if we remove restructuring events that involve deposits.

Panel B of Table 1 shows the key characteristics of the default episodes in the sample. The number of countries that experience at least one external default episode is slightly higher than the number of countries that experience at least one domestic default episode (45 versus 39). This difference is also reflected in the total numbers of external and domestic default episodes (63 versus 59). Official defaults, however, are much more common among the sample countries, in line with the fact that developing countries have traditionally relied more on concessional official credit than on commercial external or domestic debt. On average, a default episode on private external debt lasts 7.8 years, while a default episode on private domestic debt lasts 4.3 years. The median number of years a country stays in an external default episode is 5 years, while the median number of years a country stays in a domestic default episode is 2 years. In line with Erce et al. (2024), this implies that domestic defaults are resolved quicker than external ones, on average. Official default episodes last longer than both external and domestic defaults, reflecting the historical sequence of repeated short-term debt reschedulings in the Paris Club. Based on these stylized facts, (i) we include official defaults as a control in all of our specifications, as the effects of domestic or external defaults might be confounded by the official defaults; and (ii) we determine the lag structure of our model specification according to the median duration of external defaults (5 years). The next section describes the empirical methodology.

Table 1
Summary Statistics

Panel A: Key Variables						
	Obs.	**Mean**	**Median**	**Std. dev.**	**p25**	**p75**
Real Aggregate Imports ($ millions)	4,362	25,063	3,571	104,991	1,025	13,806
Real Aggregate Exports ($ millions)	4,354	27,496	2,463	125,018	583.19	12,082
Real GDP ($ millions)	4,362	121,927	12,972	606,946	3,828	59,040
Real Investment ($ millions)	4,362	40,169	2,967	253,359	664.06	15,448
Real Exchange Rate	4,362	114.63	100.3	92.64	91.44	115.72
Population (millions)	4,362	31.70	7.18	120.60	1.70	21.90
Terms of Trade	4,362	1.03	1.03	0.12	0.95	1.21
Panel B: Sovereign Default Characteristics						
	External		**Domestic**		**Official**	
Number of Countries	45		39		72	
Number of Episodes	63		59		82	
Mean duration (years)	7.83		4.27		8.98	
Median duration (years)	5		2		6	
Maximum duration (years)	31		26		29	
Minimum duration (years)	1		1		1	

Notes. The real exchange rate is the real effective exchange rate weighted by trade partners calculated using constant 2010 US$. Terms of trade is the ratio of the price of exports to the price of imports. Number of countries presents the number of countries that experienced each type of default at least once during the sample period, reported separately for each default type. Detailed variable definitions and data sources can be found in Table A2.

3 Empirical Methodology

We study the heterogeneous trade outcomes of sovereign defaults by comparing external and domestic debt defaults. To do so, we first use information at the country-year level and estimate the effects of defaults on aggregate trade flows. We then examine heterogeneity across traded good types by aggregating product-level trade flows into 3 broad categories – capital goods, intermediate goods, and consumption goods – and re-estimating the same specification for each category.

3.1 Baseline

For the analysis of aggregate trade effects we follow Rose (2005), Martinez and Sandleris (2011), Chor and Manova (2012) and Zymek (2012) and estimate the following logarithmic specification with two-way fixed effects using OLS:

$$Y_{it} = \sum_{k=-3,\neq -1}^{k=5} \gamma_k D_{it-k} + \boldsymbol{X}'_{\boldsymbol{it}}\boldsymbol{\beta} + \alpha_i + \alpha_t + \varepsilon_{it} \tag{1}$$

where Y_{it} is the natural log of real aggregate exports/imports for country i at time t; D_{it} is a dummy equal to 1 at the beginning of the default episode – defined separately for external and domestic defaults – and 0 otherwise.[23] $\boldsymbol{X_{it}}$ is a vector of controls which, following Asonuma et al. (2025), includes real effective exchange rate growth, the natural log of population, real GDP, terms of trade, and investment over GDP. We also include an official default dummy to account for defaults on debt owed to official creditors, which typically persist longer than external or domestic defaults and therefore frequently overlap with them. Controlling for the duration of official default episodes helps us isolate the effects of defaults on private debt on trade. Finally, α_i and α_t denote country and year fixed effects, respectively.

Our baseline specification corresponds to a standard difference-in-differences event-study framework with country and year fixed effects. The coefficients of interest γ_k, for $k \in [0, 5]$, measure how trade outcomes in defaulting countries deviate from those of non-defaulters in the years following the start of the episode, while accounting for time-invariant country characteristics, common global shocks, and time-variant macroeconomic indicators. In particular, we take γ_{-1} as the baseline. γ_0 then captures the contemporaneous impact of the default, while γ_1 through γ_5 document the dynamic adjustment over the subsequent 5 years.

[23] Motivated by the median default duration in our sample, we include 5 lags of the default indicator in the baseline regressions and estimate separate specifications for each default type.

3.2 Threats to Identification: Selection into Default Type

A central identification concern is that countries may endogenously select into external versus domestic defaults based on underlying conditions that also affect post-default trade outcomes (Erce and Mallucci, 2018). For example, if governments anticipate different economic costs associated with the two types of default, they may strategically choose one over the other. In this case, observed differences in post-default trade could reflect pre-existing economic characteristics rather than the causal effect of the default type itself.

To assess the empirical relevance of this concern, we first compare key macroeconomic and trade fundamentals in the two years preceding each type of default.[24] Table 2 reports average values for both groups, along with tests of statistical significance. Across all macroeconomic variables – including imports, exports, trade openness, GDP, GDP growth, exchange rate growth, and political stability – We find no statistically significant differences between pre-external and pre-domestic default episodes.[25] These findings suggest that trade and macroeconomic conditions do not systematically differ in the lead-up to external versus domestic defaults; consequently, selection into default type based on anticipated trade outcomes appears unlikely. We also find no significant differences in pre-default liquidity and reserve indicators, including the short-term debt share, debt service risk, and reserve adequacy – measured either as the ratio of total reserves to external debt or as reserves in months of imports.

Table 2
Pre-default Balancing Table, External vs Domestic Defaults

Panel A: Macroeconomic Indicators			
	External Defaults	**Domestic Defaults**	**Difference**
Ln(Aggregate Imports)	8.122	7.915	0.207
Ln(Aggregate Exports)	7.816	7.476	0.340
Trade openness	0.523	0.467	0.056
GDP growth	1.926	2.254	-0.328
Exchange rate growth	-3.748	-0.140	-3.734
Political stability	6.950	6.759	0.192
Panel B: Debt Indicators			
	External Defaults	**Domestic Defaults**	**Difference**
Debt service risk	7.811	7.612	0.198
Total reserves over external debt (%)	14.971	16.352	-1.380
Total reserves in months of imports	2.818	2.697	0.121
Short-term debt over total external debt (%)	11.355	11.878	-0.523
Total external debt per capita ($)	1,945	1,244	701**

Notes. All variables are averaged over the two years preceding default episodes, separately for external and domestic defaults. Trade openness is proxied by total trade over GDP. GDP growth is the growth of GDP in constant 2015 US$. Exchange rate growth is the growth of partner weighted real effective exchange rate. Political stability is proxied by the International Country Risk Guide government stability index. Debt service risk is proxied by the International Country Risk Guide debt service index. Differences between groups are tested using two-sample t-tests. ***p<0.01, **p<0.05, *p<0.1.

[24] We use a 2-year window consistent with the definition of default episodes in Farah-Yacoub et al. (2024) and Graf von Luckner et al. (2025).

[25] The results remain the same when comparing variables in levels.

We do, however, observe a notable difference in pre-default debt characteristics: countries that subsequently default on external debt carry significantly higher external debt per capita ($1,945$ versus $1,244$) in the years preceding default. A pre-default difference in external debt level threatens identification only if external debt affects post-default trade through a channel that does not run through the default itself. The most plausible such channel – greater trade integration among more externally indebted economies – would manifest as pre-default differences in trade openness or in the level of trade, neither of which we observe.

Taken together, the balancing tests support our identifying assumption that selection into external versus domestic default is not systematically driven by pre-default conditions. Instead, the choice of default type appears more closely related to the composition and burden of existing debt. The next section presents the results and discusses the potential mechanisms underlying our findings.

4 Baseline Panel Estimation Results

In this section, we examine the association between defaults and aggregate trade (aggregate imports in Section 4.1 and aggregate exports in Section 4.2) by estimating the baseline regression equation (Equation 1).

4.1 Aggregate Imports

Table 3 presents the results of the baseline regressions estimating the effects of sovereign defaults on aggregate imports. Columns 1-3 show the impact of *external* defaults on aggregate imports, while Columns 4-6 report the corresponding effects of *domestic* defaults. For each default type, we progressively introduce more controls across the columns to better isolate the default effects.

Column 1 of Table 3 presents the effects of external defaults on imports in a specification with no controls. The coefficient estimates show that the effect is both statistically and economically significant. On average, external defaults are associated with about a 40% decline in aggregate imports.[26] The effect persists even after 5 years from the start of the external debt restructuring process. However, this estimate seems unreasonably large, is based on a model with an extremely low fit (R^2 equals 0.01), and likely suffers from omitted variable bias.

Including country and year fixed effects, the estimated effect of external defaults on aggregate imports remains mostly significant but declines to about 9.8% (Column 2). A 9.8%

[26] We first average the estimated coefficients for external defaults over the different lags (-0.510). We then calculate the percentage effect as follows: $(e^{(-0.510)} - 1) * 100 = -39.97\%$

persistent decline in aggregate imports following external defaults seems more reasonable, but the adjusted R^2 remains very low. In Column 3, we present the estimated effect of external defaults on aggregate imports in our preferred model specification, with the entire list of controls and fixed effects. Controlling for time-varying macroeconomic factors that may drive aggregate imports in addition to time-invariant country factors and year-level global factors, the model exhibits a better fit, and the effect of external defaults on aggregate imports remains significant and persistent. On average, external defaults result in about a 10.8% decline in aggregate imports. This effect persists for at least 5 years after the initial shock, in line with the median duration of external defaults in the sample.[27] Economic activity, proxied by GDP, shows a significant positive correlation with aggregate imports, while defaults on debt owed to official creditors is associated with lower imports.

Table 3
Sovereign Defaults and Aggregate Imports

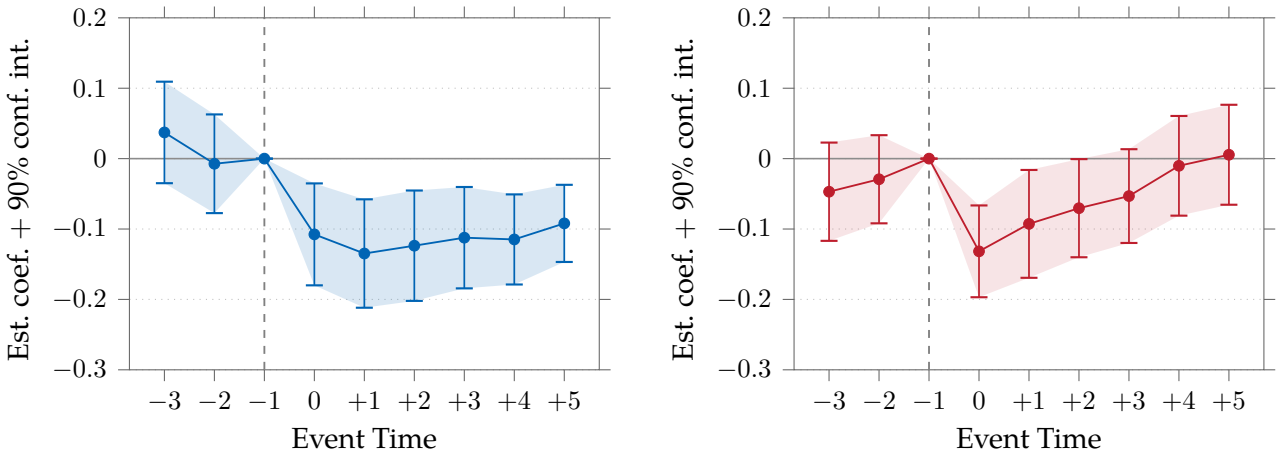
	Aggregate Imports					
	External Defaults			**Domestic Defaults**		
	(1)	(2)	**(3)**	(4)	(5)	**(6)**
Default	-0.39*	-0.11*	-0.11**	-0.46**	-0.19***	-0.13***
	(0.22)	(0.06)	(0.04)	(0.20)	(0.05)	(0.04)
Default (+1)	-0.53***	-0.13**	-0.14***	-0.41**	-0.18***	-0.09**
	(0.19)	(0.06)	(0.05)	(0.20)	(0.05)	(0.05)
Default (+2)	-0.55***	-0.12*	-0.12**	-0.31	-0.14***	-0.07
	(0.21)	(0.06)	(0.05)	(0.21)	(0.05)	(0.04)
Default (+3)	-0.61***	-0.10*	-0.11**	-0.24	-0.12**	-0.05
	(0.21)	(0.05)	(0.04)	(0.24)	(0.05)	(0.04)
Default (+4)	-0.54***	-0.10**	-0.12***	-0.06	-0.09*	-0.01
	(0.20)	(0.05)	(0.04)	(0.24)	(0.05)	(0.04)
Default (+5)	-0.45**	-0.07	-0.09***	-0.02	-0.10*	0.01
	(0.19)	(0.04)	(0.03)	(0.23)	(0.06)	(0.04)
Year FE		✓	✓		✓	✓
Country FE		✓	✓		✓	✓
Controls			✓			✓
Observations	4,362	4,362	4,362	4,362	4,362	4,362
R-squared	0.01	0.01	0.41	0.00	0.01	0.41

Notes. This table provides the OLS estimation results using Equation 1. Dependent variable is the natural log of real aggregate imports. Default is a dummy variable equal to 1 at the start of sovereign default and 0 otherwise, both for defaults on external and domestic debt. Control variables are the natural log of GDP at constant 2015 US$, the growth of the real effective exchange rate weighted by partners, the natural log of population, the natural log of real investment over GDP at constant 2015 US$, the ratio of price level of exports to the price level of imports, and a dummy equal to 1 if the country is in an official default episode and 0 otherwise. We provide the full table with point estimates in Table B1. Detailed variable definitions and data sources can be found in Table A2. We report within R-squared values. Heteroskedasticity-robust standard errors are clustered at the country level. *** p<0.01, ** p<0.05, * p<0.1.

In Column 4 of Table 3, we present the effects of domestic defaults on imports using the same model specification as in Column 1 for external defaults. The results indicate that domestic defaults are associated with an average decline of about a 22% in imports. The effect of domestic defaults on imports is much more short-lived and smaller in magnitude compared to the effect of external defaults in Column 1. As before, we then saturate the

[27] Point estimates are jointly significant after external defaults (p-value = 0.043).

model with country and year fixed effects (Column 5) as well as the entire list of controls (Column 6). Including country and year fixed effects without additional controls, the estimated effect of domestic defaults on aggregate imports shrinks in size but becomes relatively more persistent (Column 5). In our preferred model specification (Column 6), this persistence largely fades away as we control for economy-wide macroeconomic factors. These results indicate that domestic defaults are associated with about a 5.4% decline in imports, on average over the six year period.[28]



(**a**) External Defaults (**b**) Domestic Defaults

Figure 2
Dynamic effects of sovereign defaults on aggregate imports

Figure 2 illustrates the dynamic patterns and differences in the effects of external and domestic defaults on imports. Turning first to the pre-trends, and consistent with Erce et al. (2024), the macroeconomic conditions preceding external and domestic defaults differ, as reflected in statistically insignificant yet distinct trends. Focusing on post-default dynamics, the effects on aggregate imports become significant in the year of default, with a slightly larger – though statistically indistinguishable – initial decline following domestic defaults relative to external defaults. From the second year onward, however, the effects diverge markedly: the impact of external defaults on aggregate imports remains significant for at least 5 years after the onset of the restructuring, whereas the effect of domestic defaults is significant only in the year of default and the following year, becoming insignificant thereafter.

The divergence in trade effects between external and domestic defaults suggests that different channels may operate across the two types of episodes, and/or that the same channels operate with different intensities. First, domestic defaults tend to be resolved much faster than external defaults (Erce et al., 2024). As shown in Table 1, the median duration of external defaults is 5 years, compared to only 2 years for domestic defaults. Even if both types of default affect imports through similar mechanisms, differences in the duration of these

[28] Point estimates are jointly borderline significant after domestic defaults (p-value = 0.098).

channels may therefore generate sharply different aggregate outcomes over time. Second, while overall credit provision may be similarly disrupted at the onset of both types of default, international trade finance is likely to be more severely affected following external defaults. Because external defaults inherently involve foreign creditors – who may also be trading partners – access to international trade finance is plausibly more constrained than after domestic defaults, potentially reflecting reduced foreign investor confidence and reputational effects.[29]

An additional explanation for the divergence in aggregate import responses relates to differences in debt currency composition and foreign exchange availability. External debt is predominantly denominated in foreign currency, reflecting foreign creditors' desire to hedge exchange rate risk, whereas domestic debt is typically issued in local currency. As shown by Ottonello and Perez (2019), the currency denomination of sovereign debt shapes exchange-rate incentives and adjustment dynamics, as local-currency debt may provide insurance against depreciations but also creates incentives to dilute debt through inflation or depreciation. These differences can affect post-default trade dynamics through two main channels. First, external defaults are often accompanied by exchange rate depreciation, which raises the real burden of foreign currency debt and the cost of imports, thereby further compressing imports. By contrast, domestic defaults do not necessarily trigger comparable depreciation pressures.

Second, debt service following external defaults relies on the availability of foreign exchange, unlike the repayment of domestic (local currency) debt. Limited foreign exchange reserves can therefore constrain aggregate imports more severely after external defaults. While this constraint may not bind immediately – since debt repayments typically resume with some delay – the longer resolution period associated with external defaults is likely to amplify this mechanism and contribute to the persistent divergence in trade effects relative to domestic defaults. To shed further light on these mechanisms, we analyze the effects of sovereign defaults on imports across broad product categories in Section 7.1.

4.2 Aggregate Exports

Table 4 reports the baseline estimates of the effects of sovereign defaults on aggregate exports based on Equation 1. Columns 1–3 present the impact of *external* defaults on aggregate exports, while Columns 4–6 report the corresponding effects of *domestic* defaults.

Column 1 of Table 4 reports the effects of external defaults on exports using a specification without controls. The coefficient estimates indicate that, although the effect is negative, it becomes statistically significant only three years after the onset of default. The coefficients

[29] International trade finance typically involves letters of credit and export working capital loans. Amiti and Weinstein (2011) provide a detailed discussion of trade finance stages and how these relationships may break down following negative shocks. In the case of external sovereign defaults, banks in creditor countries may be less willing to accept letters of credit from defaulting countries, whereas this channel is likely less relevant after domestic defaults, unless a large share of domestic debt is held by foreign investors.

are jointly insignificant, suggesting that, on average, external defaults do not generate a substantial change in exports.[30] To address potential sources of bias, we progressively include country and year fixed effects (Column 2) and a full set of controls (Column 3). Estimates from our preferred specification (Column 3) indicate that external defaults are associated with approximately a 6% decline in exports; however, this effect remains statistically insignificant and attenuates over time.

Table 4
Sovereign Defaults and Aggregate Exports

	Aggregate Exports					
	External Defaults			**Domestic Defaults**		
	(1)	(2)	**(3)**	(4)	(5)	**(6)**
Default	-0.29	-0.08	-0.08	-0.47	-0.13**	-0.06
	(0.30)	(0.08)	(0.06)	(0.29)	(0.06)	(0.05)
Default (+1)	-0.36	-0.05	-0.07	-0.46	-0.15*	-0.04
	(0.26)	(0.08)	(0.06)	(0.30)	(0.08)	(0.06)
Default (+2)	-0.36	-0.05	-0.07	-0.33	-0.14*	-0.04
	(0.27)	(0.08)	(0.06)	(0.30)	(0.07)	(0.05)
Default (+3)	-0.45*	-0.02	-0.04	-0.27	-0.17**	-0.07
	(0.27)	(0.08)	(0.06)	(0.32)	(0.07)	(0.06)
Default (+4)	-0.39	-0.01	-0.05	-0.11	-0.16*	-0.04
	(0.25)	(0.08)	(0.06)	(0.33)	(0.08)	(0.07)
Default (+5)	-0.34	-0.02	-0.07	-0.09	-0.18**	-0.03
	(0.24)	(0.07)	(0.06)	(0.32)	(0.08)	(0.06)
Year FE		✓	✓		✓	✓
Country FE		✓	✓		✓	✓
Controls			✓			✓
Observations	4,358	4,358	4,358	4,358	4,358	4,358
R-squared	0.00	0.00	0.39	0.00	0.01	0.39

Notes. This table provides the OLS estimation results using Equation 1. Dependent variable is the natural log of real aggregate exports. Default is a dummy variable equal to 1 at the start of sovereign default and 0 otherwise, both for defaults on external and domestic debt. Control variables are the same as in Table 3. We provide the full table with point estimates in Table B2. Detailed variable definitions and data sources can be found in Table A2. We report within R-squared values. Heteroskedasticity-robust standard errors are clustered at the country level. *** p<0.01, ** p<0.05, * p<0.1.

Column 4 of Table 4 presents the effects of domestic defaults on exports using a specification without controls. Domestic defaults are associated with an average decline in exports of about 25.2%, though this effect is not statistically significant. As in Column 1, the poor fit of this specification points to a high risk of omitted variable bias. We therefore include country and year fixed effects in Column 5 and the full set of controls in Column 6. Estimates from our preferred specification (Column 6) indicate that domestic defaults are associated with an average decline of about 4.6% in exports; as in the case of external defaults, this effect is not statistically significant and fades over time. Among the controls,

[30] Point estimates are jointly insignificant both after external defaults (p-value = 0.813) and domestic defaults (p-value = 0.606).

economic activity (GDP), population, and investment are positively and significantly correlated with exports, whereas defaults on debt owed to official creditors are associated with lower exports.

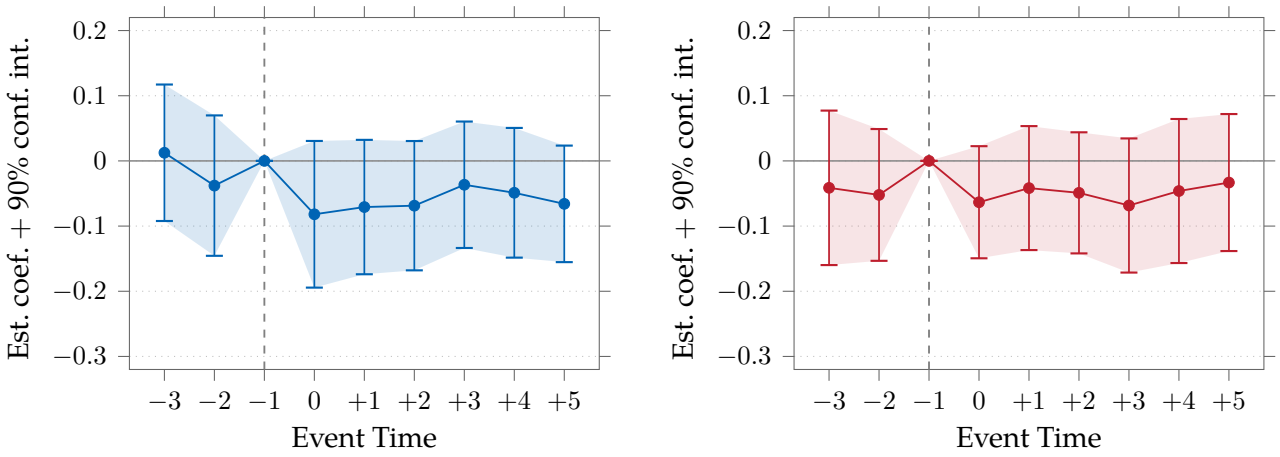
Figure 3 illustrates the dynamic patterns and differences in the effects of external and domestic defaults on exports. Turning first to the pre-trends, and consistent with Erce et al. (2024), the macroeconomic conditions preceding external and domestic defaults are similar, as reflected in statistically insignificant pre-trends. Focusing on post-default dynamics, exports decline at the onset of both external and domestic defaults, but the effects are not statistically significant in any year and gradually dissipate over time. In contrast to the persistent import compression observed after external defaults, the post-default response of exports remains muted and statistically indistinguishable across default types. The absence of a comparable export contraction should not be interpreted as evidence against the trade-finance channel. Imports, especially capital-goods imports, require domestic firms to obtain external financing to purchase foreign goods. Exports differ in several respects: exchange-rate depreciation can raise foreign demand, governments may prioritize export sectors in the allocation of scarce foreign exchange and working capital, and exporters may have better access to financing through foreign buyers, multinational networks, or trade intermediaries. These offsetting forces can weaken the observed response of exports even when external defaults reduce overall access to international credit.

These results are broadly consistent with Asonuma et al. (2025), who show that the trade effects of sovereign defaults are largely driven by changes in imports rather than exports.[31]

[31] One potential concern about the validity of our two-way fixed effect model results relates to the fact that aggregate trade outcomes are simultaneously determined by supply and demand conditions. If an exporter country defaults and simultaneously its (main) trading partners experience idiosyncratic or global shocks that reduce their demand for imports, we might falsely attribute the reduction in exports of the defaulting country to the default while it may be driven by the reduction in the demand of importers. Similarly, when an importer country defaults and simultaneously its trading partners experience idiosyncratic or global shocks that reduce their supply of goods, we might falsely attribute the reduction in imports to the default, while it may be driven by the reduction in the supply of goods by the exporting countries. To control for trading partner demand and supply, we construct a measure in the spirit of Borensztein and Panizza (2010). We construct a measure of external demand/supply shocks as follows:

$$ExternalShock_{it} = \frac{Trade_i}{GDP_i} \sum_{j=1}^{N} \phi_{ijt-1} GDPgrowth_{jt} \tag{2}$$

where $ExternalShock_{it}$ represents the external demand/supply shocks (across all trading partners, $j \in [1, N]$) to country i at time t, $\frac{Trade_i}{GDP_i}$ represents the average exports/imports of country i expressed as a share of GDP, $\phi_{ijt-1} = \frac{Trade_{ijt-1}}{Trade_{it-1}}$ is the fraction of imports of country i from trading partner j at time $t-1$ in aggregate exports/imports at $t-1$, $GDPgrowth_{jt}$ is the GDP growth of trading partner j at time t. As the coverage of bilateral trade data is smaller than aggregate trade data, in this exercise, we lose 1,315 and 1,309 observations for the analysis of aggregate imports and aggregate exports, respectively. Table B3 presents the results. Controlling for external shocks slightly reduces the difference between the trade outcomes of external and domestic defaults, but it remains significant both statistically and economically.



(**a**) External Defaults (**b**) Domestic Defaults

Figure 3
Dynamic effects of sovereign defaults on aggregate exports

The results imply that (i) sovereign defaults do not significantly affect aggregate exports in our sample, and (ii) aggregate export dynamics following external and domestic defaults are shaped either by similar transmission channels with comparable magnitudes or by distinct channels that nonetheless generate similar net effects – unlike in the case of aggregate imports. However, these aggregate findings may mask substantial heterogeneity across product categories. Post-default aggregate exports may remain stable for different underlying reasons. On the one hand, exports in some sectors may decline due to tighter credit conditions and lower production, while exports in other sectors may expand by taking advantage of default-induced currency depreciation and the resulting gains in price competitiveness. Indeed, Arellano et al. (2018) show that a rising likelihood of default can trigger a reallocation of scarce capital toward tradable sectors to support debt service, as exporters play a key role in generating foreign exchange. On the other hand, it is also possible that exports across individual product categories remain largely unaffected.

To better understand the dynamics that underlie post-default aggregate exports, we focus on the effects of sovereign defaults on broad product group-level exports in Section 7.2. The next sections first assess the robustness of our empirical findings on aggregate imports and exports.

5 Stacked Difference-in-Differences

Identifying the effects of sovereign defaults at the country-time level is challenging, irrespective of the default type. In what follows, we address two key identification concerns: the staggered timing of default episodes and potential endogeneity and omitted-variable bias.

Our baseline specification is a standard difference-in-differences framework implemented with two-way fixed effects, which compares within-country changes in trade outcomes between defaulting and non-defaulting countries before and after default episodes. Since countries experience debt crises at different points in time, the two-way fixed effects estimator may yield inconsistent estimates, partly because early-treated units may serve as inappropriate controls for later-treated units (and vice versa). To address this concern, we adopt a stacked difference-in-differences approach, similar to Cengiz et al. (2019), Deshpande and Li (2019) and Marchesi and Marcolongo (2025). This procedure ensures that each country experiencing a debt crisis (the treated) is compared only with clean controls - countries that never experience a crisis in our sample, i.e. never-treated countries.[32]

Each default defines an *experiment*. We refer to a *treated cohort* as the set of countries that experience the onset of a default in the same year. For each cohort, we consider a 9-year window around the event: 3 years prior to the default and up to 5 years afterward.[33] For each treated cohort, we then construct a control group of contemporaneous observations from countries that never experience a default. We assign these control countries the same default date as the treated group, taking the event-year dummies over the corresponding calendar years. Applying this procedure to all *experiments* produces a series of mini-datasets with treated and control observations, which we subsequently stack to estimate the following regression:

$$\begin{aligned} Y_{i,c,t} = & \sum_{k=-3,\neq -1}^{k=5} \gamma_k (Default\, in\, k\, years)_{c,k} \times Treat_i + \\ & \sum_{k=-3,\neq -1}^{k=5} \delta_k (Default\, in\, k\, years)_{c,k} + \alpha_i + \alpha_t + \boldsymbol{Z'_{i,t}\beta} + u_{i,c,t} \end{aligned} \tag{3}$$

where $Y_{i,c,t}$ is the dependent variable for country i in cohort c at time t. α_i and α_t are country and year fixed effects, respectively. $\boldsymbol{Z_{i,t}}$ contains the same control variables as in Equation 1. Additionally, we include a dummy equal to 1 if the country is in an external default episode and 0 otherwise (only in regressions with domestic defaults) and a dummy equal to 1 if the country is in a domestic default episode and 0 otherwise (only in regressions with external defaults) to control for simultaneous defaults. $u_{i,c,t}$ is the error term.

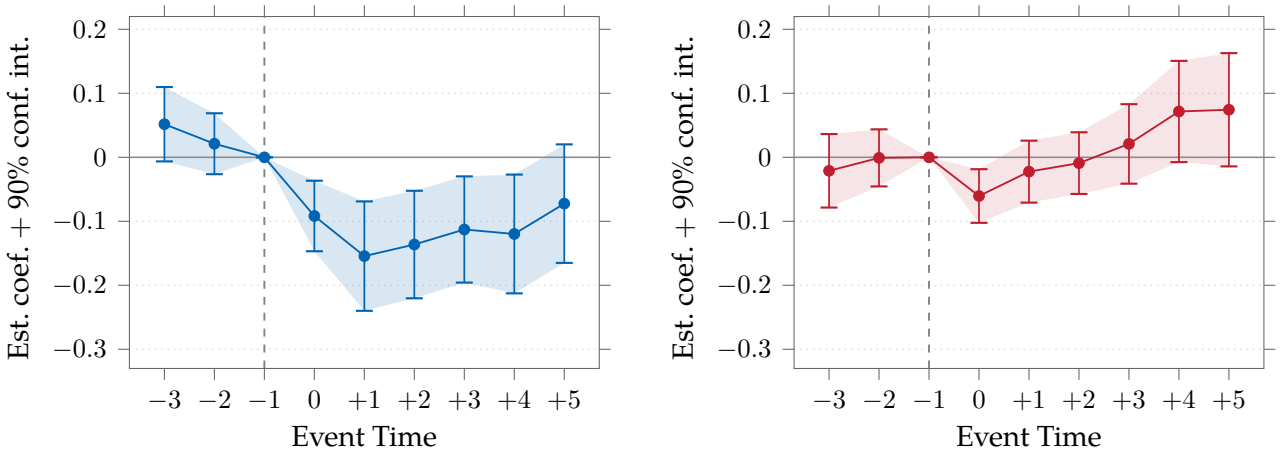
$Treat_i$ is an indicator that identifies treated countries within each cohort. $(Default\ in\ k\ years)_{c,k}$ are indicator dummies that identify the event years since the default occurred in cohort c. Coefficients γ_k identify the differential evolution of trade outcomes for countries that experience a default, while the coefficients δ_k capture the evolution of trade outcomes

[32] The stacked difference-in-differences design further ensures that the comparison group - never-treated countries - remains relatively more consistent, enabling a more credible comparison of the trade effects of external and domestic defaults.

[33] We include up to 5 years after the beginning of each crisis because the average duration of a debt crisis in our sample is approximately 5 years.

around the onset of the default for countries that do not experience a default during the same calendar period. Like before, we take γ_{-1} as the baseline.

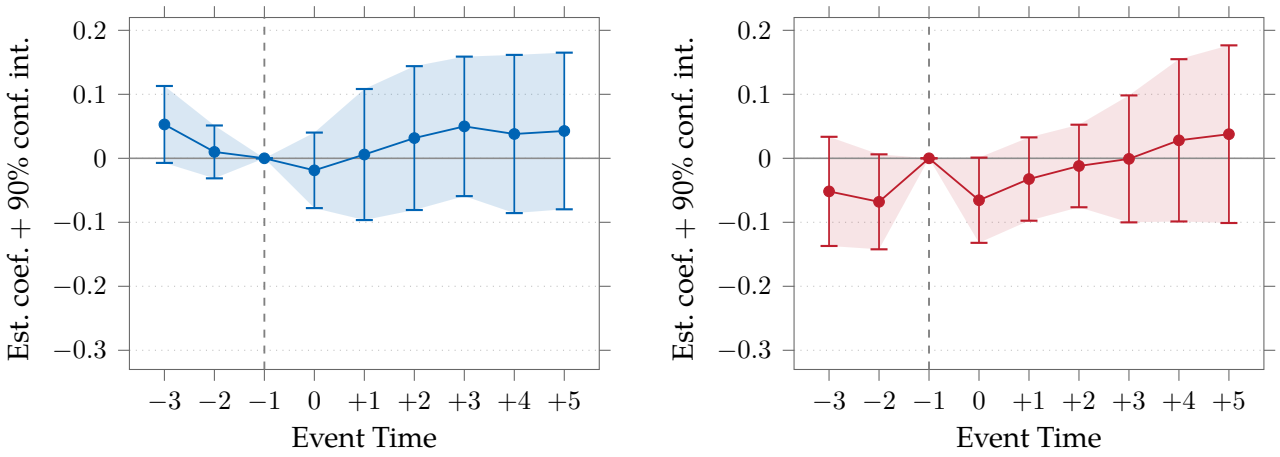
Figure 4 and Figure 5 visualize the regression results of estimating Equation 3 for aggregate imports and aggregate exports, respectively.
Estimation results using the stacked difference-in-differences design corroborate the findings from our baseline specification: external defaults are associated with a significant and persistent decline in imports. In contrast, domestic defaults are associated with a short-lived, contemporaneous decline in imports, concentrated in the year of default and not persisting thereafter. We also find no evidence of significant effects of either external or domestic default on exports. Moreover, there is no suggestion of differential pre-trends driving the results.[34]



(**a**) External Defaults (**b**) Domestic Defaults

Figure 4
Stacked difference-in-differences. Dynamic effects of sovereign defaults on aggregate imports

[34] Table B4 presents the estimated coefficients for the effects of sovereign defaults on aggregate trade using Equation 3. Columns 1 and 2 report the responses of aggregate imports to external and domestic defaults, while Columns 3 and 4 show the corresponding estimates for aggregate exports. Consistent with our baseline results, external defaults lead to a statistically significant and persistent contraction in aggregate imports, beginning in the year of default and lasting throughout the five-year horizon. In contrast, domestic defaults are associated with a significant contraction in imports only in the year of default, with no significant effects thereafter. Likewise, we find no evidence that either type of default affects aggregate exports, confirming that export performance remains largely unchanged following sovereign defaults.



(**a**) External Defaults (**b**) Domestic Defaults

Figure 5
Stacked difference-in-differences. Dynamic effects of sovereign defaults on aggregate exports

6 Robustness

This section presents a set of robustness checks for the main results. We begin with estimations that further test our identification strategy. We then turn to a series of alternative model specifications and tests for sample dependence.

6.1 Identification

Sovereign defaults are typically preceded by worsening macroeconomic conditions, which may simultaneously increase the probability of default and affect trade outcomes. If these conditions are not properly accounted for, the estimated effects may fail to isolate changes attributable solely to the defaults. Our set of country-year controls helps capture key macroeconomic dynamics and thus mitigates this risk.[35] To further address this concern, we first check whether aggregate imports are differentially affected across countries that default in good versus bad times.[36] We also use an alternative estimator, by de Chaisemartin and D'Haultfoeuille (2026), to further test the robustness of our baseline estimates.

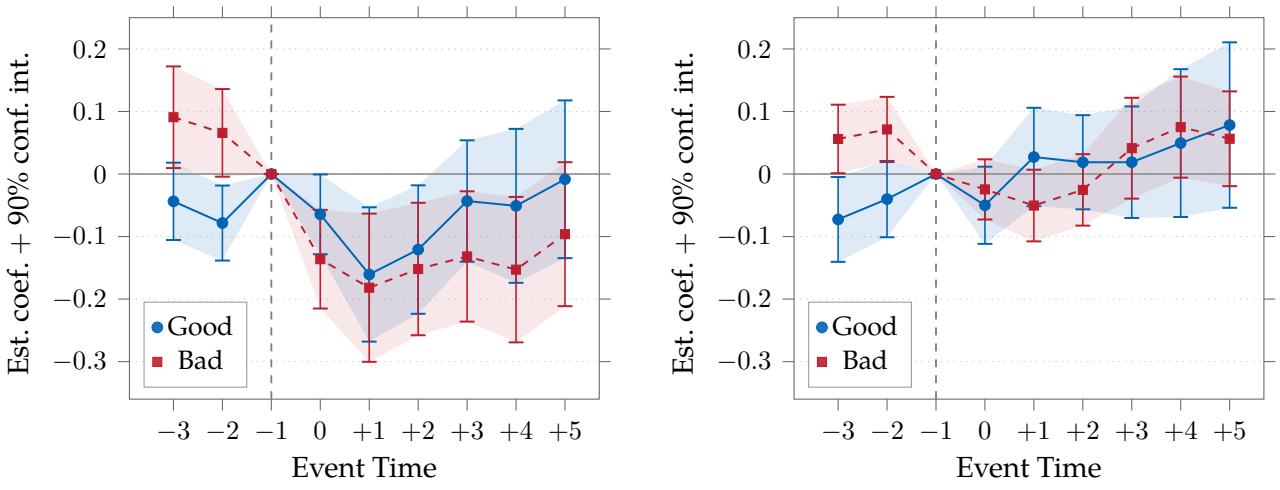
Good versus bad times. A potential concern is that the observed trade contraction following external defaults may simply reflect underlying macroeconomic downturns rather

[35]We acknowledge that part of the default's impact on trade may operate indirectly through our set of control variables - particularly through movements in the real effective exchange rate - which would attenuate the coefficients on the default dummies and yield a more conservative estimate of the overall default effect. Indeed, the choice of control variables helps us isolate some key mechanisms, such as trade finance, we prefer to focus on.

[36]In this section, we focus on aggregate imports for the sake of brevity. We find results consistent with our baseline estimates for aggregate exports.

than the default itself. To address this, we split the sample into defaults preceded by periods of either good or bad economic performance. If deteriorating economic conditions were the primary driver of import contractions, we would expect the effects to be concentrated in countries experiencing negative economic conditions prior to default. Similar to Kuvshinov and Zimmermann (2019), we define "good times" as periods in which GDP growth is on average above trend during the three years preceding default. We then estimate the import response separately for defaults occurring in good and bad times using the stacked difference-in-differences specification (Equation 3). As shown in Figure 6, imports decline following external defaults in both cases. While the contraction in aggregate imports is stronger, and the recovery is slower, when defaults occur during "bad times", a comparable decline also emerges when defaults take place during "good times". This suggests that the import response to external defaults is not simply driven by pre-existing recessions, reinforcing the interpretation that sovereign default itself plays a central role in the observed import contraction.

Alternative estimator. As a further robustness check, we complement our two-way fixed effects and stacked difference-in-differences estimates with the heterogeneity-robust estimator proposed by de Chaisemartin and D'Haultfoeuille (2026), which relaxes the assumption of homogeneous treatment effects across cohorts and time periods that may contaminate standard two-way fixed effects estimates. This estimator constructs period-by-period average treatment effects on the treated by comparing switchers, countries that change default status, against a reweighted set of comparison units, and is therefore robust to treatment effect heterogeneity even in the presence of staggered adoption.



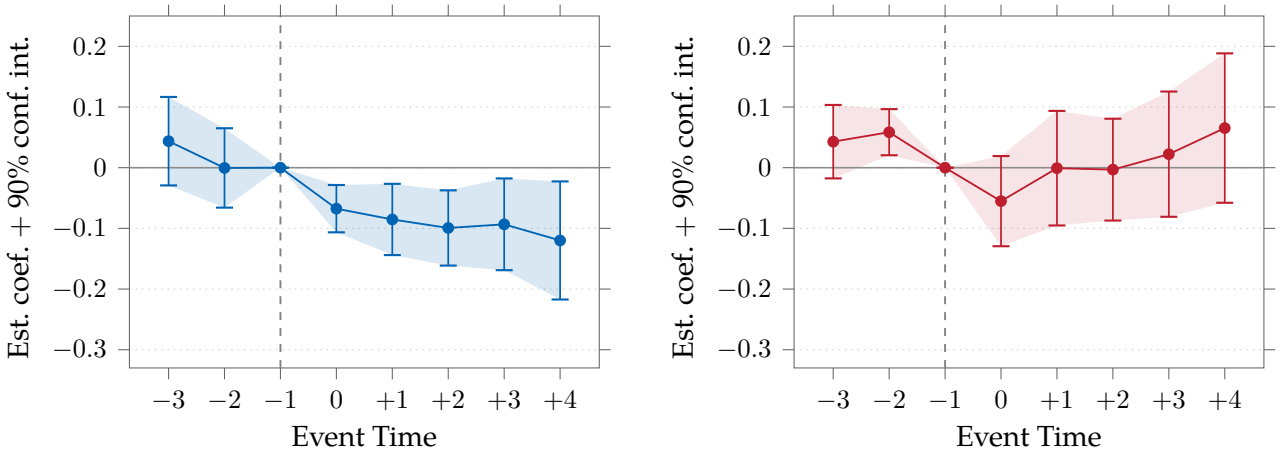
(**a**) External Defaults

(**b**) Domestic Defaults

Figure 6
Stacked difference-in-differences. Dynamic effects of sovereign defaults on aggregate imports - Good vs Bad Times

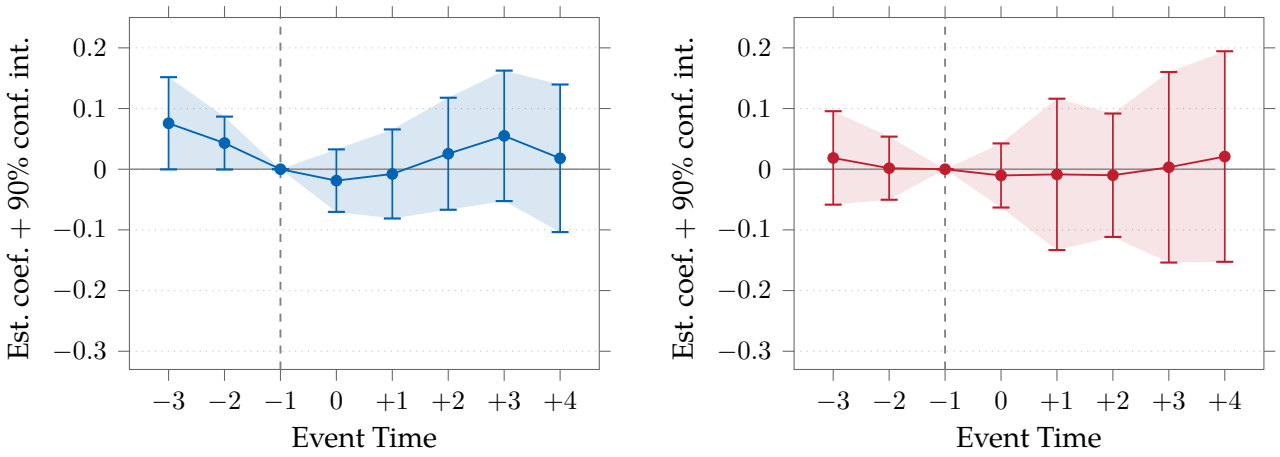
Figure 7 and Figure 8 present the resulting event study plots for aggregate imports and exports, respectively. The patterns closely mirror those obtained under the two-way fixed

effects model (Figure 2 and Figure 3) and the stacked difference-in-differences design (Figure 4 and Figure 5). For imports, external default episodes are associated with a negative and persistent decline that deepens over the post-default window, while the corresponding estimates for domestic defaults remain small and statistically indistinguishable from zero throughout. For exports, neither external nor domestic defaults produce economically meaningful or statistically significant responses. The consistency across three distinct estimation strategies – two-way fixed effects, stacked diff-in-diff and the de Chaisemartin and D'Haultfoeuille (2026) estimator – lends considerable credibility to the heterogeneous trade effects documented in the main analysis, and suggests that treatment effect heterogeneity or compositional changes in the comparison group are unlikely to be driving our findings.



(**a**) External Defaults (**b**) Domestic Defaults

Figure 7
de Chaisemartin and D'Haultfoeuille (2026) estimator. Dynamic effects of sovereign defaults on aggregate imports



(**a**) External Defaults

(**b**) Domestic Defaults

Figure 8
de Chaisemartin and D'Haultfoeuille (2026) estimator. Dynamic effects of sovereign defaults on aggregate exports

6.2 Alternative Specifications

Lagged controls. Another potential concern with our baseline specification is that contemporaneous controls may themselves be affected by the default episode, introducing post-treatment bias. To address this, we re-estimate the stacked difference-in-differences model (Equation 3) replacing all time-varying controls with their one-period lagged values to ensure that the conditioning variables are predetermined with respect to the default event. The results reported in Table C1 closely mirror the baseline findings. For aggregate imports, external defaults continue to generate a negative, statistically significant, and persistent contraction, with coefficients remaining significant through 2 years after the onset of the default and the point estimates remaining stable in magnitude. The import response to domestic defaults, by contrast, is again concentrated at the time of default and dissipates rapidly thereafter, with no significant effects beyond the initial period. The pre-treatment coefficients are small and statistically indifferent from zero across all columns, consistent with the parallel trends assumption. For aggregate exports, external defaults again exhibit no significant or systematic response. Domestic defaults are associated with a significant decline in exports in the year of default, which does not persist; we also note a marginally significant negative coefficient two years before default, though the remaining pre-treatment coefficients are small and statistically indifferent from zero.

Macro region-year fixed effects. We next augment the baseline stacked difference-in-differences specification (Equation 3) by replacing year fixed effects with macro region-year fixed effects, which absorb any time-varying shocks common to countries within the same geographical region – such as regional financial contagion, commodity price cycles, or shifts in regional trade patterns – that standard year fixed effects would not fully absorb. The results are reported in Table C2. The import response to external defaults remains negative, statistically significant, and persistent, with coefficients significant from the onset of the default through 3 years after and point estimates stable relative to the baseline. Domestic defaults again produce no significant import contraction beyond the initial period. Pre-treatment coefficients are small and insignificant throughout, and the export results remain null for both default types. The robustness of the estimates to the inclusion of macro region–year fixed effects suggests that regional common shocks are not confounding the asymmetric trade responses documented in the main analysis.

Banking and currency crises, and capital controls. Sovereign defaults often coincide with or are preceded by banking crises, currency depreciation, and/or the imposition of capital controls. Banking crises tend to reduce credit provision, which can disrupt trade generally and through reduced trade finance more specifically. Currency crises can sharply increase the cost of imports and create further trade distortions. Capital controls, which countries may impose following defaults to stem foreign exchange outflows – particularly in the case of external defaults – can themselves reduce aggregate imports by making the acquisition of foreign exchange more difficult. Each of these factors therefore raises the concern that the observed trade disruptions following defaults may be at least partially attributable to the broader financial distress that accompanies them rather than to the default event itself.

To address these concerns jointly, we augment the baseline specification with dummies for systemic banking and currency crisis episodes from Laeven and Valencia (2020) and a capital controls dummy based on Ilzetzki et al. (2019), and present the results in Table C3. Our baseline findings remain robust to the inclusion of all three additional controls.[37] Banking crises are negatively and significantly associated with aggregate imports following both external and domestic defaults, and show no significant association with exports. Currency crises are not significantly associated with either imports or exports once capital controls are included. Capital controls are negatively and significantly associated with both aggregate imports and exports, consistent with restricted access to foreign exchange.

We acknowledge two important caveats. First, while controlling for banking crises, currency crises, and capital controls helps mitigate identification concerns, it may not be sufficient to fully disentangle the effects of sovereign defaults from the broader financial distress that often accompanies them (see, e.g., Sosa-Padilla, 2018; Na et al., 2018). Second, insofar as defaults themselves might trigger banking collapses, currency depreciation, or the adoption of capital controls, these controls may act as "bad controls" (Angrist and Pischke, 2009) - inadvertently absorbing part of the default's true effect on trade and understating the overall impact.

6.3 Sample Dependence

To assess whether the baseline results are driven by a particular time period, we split the sample into two sub-periods - 1980–1995 and 1996–2019 - and re-estimate the main specification separately for each. Table D1 and Table D2 report the results for aggregate imports and exports, respectively. The asymmetric pattern between external and domestic defaults is remarkably stable across both sub-periods. For aggregate imports, external defaults produce negative and statistically significant contractions throughout the post-default window in both the early and late samples, with point estimates of comparable magnitude. Domestic defaults, by contrast, yield either marginally significant or insignificant effects that dissipate quickly, consistent with the baseline. For aggregate exports, neither external nor domestic defaults generate systematic responses in either sub-period, aside from a marginally significant contemporaneous decline after external defaults in the early sample. Taken together, the results confirm that the asymmetric trade effects of sovereign defaults are not an artifact of a specific timeframe or data vintage, and hold across meaningfully different macroeconomic environments.

[37] Comparing Table C3 with Table 3 and Table 4, the estimated coefficients for defaults are only marginally smaller once we control for banking and currency crises with capital controls, with the exception of the year-of-default coefficient for external defaults, which attenuates more noticeably.

7 Product Group-Level Trade

For the second part of our analysis, we rely on product-level data from the CEPII-BACI database, mapped into 3 basic product groups: capital goods, intermediate goods, and consumption goods.

Switching from aggregate trade data to product-level trade data shortens the study period to 1995–2019, compared to 1980–2019 in the baseline analysis.[38] In the following subsections, we first present and discuss the product-group-level import outcomes associated with external and domestic defaults (Section 7.1) and then study the effects of both types of defaults on product-group-level exports (Section 7.2). To understand heterogeneous effects across product types, we re-estimate Equation 3 separately for each category.

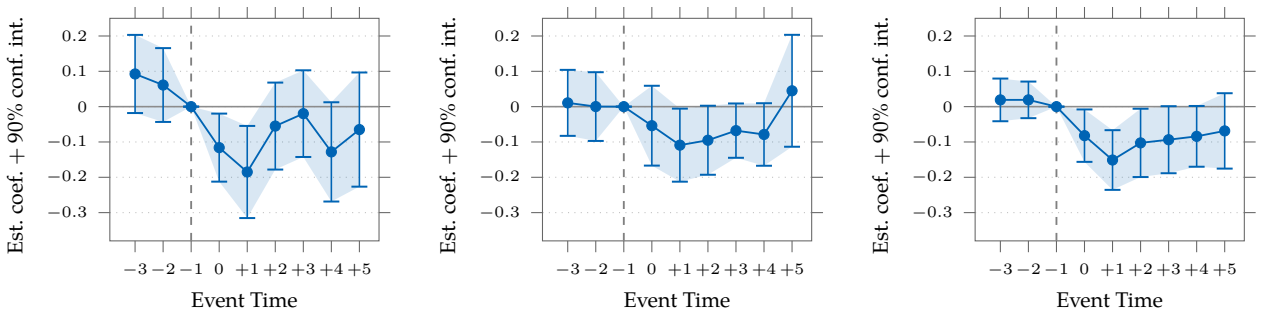
7.1 Product Group-Level Imports

In this subsection, we present the results of the estimation of Equation 3 for imports of 3 broad product categories: capital goods, intermediate goods, and consumption goods, respectively.

Capital goods. Figure 9a and Figure 10a plot the dynamic coefficients from estimating Equation 3 on capital goods imports for external and domestic defaults, respectively.[39] External defaults induce a sharp contraction in capital goods imports: imports fall by about 11% at impact and by about 17% one year after the default, with both estimates significant at the 5% level. The effect attenuates and becomes statistically indifferent from zero at conventional levels from year $+2$ onward, but the coefficients remain jointly significant at the 10% level over the five-year horizon ($p = 0.096$).

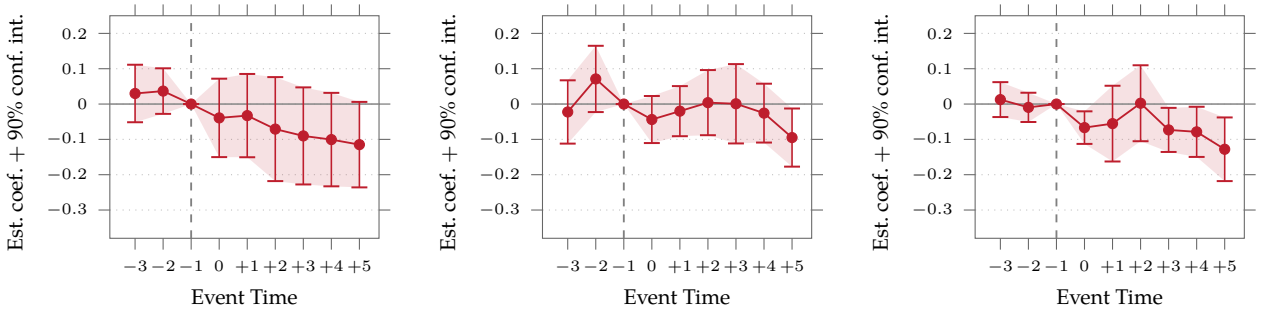
[38] Our baseline results remain robust despite this change in the study period, as shown in Table D1 and Table D2.

[39] Table B5 reports the corresponding point estimates from the regression estimating the effects of sovereign defaults on product-group-level imports.



(**a**) Capital goods (**b**) Intermediate goods (**c**) Consumption goods

Figure 9
Stacked difference-in-differences. Dynamic effects of external defaults on imports across product categories



(**a**) Capital goods (**b**) Intermediate goods (**c**) Consumption goods

Figure 10
Stacked difference-in-differences. Dynamic effects of domestic defaults on imports across product categories

The responsiveness of capital goods after external defaults has a natural rationale. Capital goods tend to be more expensive items in the import basket and typically require external financing – often in the form of medium-to-long-term trade credit – for their acquisition (e.g., Duchin et al., 2010).[40] This reliance is even more pronounced in developing countries, where domestic financial markets are less mature and access to credit is more constrained. When overall credit availability declines, firms in financially underdeveloped economies struggle to secure alternative funding sources, which can in turn lead to a contraction in investment (e.g., Fisman and Love, 2003; Campello et al., 2010). Because capital goods imports typically depend more heavily on longer-term credit than do consumption goods or intermediate inputs, they are expected to suffer disproportionately from disruptions in credit supply.

Following a domestic default, capital goods imports decline modestly over time, reaching about 11% by year +5, though this estimate is not statistically significant and the coeffi-

[40]For an extensive review of the literature on the link between finance, specifically bank lending, and investment, see Güler et al. (2021).

cients are jointly insignificant ($p = 0.828$). Comparing the two, the contraction in capital goods imports is significantly larger following external defaults than domestic defaults. One possible explanation for this disparity are differences in the availability of international lending, particularly trade finance, after external versus domestic defaults. External defaults inherently involve foreign creditors, who are often based in trading partner countries that facilitate trade financing. In this case, default signals a higher risk of non-payment in the years ahead, reducing the willingness of foreign parties to provide trade finance. In contrast, domestic defaults by definition involve domestic creditors, who are much less likely to contribute to international lending.

Intermediate goods. Figure 9b and Figure 10b display the dynamic effects of external and domestic defaults on intermediate goods imports. The literature on the trade outcomes of financial and sovereign debt crises documents marked declines in intermediate input imports during crises – for instance, Levchenko et al. (2010) for the 2008–2009 global financial crisis and Gopinath and Neiman (2014) for the 2001 Argentine default. In our aggregate sample, the analogous responses are economically modest and statistically weak. After external defaults, intermediate goods imports decline at the onset of the default, but only the year $+1$ coefficient (-10%, $p = 0.083$) attains marginal significance; point estimates revert toward zero thereafter, and the coefficients are jointly insignificant ($p = 0.524$). After domestic defaults, intermediate goods imports show essentially no response in the first four years; only at year $+5$ does a marginally significant decline of about 9% emerge ($p = 0.058$), and the coefficients are again jointly insignificant ($p = 0.272$).

Two observations follow. First, the differential between the two types of defaults is much weaker than for capital goods. Second, our aggregate estimates may mask substantial firm-level adjustment. As Gopinath and Neiman (2014) document for Argentina, defaults can affect intermediate input use primarily through firm-level substitution toward lower-quality inputs and reductions in the variety of imported intermediates rather than through aggregate volumes – margins that are not captured in our data.

Consumption goods. Finally, we examine the effects of sovereign defaults on consumption goods imports. Following external defaults, consumption goods imports decline on impact by about 8% (significant at the 10% level), reach their trough at year $+1$ at about -14% (significant at the 1% level), and continue to decline significantly at year $+2$ (-10%, $p = 0.081$); the effect then attenuates and becomes statistically indifferent from zero by year $+3$ (Figure 9c). The coefficients are jointly significant ($p = 0.029$). Domestic defaults generate a statistically significant decline of about 7% at impact ($p = 0.018$), after which the effect is volatile but with significant declines in years $+3$ ($p = 0.054$), $+4$ ($p = 0.068$), and $+5$ (-12%, $p = 0.020$, Figure 10c). The coefficients are jointly significant at the 1% level ($p = 0.005$). Although the timing of the response differs, both types of defaults reduce consumption goods imports by economically meaningful magnitudes over the five-year horizon. This makes it unlikely that the differential aggregate response of imports to external versus domestic defaults is driven by consumption goods.

Taken together, the product-level evidence supports three conclusions. First, the decline in

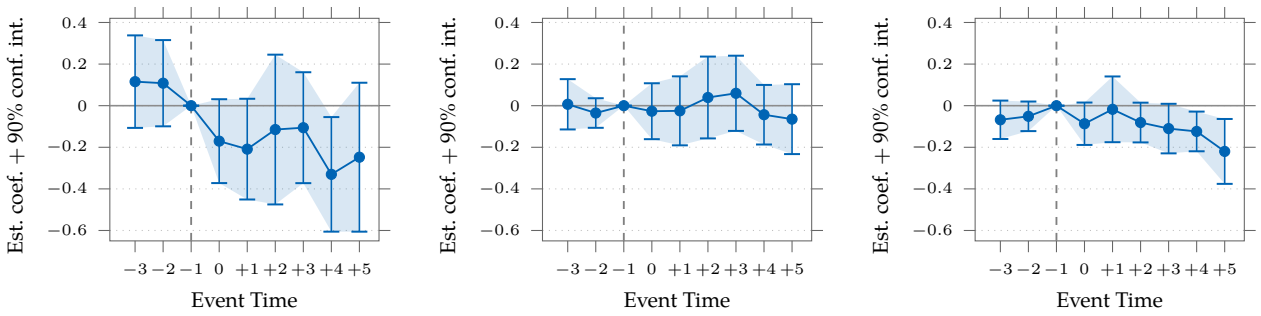
aggregate imports following external defaults is primarily driven by capital and consumption goods, with capital goods accounting for the sharpest contractions. Second, the differential aggregate response of imports to external versus domestic defaults is concentrated in capital goods, which contract significantly only after external defaults; intermediate goods imports respond weakly to either type of default, and consumption goods imports decline meaningfully under both, though with different dynamics. Third, these patterns seem consistent with the differential availability of cross-border trade finance after external versus domestic sovereign defaults: external defaults directly disrupt the foreign-creditor relationships that finance longer-duration, import-intensive transactions – of which capital goods are the prime example – while domestic defaults primarily transmit through domestic credit channels with weaker links to international trade financing.

7.2 Product Group-Level Exports

Our earlier results show that sovereign defaults – whether external or domestic – do not have a statistically significant effect on aggregate exports. Because this aggregate null could conceivably mask offsetting responses across product categories, we now examine the effects of external and domestic defaults on exports of capital goods, intermediate goods, and consumption goods separately.[41]

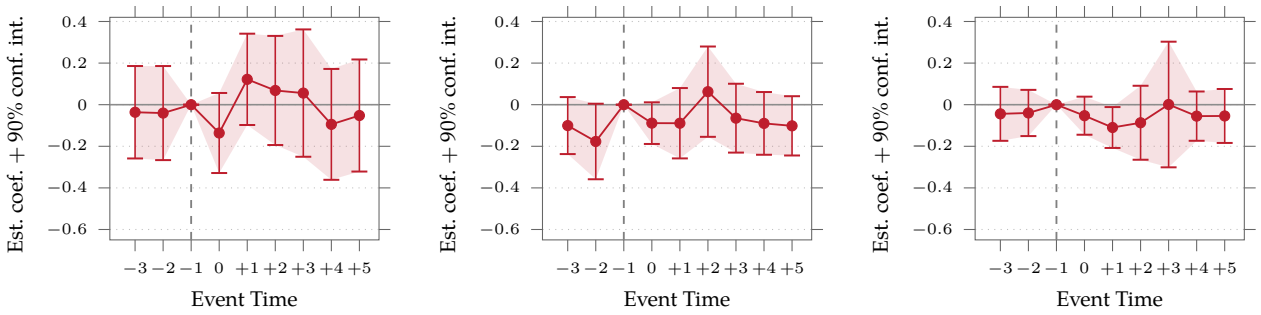
Capital goods. Figure 11a and Figure 12a display the dynamic effects of external and domestic defaults on capital goods exports. The estimates are noisy in both cases – capital goods exports are highly volatile, with standard errors substantially larger than for the other product groups – and neither type of default produces a coherent pattern of decline. After external defaults, point estimates are negative throughout the post-default window but only the year $+4$ coefficient (about -28%) attains individual significance at the 5% level; the coefficients are jointly insignificant ($p = 0.466$). After domestic defaults, point estimates oscillate around zero, no individual coefficient is significant, and the joint test indicates insignificance ($p = 0.190$). The cross-default-type comparison reveals no statistically meaningful difference in capital goods exports at any horizon.

[41] Table B6 reports the corresponding point estimates from the regression estimating the effects of sovereign defaults on product-group-level exports.



(**a**) Capital goods (**b**) Intermediate goods (**c**) Consumption goods

Figure 11
Stacked difference-in-differences. Dynamic effects of external defaults on exports across product categories



(**a**) Capital goods (**b**) Intermediate goods (**c**) Consumption goods

Figure 12
Stacked difference-in-differences. Dynamic effects of domestic defaults on exports across product categories

Intermediate goods. Figure 11b and Figure 12b display the dynamic effects of external and domestic defaults on intermediate goods exports. External defaults produce no detectable response: point estimates fluctuate around zero, no individual coefficient is significant, and the joint test is far from conventional thresholds ($p = 0.526$). Domestic defaults present a more nuanced picture: no individual coefficient is significant at conventional levels, but the post-default coefficients are jointly significant ($p = 0.009$). This joint significance reflects a small but persistent pattern of negative point estimates – on the order of -8% to -10% across most horizons – rather than a sharp response at any specific date. Importantly, the pre-default coefficients also trend negatively (about -10% at year -3 and -18% at year -2, the latter borderline at the 10% level), which raises concerns about the parallel-trends assumption and suggests that part of the post-default pattern may reflect a pre-existing decline rather than a causal effect of default. Taken at face value, the implied effects are modest in magnitude and not significantly different from the responses observed after defaults at any individual horizon.

Consumption goods. Figure 11c and Figure 12c present the dynamic effects on consumption goods exports. After external defaults, consumption goods exports show no significant change in the first three years, but the decline deepens in the medium run: coefficients at year $+4$ (about -12%, $p = 0.033$) and year $+5$ (about -20%, $p = 0.021$) are individually significant at the 5% level. The post-default coefficients are, however, jointly insignificant ($p = 0.243$), reflecting the noisy and uneven path of the point estimates. After domestic defaults, the response is broadly similar in magnitude but earlier in timing: a marginally significant decline of about 10% emerges at year $+1$ ($p = 0.067$), point estimates remain negative or near-zero across the post-default window, and the coefficients are jointly significant at the 5% level ($p = 0.028$), though no other individual coefficient is significant. The two default types thus generate consumption-goods responses of comparable economic magnitude, differing primarily in when the decline materializes; cross-default-type differences at any individual horizon are not statistically significant.

Two main conclusions emerge from the product-level evidence. First, the comparison of external and domestic defaults across all three product categories reveals no statistically significant differences in export responses at any individual horizon. Second, the product-level estimates are broadly consistent with the null effect of sovereign defaults on aggregate exports. Capital and intermediate goods exports show no robust evidence of decline, and the modest declines in consumption goods exports are not large enough to drive a statistically significant response in aggregate exports. The one estimate that might appear to challenge this conclusion – the joint significance of intermediate goods exports after domestic defaults – does not survive closer inspection, given that no individual coefficient is significant and the pre-default trends raise concerns about identification. As with imports, these aggregate patterns may mask substantial firm-level heterogeneity, which we leave for future research. In the next section, we look further into international finance channels that may help explain the differential effects of external versus domestic defaults on imports.

8 Discussion

Our aggregate trade analysis shows that external defaults are associated with a significant decline in imports, while exports remain largely unaffected. In contrast, after domestic defaults the import decline is significant only in the year of default, and exports again remain unaffected. Further disaggregation reveals that the import contraction following external defaults is primarily driven by a sharp reduction in capital goods imports, pointing to a decline in productive investment. A natural channel linking these patterns is access to international credit: tighter foreign financing conditions after external defaults may constrain countries' ability to fund both capital goods imports and investment more broadly.

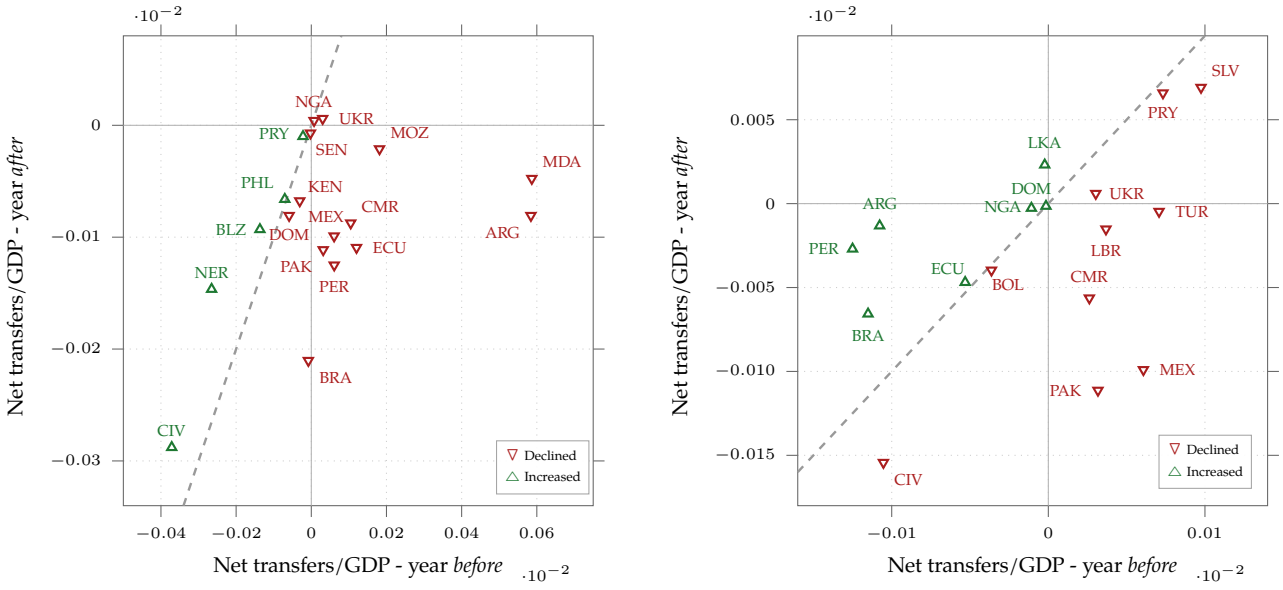
8.1 International Lending as a Transmission Channel

To explore whether disruptions in international lending to the private sector can account for the differential trade outcomes following external and domestic defaults, we examine how net transfers (i.e. net flows minus interest payments) of private non-guaranteed external debt evolve in the years surrounding each default episode. Rather than relying on regression-based estimates, we present direct descriptive evidence. Figure 13 plots the net transfers as a share of GDP in the year before the default against the net transfers in the year after, separately for external (Figure 13a) and domestic defaults (Figure 13b). Each observation is labeled with the country's ISO3 code. Points below the 45-degree dashed line indicate countries where international lending contracted following the default.

The external defaults panel reveals a strikingly systematic pattern: 14 out of 19 defaulting countries experienced a decline in net transfers to GDP in the year following the default relative to the year preceding it, and the contractions are often large in magnitude. The domestic defaults panel, by contrast, tells a different story. Only 10 out of 17 countries show a decline, the magnitudes are considerably smaller, and a number of prominent cases – including Argentina, Brazil, and Peru – actually experienced an *increase* in international lending in the aftermath of the domestic default. One possible explanation is that, after a domestic default, private borrowers may partly substitute away from impaired domestic credit and rely more on international financing.[42]

These patterns are consistent with the tightening of international credit conditions being a key channel through which external defaults affect aggregate imports. The contraction in international lending likely contributes to the decline in capital goods imports following external defaults, as access to foreign financing is crucial for the purchase of costly imported capital goods such as machinery and equipment. The contrasting evidence for domestic defaults further underscores the importance of distinguishing between default types: external defaults appear to trigger a broader breakdown in international credit relations – potentially reflecting greater creditor awareness of payment risks, heightened risk premia, or even a loss of market access – whereas such disruptions are less prominently observed after domestic defaults.

[42] A significant share of domestic public debt is held by domestic banks. As a result, domestic defaults can have substantial implications for domestic bank lending. Indeed, a large body of literature shows that sovereign defaults translate into a sharp contraction in bank credit through banks' sovereign debt holdings (see, e.g., Acharya et al., 2018).



(**a**) External Defaults (**b**) Domestic Defaults

Figure 13
Net transfers to the private sector before and after sovereign defaults.

Notes. Each label is a country ISO3 code. The horizontal axis shows net transfers of private non-guaranteed external debt as a share of GDP in the year *before* the default; the vertical axis shows the same variable in the year *after*. The dashed line is the 45-degree line; points below it indicate a decline in international lending. Red inverted triangles (▽) = lending declined; green upright triangles (△) = lending increased. External defaults: 14 declines, 5 increases; MNG excluded as an extreme outlier. Domestic defaults: 10 declines, 7 increases; JAM excluded as an outlier.

8.2 Trade Credit as a Transmission Channel

Building on the broader disruption in international credit relations, we next turn to a more granular transmission channel through which external defaults may affect trade: the supply of trade credit and export credit insurance. We exploit proprietary data on export credit insurance, provided by the Berne Union, the main international association of official bilateral, multilateral and private export credit and investment insurers. These institutions – mostly but not exclusively based in advanced economies – insure exporters against the risk of non-payment by foreign buyers. When an importing country defaults, export credit insurers are expected to withdraw or severely restrict coverage for transactions involving firms (or sometimes public sector agencies) located in the defaulting country - if they have not yet done so in the period leading up to the default.

This mechanism creates a direct link between sovereign default (risk) and trade flows. For example, when a British engineering firm exports drilling equipment to a Zambian mining contractor, it would be typically protected against non-payment by its export credit insurer (whether the official UK Export Finance or a private insurer). Following a sovereign default in Zambia, however, insurers expect a decline in future repayment capacity and suspend coverage for new business (or at least raise insurance premia, reduce tenors and/or lower country limits). As a result, British and other exporters face higher uninsured pay-

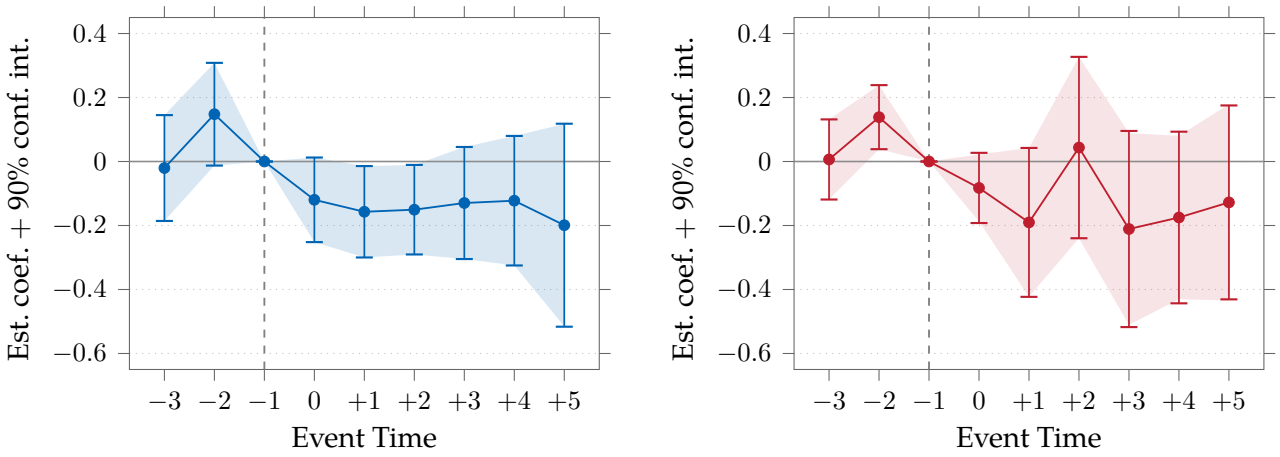
ment risk on any future transactions and are likely to cut back on sales to Zambian firms, generating a contraction in Zambian imports.

The trade-credit channel is likely to matter most for capital goods, which are predominantly produced in advanced economies and often financed through medium-to-long-term insured trade credit. When access to export credit insurance is disrupted, firms in defaulting countries may be unable to source heavy machinery and equipment even if demand remains. We therefore examine whether external defaults are associated with a sharper contraction in export credit insurance than domestic defaults, shedding further light on the mechanisms behind the asymmetric trade effects documented in our baseline results.

The Berne Union data start in 2005. We end the sample in 2019 to align with our default-episode window and because reporting coverage significantly increases from 2020 onward. Our 2005-2019 dataset encompasses annual aggregate credit limits for short-term export credit insurance (which covers credit with a repayment term of less than 360 days but can be replenished once credit is repaid), as well as new commitments of medium-to-long-term export credit insurance and direct medium-to-long-term loans. Amounts are aggregated across all reporting official export credit agencies, multilateral providers, and private institutions at the destination-country level; individual institutions cannot be identified. To mitigate potential distortions arising from changes in the composition of reporting institutions, outliers, and reporting errors, we trim country-year observations for which export credit insurance growth rates exceed the 90th percentile of the growth-rate distribution. In the analysis below, we relate short-term credit limits and medium-to-long-term new commitments of export credit insurance to external and domestic default episodes in a stacked difference-in-differences set-up.

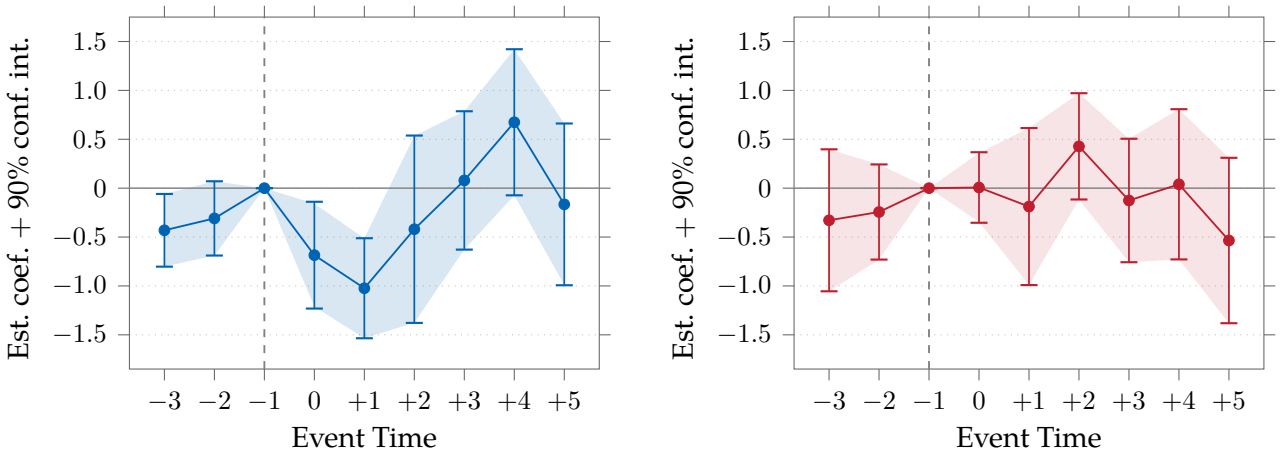
Figure 14 and Figure 15 present estimates of the response of export credit insurance to sovereign defaults, respectively for short-term and medium-to-long-term export credit insurance.[43] We find a sharp contraction in credit insurance following external defaults, while no comparable decline emerges after domestic defaults. The effect is concentrated in medium-to-long-term credit insurance (Figure 15a), particularly in the first 2 years of the default, which typically finances transactions involving capital goods and/or large investment projects. This pattern closely mirrors the sectoral trade effects documented in our baseline results, where the post-default import contraction is driven primarily by capital goods. Because medium-to-long-term export credit insurance is central to the export of products like heavy machinery, its withdrawal substantially raises payment risk for exporters and restricts the ability of firms in defaulting countries to finance the import of foreign capital goods. Our findings provide new evidence that disruptions in trade credit constitute a key transmission channel behind the asymmetric trade responses to external versus domestic sovereign defaults.

[43] We provide the full table with point estimates in Table B7.



(**a**) External Defaults (**b**) Domestic Defaults

Figure 14
Stacked difference-in-differences. Dynamic effects of sovereign defaults on short-term export credit insurance



(**a**) External Defaults (**b**) Domestic Defaults

Figure 15
Stacked difference-in-differences. Dynamic effects of sovereign defaults on medium-to-long-term export credit insurance

9 Conclusion

This paper studies the heterogeneous trade effects of sovereign defaults by comparing the evolution of trade flows following external and domestic default episodes. We find that external defaults lead to a substantial and persistent decline in aggregate imports, and that capital goods imports drive the initial contraction as well as most of the difference from domestic defaults. Moreover, the reduction in both total imports and capital goods imports is considerably stronger following external defaults than domestic defaults. Evidence from

export credit insurance data points to tighter trade finance, especially for medium-to-long-term projects, as a key mechanism underlying these asymmetric trade responses.

Our findings carry two key policy implications. First, capital goods imports are the most sensitive component of trade to sovereign default. For countries that depend heavily on imported capital goods – typically developing or least-developed economies, where defaults occur more frequently than in advanced economies – a contraction in these imports may weaken aggregate investment and growth. Because the contraction appears to operate substantially through medium-to-long-term trade finance, preserving access to export credit insurance during external debt restructurings may help cushion the decline in capital goods imports and protect investment capacity. Second, creditor composition is central to the trade costs of default: since the trade implications of external and domestic defaults differ markedly, policy responses to sovereign distress, and the design of debt restructurings, should take the type of default into account rather than treating all defaults uniformly.

Two promising avenues for future research emerge from our findings. First, understanding the broader economic implications of sovereign defaults – including whether they trigger longer-lasting changes in the industry composition of the defaulting economy – remains an important area for future research. Second, examining in greater detail the additional channels through which defaults affect trade – foreign-exchange availability, currency depreciation, and capital controls – and how they interact with the trade-finance channel, could deliver sharper and more precise policy lessons.

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Appendix

Appendix A: Descriptives, Data Sources, and Variable Definitions

Sample Countries. Our study sample includes both defaulter and never-defaulter countries. We limit the sample to developing countries only to improve comparability between defaulters and never-defaulters. The complete list of countries in the baseline sample is as follows:

Albania, Algeria, Angola, Antigua and Barbuda, Argentina, Armenia, Aruba, Azerbaijan, Bahamas, Bahrain, Bangladesh, Barbados, Belarus, Belize, Benin, Bhutan, Bolivia, Botswana, Brazil, Brunei Darussalam, Bulgaria, Burkina Faso, Burundi, Cabo Verde, Cambodia, Cameroon, Central African Republic, Chad, Chile, China, Colombia, Comoros, Democratic Republic of Congo, Congo Republic, Costa Rica, Cote d'Ivoire, Djibouti, Dominica, Dominican Republic, Ecuador, Egypt, El Salvador, Equatorial Guinea, Eswatini, Ethiopia, Fiji, Gabon, Gambia, Georgia, Ghana, Grenada, Guatemala, Guinea, Guinea-Bissau, Guyana, Haiti, Honduras, Hungary, Indonesia, Iran, Jamaica, Jordan, Kazakhstan, Kenya, Kuwait, Kyrgyz Republic, Lao PDR, Lebanon, Lesotho, Liberia, Madagascar, Malawi, Malaysia, Maldives, Mali, Mauritania, Mauritius, Mexico, Moldova, Mongolia, Montenegro, Morocco, Mozambique, Myanmar, Namibia, Nepal, Nicaragua, Niger, Nigeria, Oman, Pakistan, Panama, Paraguay, Peru, Philippines, Poland, Qatar, Romania, Russian Federation, Rwanda, Sao Tome and Principe, Saudi Arabia, Senegal, Seychelles, Sierra Leone, South Africa, Sri Lanka, St. Kitts and Nevis, St. Lucia, St. Vincent and Grenadines, Sudan, Suriname, Syria, Tajikistan, Tanzania, Thailand, Togo, Trinidad and Tobago, Tunisia, Turkey, Turkmenistan, Uganda, Ukraine, United Arab Emirates, Uruguay, Uzbekistan, Vietnam, and Zambia.

Debt Restructuring Events. Table A1 provides the list of debt restructuring events by default types. The list is limited to the events included in the study sample. For an exhaustive list of external debt restructuring events, see Asonuma and Trebesch (2016) and Horn et al. (2022). See Erce et al. (2022) for an exhaustive list of domestic debt restructuring events.

Table A1
Debt Restructuring Episodes

	Debt Restructuring Type	
Country Name	**External Defaults**	**Domestic Defaults**
Algeria	1990-1996	
Angola		2010
Antigua and Barbuda		1998-2004, 2008-2010
Argentina	1982-1993, 2001-2005, 2019	1989-1990, 2001-2016
Barbados	2018-2019	2018-2019
Belize	2006-2007, 2012-2013, 2016-2017	
Bolivia		1982-1985
Brazil	1982-1994	1986-1987, 1990-1991, 1993-1996
Cameroon	1985-2003	1993-1998, 2001-2005
Cape Verde		1998-2004, 2018-2019
Central African Republic		1992-2017
Chad	2014-2018	
Chile	1983-1987	
Congo Dem. Rep.		1997-2005
Congo Rep.	1983-2007, 2018-2019	1992-2005
Costa Rica	1981-1990	
Cote d'Ivoire	1983-1998	1989-1997, 2001-2002, 2011-2015
Dominica	2003-2004	2003-2004
Dominican Rep.	1982-1994, 2004-2005	1996-2002
Ecuador	1982-1995, 1999-2000, 2008-2009	1997-2000
El Salvador		2017
Gabon	1986-1987	1997-1999, 2001-2004
Gambia	1984-1988, 2018	2017
Grenada	2004-2005, 2013-2015, 2019	2004-2005, 2013-2017
Guinea	1991-1998	
Guyana	1982-1999	
Honduras	1981-2001	
Jamaica		2010, 2013
Jordan	1989-1993	
Kenya	1992-1998	
Kuwait		1990-1991
Liberia		1989-2007, 2016-2019
Madagascar	1981-1990	2002
Malawi	1982-1983, 1987-1988	
Mali		2011-2013
Mauritania	1992-1996	
Mexico	1982-1990	1982
Moldova	2001-2004	
Mongolia	2017	1997-2001
Mozambique	2007, 2015-2019	
Nicaragua		1994-1996, 1999, 2003-2004, 2008
Niger	1983-1991	
Nigeria	1982-1991	1995-1996
Pakistan	1998-1999	1998-2000
Panama	1984-1996	1988-1990, 1998
Paraguay	1986-1993	2002-2005
Peru	1983-1997	1985-1986, 1992-2017
Philippines	1983-1992	
Rwanda		1989-1990, 1994-2006
Senegal	1981-1985, 1990-1996	
Seychelles	2008-2010	2010
South Africa	1985-1989, 1992-1993	
Sri Lanka		1996
St. Kitts and Nevis	2011-2012	2011-2015
Tanzania	1981-2004	
Togo	1987-1988, 1991-1997	
Trinidad and Tobago	1988-1989	
Turkey		1999
Ukraine	1998-2000, 2015-2016	1998
Uruguay	1983-1991, 2003	2002-2003

Notes. This table only includes the restructuring events that are covered by our sample. The sources for external debt restructuring events are Asonuma and Trebesch (2016) and Horn et al. (2022). The source for domestic debt restructuring events is Erce et al. (2022). These papers provide an exhaustive list of external and domestic debt restructuring events, respectively. Following Graf von Luckner et al. (2025) and Farah-Yacoub et al. (2024), we treat restructuring events that happen within 2 years (24 months whenever information on months is available) of a restructuring as part of the same restructuring episode, extending the duration of a single restructuring episode.

Table A2
Variables, Definitions, and Data Sources

Variable	Definition	Source
Panel A: Outcome variables		
Aggregate Imports	Natural log of real imports (deflated by 2015 US GDP deflator)	UN Comtrade
Aggregate Exports	Natural log of real exports (deflated by 2015 US GDP deflator)	UN Comtrade
Product-level Imports	Natural log of real capital, intermediate, and consumption goods imports	CEPII:BACI
Product-level Exports	Natural log of real capital, intermediate, and consumption goods exports	CEPII:BACI
Export credit insurance	Short-, medium-, and long-term export credit insurance provided by export credit agencies, multilaterals, and private entities	Berne Union
Net Transfers	Net transfers of private non-guaranteed external debt	WB IDS
Panel B: Variables of Interest		
External Default Dummy	Equals to 1 at the starting year of the sovereign default or debt restructuring on external debt and 0 otherwise	Asonuma and Trebesch (2016) & Horn et al. (2022)
Domestic Default Dummy	Equals to 1 at the starting year of the sovereign default or debt restructuring on domestic debt and 0 otherwise	Erce et al. (2022)
Panel C: Controls		
Real GDP	GDP constant at 2015 US$	WDI
Real Exchange Rate	Real effective partner weighted exchange rate	IMF IFS
Population	The number of residents in a country	WDI
External Default Duration	Equals to 1 for the duration of the sovereign default or debt restructuring on external debt and 0 otherwise	Asonuma and Trebesch (2016) & Horn et al. (2022)
Domestic Default Duration	Equals to 1 for the duration of the sovereign default or debt restructuring on domestic debt and 0 otherwise	Erce et al. (2022)
Official Default Duration	Equals to 1 for the duration of the sovereign default or debt restructuring on official debt and 0 otherwise	Cheng et al. (2019) & Horn et al. (2022)
Investment	Natural log of gross fixed capital formation over GDP	Feenstra et al. (2015) &
Export Price Index	An index that proxies export prices for each country	Feenstra et al. (2015) & PENN World Tables
Import Price Index	An index that proxies import prices for each country	Feenstra et al. (2015) & PENN World Tables
Terms of Trade	The ratio of export price index to the import price index	Feenstra et al. (2015) & PENN World Tables
Banking Crisis Dummy	Equals to 1 if the country is in a banking crisis episode and 0 otherwise	Laeven and Valencia (2020)
Currency Crisis Dummy	Equals to 1 if the country is in a currency crisis episode and 0 otherwise	Laeven and Valencia (2020)
Capital Control Dummy	Equals to 1 if the country imposes capital controls and 0 otherwise	Ilzetzki et al. (2019)
External Supply Shocks	An index which proxies the external supply shocks (across all trading partners) to a defaulting country and is calculated as: $ExternalSupplyShock_{it} = \frac{IMP_i}{GDP_i}\sum_{j=1}^{N}\phi_{ijt-1}GDPgrowth_{jt}$ where $\phi_{ijt-1} = \frac{IMP_{ijt-1}}{IMP_{it-1}}$	UN Comtrade & WDI
External Demand Shocks	An index which proxies the external demand shocks (across all trading partners) for a defaulting country and is calculated as: $ExternalDemandShock_{it} = \frac{EXP_i}{GDP_i}\sum_{j=1}^{N}\psi_{ijt-1}GDPgrowth_{jt}$ where $\psi_{ijt-1} = \frac{EXP_{ijt-1}}{EXP_{it-1}}$	UN Comtrade & WDI

Notes. WDI is the World Development Indicators. WB IDS stands for World Bank International Debt Statistics. IMF IFS stands for International Monetary Fund International Finance Statistics. UN Comtrade stands for United Nations Commodity Trade Statistics database.

Appendix B: Additional Tables

Table B1
Extended Results: Sovereign Defaults and Aggregate Imports

	Aggregate Imports					
	External Defaults			Domestic Defaults		
	(1)	(2)	**(3)**	(4)	(5)	**(6)**
Default	-0.39*	-0.11*	-0.11**	-0.46**	-0.19***	-0.13***
	(0.22)	(0.06)	(0.04)	(0.20)	(0.05)	(0.04)
Default (+1)	-0.53***	-0.13**	-0.14***	-0.41**	-0.18***	-0.09**
	(0.19)	(0.06)	(0.05)	(0.20)	(0.05)	(0.05)
Default (+2)	-0.55***	-0.12*	-0.12**	-0.31	-0.14***	-0.07
	(0.21)	(0.06)	(0.05)	(0.21)	(0.05)	(0.04)
Default (+3)	-0.61***	-0.10*	-0.11**	-0.24	-0.12**	-0.05
	(0.21)	(0.05)	(0.04)	(0.24)	(0.05)	(0.04)
Default (+4)	-0.54***	-0.10**	-0.12***	-0.06	-0.09*	-0.01
	(0.20)	(0.05)	(0.04)	(0.24)	(0.05)	(0.04)
Default (+5)	-0.45**	-0.07	-0.09***	-0.02	-0.10*	0.01
	(0.19)	(0.04)	(0.03)	(0.23)	(0.06)	(0.04)
GDP			0.86***			0.85***
			(0.09)			(0.09)
Exchange rate			0.01			0.01
			(0.00)			(0.00)
Population			0.24			0.26
			(0.17)			(0.17)
Inv/GDP			0.46			0.45
			(0.29)			(0.29)
Terms of trade			-0.21			-0.18
			(0.26)			(0.26)
Official default			-0.11***			-0.13***
			(0.04)			(0.04)
Year FE		✓	✓		✓	✓
Country FE		✓	✓		✓	✓
Controls			✓			✓
Observations	4,362	4,362	4,362	4,362	4,362	4,362
R-squared	0.01	0.01	0.41	0.00	0.01	0.41

Notes. Dependent variable is the natural log of aggregate imports at constant 2015 US$. Default is a dummy variable equal to 1 at the start of sovereign default and 0 otherwise, both for defaults on external and domestic debt. We report within R-squared values. Detailed variable definitions and data sources can be found in Table A2. Heteroskedasticity-robust standard errors are clustered at the country level. *** p<0.01, ** p<0.05, * p<0.1.

Table B2
Extended Results: Sovereign Defaults and Aggregate Exports

	Aggregate Exports					
	External Defaults			Domestic Defaults		
	(1)	(2)	**(3)**	(4)	(5)	**(6)**
Default	-0.29	-0.08	-0.08	-0.47	-0.13**	-0.06
	(0.30)	(0.08)	(0.06)	(0.29)	(0.06)	(0.05)
Default (+1)	-0.36	-0.05	-0.07	-0.46	-0.15*	-0.04
	(0.26)	(0.08)	(0.06)	(0.30)	(0.08)	(0.06)
Default (+2)	-0.36	-0.05	-0.07	-0.33	-0.14*	-0.04
	(0.27)	(0.08)	(0.06)	(0.30)	(0.07)	(0.05)
Default (+3)	-0.45*	-0.02	-0.04	-0.27	-0.17**	-0.07
	(0.27)	(0.08)	(0.06)	(0.32)	(0.07)	(0.06)
Default (+4)	-0.39	-0.01	-0.05	-0.11	-0.16*	-0.04
	(0.25)	(0.08)	(0.06)	(0.33)	(0.08)	(0.07)
Default (+5)	-0.34	-0.02	-0.07	-0.09	-0.18**	-0.03
	(0.24)	(0.07)	(0.06)	(0.32)	(0.08)	(0.06)
GDP			1.26***			1.26***
			(0.12)			(0.11)
Exchange rate			0.02***			0.02***
			(0.00)			(0.00)
Population			0.45*			0.45*
			(0.24)			(0.24)
Inv/GDP			0.29**			0.28**
			(0.14)			(0.14)
Terms of trade			-0.93**			-0.92**
			(0.44)			(0.43)
Official default			-0.11*			-0.12**
			(0.06)			(0.06)
Year FE		✓	✓		✓	✓
Country FE		✓	✓		✓	✓
Controls			✓			✓
Observations	4,358	4,358	4,358	4,358	4,358	4,358
R-squared	0.00	0.00	0.39	0.00	0.01	0.39

Notes. Dependent variable is the natural log of aggregate exports at constant 2015 US$. Default is a dummy variable equal to 1 at the start of sovereign default and 0 otherwise, both for defaults on external and domestic debt. Control variables are the same as in Table 4. Detailed variable definitions and data sources can be found in Table A2. We report within R-squared values. Heteroskedasticity-robust standard errors are clustered at the country level. *** p<0.01, ** p<0.05, * p<0.1.

Table B3
Sovereign Defaults and Aggregate Trade: External Shocks

	Aggregate Imports		Aggregate Exports	
	External Defaults	**Domestic Defaults**	**External Defaults**	**Domestic Defaults**
	(1)	(2)	(3)	(4)
Default	-0.09**	-0.08**	0.11	-0.04
	(0.04)	(0.03)	(0.08)	(0.06)
Default (+1)	-0.15***	-0.08*	0.06	-0.05
	(0.05)	(0.04)	(0.08)	(0.07)
Default (+2)	-0.11**	-0.06	-0.00	-0.04
	(0.05)	(0.04)	(0.06)	(0.07)
Default (+3)	-0.14***	-0.06*	-0.01	-0.09
	(0.04)	(0.04)	(0.05)	(0.06)
Default (+4)	-0.11**	-0.02	-0.04	-0.09
	(0.05)	(0.04)	(0.06)	(0.05)
Default (+5)	-0.10**	-0.01	-0.06	-0.08
	(0.04)	(0.03)	(0.06)	(0.05)
External supply shocks	0.02***	0.02***		
	(0.01)	(0.01)		
External demand shocks			0.02	0.02
			(0.02)	(0.02)
Baseline Controls	✓	✓	✓	✓
Year FE	✓	✓	✓	✓
Country FE	✓	✓	✓	✓
Observations	3,047	3,047	3,047	3,047
R-squared	0.38	0.37	0.35	0.35

Notes. The dependent variable is the natural log of aggregate imports at constant 2015 US$ in Columns 1 and 2, and the natural log of aggregate exports at constant 2015 US$ in Columns 3 and 4. Default is a dummy variable equal to 1 at the start of sovereign default and 0 otherwise, both for defaults on external and domestic debt. Baseline controls are the same as in Table 3. External supply shocks are calculated using the following formula: $ExternalSupplyShock_{it} = \frac{IMP_i}{GDP_i} \sum_{j=1}^{N} \phi_{ijt-1} GDPgrowth_{jt}$ where $ExternalSupplyShock_{it}$ represents the external supply shocks (across all trading partners, $j \in [1, N]$) to country i at time t, $\frac{IMP_i}{GDP_i}$ represents the average imports of country i expressed as a share of GDP, $\phi_{ijt-1} = \frac{IMP_{ijt-1}}{IMP_{it-1}}$ is the fraction of imports of country i from trading partner j at time $t-1$ in total imports at $t-1$, $GDPgrowth_{jt}$ is the GDP growth of trading partner j at time t. External demand shocks are calculated using the following formula: $ExternalDemandShock_{it} = \frac{EXP_i}{GDP_i} \sum_{j=1}^{N} \psi_{ijt-1} GDPgrowth_{jt}$ where $ExternalDemandShock_{it}$ represents the external demand shocks (across all trading partners, $j \in [1, N]$) to country i at time t, $\frac{EXP_i}{GDP_i}$ represents the average exports of country i expressed as a share of GDP, $\psi_{ijt-1} = \frac{EXP_{ijt-1}}{EXP_{it-1}}$ is the fraction of exports of country i to trading partner j at time $t-1$ in total exports at $t-1$, $GDPgrowth_{jt}$ is the GDP growth of trading partner j at time t. Detailed variable definitions and data sources can be found in Table A2. We report within R-squared values. Heteroskedasticity-robust standard errors are clustered at the country level. *** p<0.01, ** p<0.05, * p<0.1.

Table B4
Sovereign Defaults and Aggregate Trade

	Aggregate Imports		Aggregate Exports	
	External Defaults	Domestic Defaults	External Defaults	Domestic Defaults
	(1)	(2)	(3)	(4)
Default (-3)	0.05	-0.02	0.05	-0.05
	(0.04)	(0.03)	(0.04)	(0.05)
Default (-2)	0.02	0.00	0.01	-0.07
	(0.03)	(0.03)	(0.03)	(0.05)
Default	-0.09***	-0.06**	-0.02	-0.07
	(0.03)	(0.03)	(0.04)	(0.04)
Default (+1)	-0.15***	-0.02	0.01	-0.03
	(0.05)	(0.03)	(0.06)	(0.04)
Default (+2)	-0.14***	-0.01	0.03	-0.01
	(0.05)	(0.03)	(0.07)	(0.04)
Default (+3)	-0.11**	0.02	0.05	-0.00
	(0.05)	(0.04)	(0.07)	(0.06)
Default (+4)	-0.12**	0.07	0.04	0.03
	(0.06)	(0.05)	(0.08)	(0.08)
Default (+5)	-0.07	0.08	0.04	0.04
	(0.06)	(0.05)	(0.07)	(0.08)
Controls	✓	✓	✓	✓
Year FE	✓	✓	✓	✓
Country FE	✓	✓	✓	✓
Cohort FE	✓	✓	✓	✓
Observations	10,108	11,464	10,108	11,463
R-squared	0.50	0.48	0.50	0.48

Notes. Stacked difference-in-differences. Dependent variable is the natural log of aggregate imports at constant 2015 US$ (Columns 1–2) and the natural log of aggregate exports at constant 2015 US$ (Columns 3–4). Default is a dummy variable equal to 1 at the start of sovereign default and 0 otherwise, both for defaults on external and domestic debt. Baseline controls are the same as in Table 3. Domestic default is a dummy equal to 1 if the country is in a domestic default episode and 0 otherwise (included only in external default regressions). External default is a dummy equal to 1 if the country is in an external default episode and 0 otherwise (included only in domestic default regressions). Each cohort includes 3-years of pre-default and 5-years of post-default data for each country in the cohort. Default (-1) acts as the reference year. Detailed variable definitions and data sources can be found in Table A2. We report within R-squared values. Heteroskedasticity-robust standard errors are clustered at the country level. *** p<0.01, ** p<0.05, * p<0.1.

Table B5
Sovereign Defaults and Product-Group-Level Imports

	Capital Goods		Intermediate Inputs		Consumption Goods	
	External	Domestic	External	Domestic	External	Domestic
	(1)	(2)	(3)	(4)	(5)	(6)
Default (-3)	0.09	0.03	0.01	-0.02	0.02	0.01
	(0.07)	(0.05)	(0.06)	(0.05)	(0.04)	(0.03)
Default (-2)	0.06	0.04	0.00	0.07	0.02	-0.01
	(0.06)	(0.04)	(0.06)	(0.06)	(0.03)	(0.02)
Default	-0.12**	-0.04	-0.05	-0.04	-0.08*	-0.07**
	(0.06)	(0.07)	(0.07)	(0.04)	(0.04)	(0.03)
Default (+1)	-0.18**	-0.03	-0.11*	-0.02	-0.15***	-0.06
	(0.08)	(0.07)	(0.06)	(0.04)	(0.05)	(0.06)
Default (+2)	-0.06	-0.07	-0.10	0.00	-0.10*	0.00
	(0.07)	(0.09)	(0.06)	(0.06)	(0.06)	(0.06)
Default (+3)	-0.02	-0.09	-0.07	0.00	-0.09	-0.07*
	(0.07)	(0.08)	(0.05)	(0.07)	(0.06)	(0.04)
Default (+4)	-0.13	-0.10	-0.08	-0.03	-0.08	-0.08*
	(0.08)	(0.08)	(0.05)	(0.05)	(0.05)	(0.04)
Default (+5)	-0.06	-0.11	0.04	-0.09*	-0.07	-0.13**
	(0.10)	(0.07)	(0.10)	(0.05)	(0.06)	(0.05)
Controls	✓	✓	✓	✓	✓	✓
Year FE	✓	✓	✓	✓	✓	✓
Country FE	✓	✓	✓	✓	✓	✓
Cohort FE	✓	✓	✓	✓	✓	✓
Observations	12,290	11,752	12,290	11,752	12,290	11,752
R-squared	0.23	0.21	0.26	0.23	0.29	0.26

Notes. Stacked difference-in-differences. Dependent variable is the natural log of capital goods' imports (Columns 1-2), intermediate inputs' imports (Columns 3-4), and consumption goods' imports (Columns 5-6). Default is a dummy variable equal to 1 at the start of debt restructuring and 0 otherwise, both for defaults on external and domestic debt. Default (-1) acts as the reference category. Controls are the same as in Table 3. In addition to baseline controls, we include a dummy equal to 1 if the country is in an external default episode and 0 otherwise (only in regressions with domestic defaults) and a dummy equal to 1 if the country is in a domestic default episode and 0 otherwise (only in regressions with external defaults) to control for simultaneous defaults. Default (-1) acts as the reference year. Time period is from 1995 to 2019. Detailed variable definitions and data sources can be found in Table A2. We report within R-squared values. Heteroskedasticity-robust standard errors are clustered at the country level. *** p<0.01, ** p<0.05, * p<0.1.

Table B6
Sovereign Defaults and Product-Group-Level Exports

	Capital Goods		Intermediate Inputs		Consumption Goods	
	External	Domestic	External	Domestic	External	Domestic
	(1)	(2)	(3)	(4)	(5)	(6)
Default (-3)	0.12	-0.04	0.01	-0.10	-0.07	-0.04
	(0.13)	(0.13)	(0.07)	(0.08)	(0.06)	(0.08)
Default (-2)	0.11	-0.04	-0.04	-0.18	-0.05	-0.04
	(0.12)	(0.14)	(0.04)	(0.11)	(0.04)	(0.07)
Default	-0.17	-0.14	-0.03	-0.09	-0.09	-0.05
	(0.12)	(0.12)	(0.08)	(0.06)	(0.06)	(0.06)
Default (+1)	-0.21	0.12	-0.02	-0.09	-0.02	-0.11*
	(0.15)	(0.13)	(0.10)	(0.10)	(0.10)	(0.06)
Default (+2)	-0.11	0.07	0.04	0.06	-0.08	-0.09
	(0.22)	(0.16)	(0.12)	(0.13)	(0.06)	(0.11)
Default (+3)	-0.11	0.06	0.06	-0.06	-0.11	0.00
	(0.16)	(0.18)	(0.11)	(0.10)	(0.07)	(0.18)
Default (+4)	-0.33**	-0.09	-0.04	-0.09	-0.12**	-0.06
	(0.17)	(0.16)	(0.09)	(0.09)	(0.06)	(0.07)
Default (+5)	-0.25	-0.05	-0.06	-0.10	-0.22**	-0.05
	(0.22)	(0.16)	(0.10)	(0.09)	(0.09)	(0.08)
Controls	✓	✓	✓	✓	✓	✓
Year FE	✓	✓	✓	✓	✓	✓
Country FE	✓	✓	✓	✓	✓	✓
Cohort FE	✓	✓	✓	✓	✓	✓
Observations	12,290	11,752	12,290	11,752	12,290	11,752
R-squared	0.14	0.11	0.31	0.27	0.11	0.09

Notes. Stacked difference-in-differences. Dependent variable is the natural log of capital goods' exports (Columns 1-2), intermediate inputs' exports (Columns 3-4), and consumption goods' exports (Columns 5-6). Default is a dummy variable equal to 1 at the start of debt restructuring and 0 otherwise, both for defaults on external and domestic debt. Default (-1) acts as the reference category. Controls are the same as in Table 4. In addition to baseline controls, we include a dummy equal to 1 if the country is in an external default episode and 0 otherwise (only in regressions with domestic defaults) and a dummy equal to 1 if the country is in a domestic default episode and 0 otherwise (only in regressions with external defaults) to control for simultaneous defaults. Default (-1) acts as the reference year. Time period is from 1995 to 2019. Detailed variable definitions and data sources can be found in Table A2. We report within R-squared values. Heteroskedasticity-robust standard errors are clustered at the country level. *** p<0.01, ** p<0.05, * p<0.1.

Table B7
Sovereign Defaults and Export Credit Insurance

	Short-Term Insurance		Longer-Term Insurance	
	External	**Domestic**	**External**	**Domestic**
	(1)	(2)	(3)	(4)
Default (-3)	-0.02	0.01	-0.43*	-0.33
	(0.10)	(0.08)	(0.23)	(0.44)
Default (-2)	0.15	0.14**	-0.31	-0.24
	(0.10)	(0.06)	(0.23)	(0.30)
Default	-0.12	-0.08	-0.69**	0.01
	(0.08)	(0.07)	(0.33)	(0.22)
Default (+1)	-0.16	-0.19	-1.02***	-0.19
	(0.11)	(0.14)	(0.32)	(0.49)
Default (+2)	-0.15	0.04	-0.42	0.43
	(0.10)	(0.17)	(0.58)	(0.33)
Default (+3)	-0.13	-0.21	0.08	-0.13
	(0.11)	(0.19)	(0.43)	(0.39)
Default (+4)	-0.12	-0.18	0.67	0.04
	(0.12)	(0.16)	(0.47)	(0.46)
Default (+5)	-0.20	-0.13	-0.17	-0.54
	(0.19)	(0.19)	(0.48)	(0.52)
Controls	✓	✓	✓	✓
Year FE	✓	✓	✓	✓
Country FE	✓	✓	✓	✓
Cohort FE	✓	✓	✓	✓
Observations	5,122	5,637	3,622	4,117
R-squared	0.29	0.28	0.11	0.11

Notes. Stacked difference-in-differences. Dependent variable is the natural log of short-term export credit insurance (Columns 1-2) and medium-to-long-term export credit insurance (Columns 3-4). Default is a dummy variable equal to 1 at the start of debt restructuring and 0 otherwise, both for defaults on external and domestic debt. Default (-1) acts as the reference category. Controls are the natural log of GDP at constant 2015 US$, the natural log of real investment over GDP at constant 2015 US$, a dummy equal to 1 if the country is in an official default episode and 0 otherwise, a dummy equal to 1 if the country is in an external default episode and 0 otherwise (only in regressions with domestic defaults) and a dummy equal to 1 if the country is in an domestic default episode and 0 otherwise (only in regressions with external defaults). Default (-1) acts as the reference year. Sample period is from 2005 to 2019. Detailed variable definitions and data sources can be found in Table A2. We report within R-squared values. Heteroskedasticity-robust standard errors are clustered at the country level. *** p<0.01, ** p<0.05, * p<0.1.

Appendix C: Alternative Specifications

Table C1
Sovereign Defaults and Aggregate Trade: Lagged Controls

	Aggregate Imports		Aggregate Exports	
	External	**Domestic**	**External**	**Domestic**
	(1)	(2)	(3)	(4)
Default (-3)	0.06	-0.02	0.06	-0.06
	(0.04)	(0.04)	(0.04)	(0.05)
Default (-2)	0.03	-0.00	0.04	-0.08*
	(0.04)	(0.03)	(0.03)	(0.04)
Default	-0.11**	-0.10**	-0.05	-0.12**
	(0.04)	(0.04)	(0.04)	(0.05)
Default (+1)	-0.14**	-0.03	0.01	-0.06
	(0.06)	(0.03)	(0.07)	(0.05)
Default (+2)	-0.10*	0.01	0.05	0.01
	(0.05)	(0.04)	(0.07)	(0.05)
Default (+3)	-0.06	0.03	0.08	-0.03
	(0.06)	(0.04)	(0.07)	(0.06)
Default (+4)	-0.08	0.05	0.06	-0.01
	(0.06)	(0.05)	(0.08)	(0.07)
Default (+5)	-0.04	0.06	0.05	0.02
	(0.06)	(0.06)	(0.08)	(0.09)
Controls	✓	✓	✓	✓
Year FE	✓	✓	✓	✓
Country FE	✓	✓	✓	✓
Observations	9,696	11,421	9,696	11,420
R-squared	0.48	0.48	0.45	0.46

Notes. Stacked difference-in-differences. Dependent variable is the natural log of aggregate imports (Columns 1-2) and aggregate exports (Columns 3-4) at constant 2015 US$. Default is a dummy variable equal to 1 at the start of debt restructuring and 0 otherwise, both for defaults on external and domestic debt. Controls are the same as in Table 3 but lagged by 1 year: GDP (-1) is the 1-year lagged natural log of GDP at constant 2015 US$, the exchange rate (-1) is the 1-year lagged growth of the real effective exchange rate weighted by partners, population (-1) is the 1-year lagged natural log of population, inv/GDP (-1) is the 1-year lagged natural log of real investment over GDP at constant 2015 US$, terms of Trade (-1) is the 1-year lagged ratio of price level of exports to the price level of imports. Official default is a dummy equal to 1 if the country is in an official default episode and 0 otherwise. External default is a dummy equal to 1 if the country is in an external default episode and 0 otherwise. Domestic default is a dummy equal to 1 if the country is in an domestic default episode and 0 otherwise. Default (-1) acts as the reference year. Detailed variable definitions and data sources can be found in Table A2. We report within R-squared values. Heteroskedasticity-robust standard errors are clustered at the country level. *** p<0.01, ** p<0.05, * p<0.1.

Table C2
Defaults and Aggregate Trade: Macro Region - Year FE

	Aggregate Imports		Aggregate Exports	
	External	Domestic	External	Domestic
	(1)	(2)	(3)	(4)
Default (-3)	0.05	-0.01	0.09	-0.04
	(0.04)	(0.04)	(0.05)	(0.06)
Default (-2)	0.02	-0.01	0.04	-0.07
	(0.03)	(0.03)	(0.04)	(0.05)
Default	-0.08**	-0.06**	-0.04	-0.06
	(0.04)	(0.03)	(0.05)	(0.05)
Default (+1)	-0.13***	-0.02	-0.00	-0.02
	(0.05)	(0.03)	(0.06)	(0.06)
Default (+2)	-0.13***	0.00	-0.00	0.02
	(0.05)	(0.04)	(0.07)	(0.06)
Default (+3)	-0.11**	0.02	-0.01	0.03
	(0.05)	(0.04)	(0.07)	(0.08)
Default (+4)	-0.10	0.08	0.01	0.06
	(0.06)	(0.05)	(0.09)	(0.09)
Default (+5)	-0.06	0.09	0.03	0.08
	(0.07)	(0.06)	(0.10)	(0.10)
Controls	✓	✓	✓	✓
Macro region - Year FE	✓	✓	✓	✓
Country FE	✓	✓	✓	✓
Observations	9,416	11,093	9,416	11,092
R-squared	0.52	0.52	0.45	0.46

Notes. Stacked difference-in-differences. Dependent variable is the natural log of aggregate imports (Columns 1-2) and aggregate exports (Columns 3-4) at constant 2015 US$. Default is a dummy variable equal to 1 at the start of debt restructuring and 0 otherwise, both for defaults on external and domestic debt. Default (-1) is a dummy variable equal to 1 at 1-year before the start of debt restructuring and 0 otherwise. Control variables are the same as in Table 3. Detailed variable definitions and data sources can be found in Table A2. We report within R-squared values. Heteroskedasticity-robust standard errors are clustered at the country level. *** p<0.01, ** p<0.05, * p<0.1.

Table C3
Sovereign Defaults and Aggregate Trade: Banking and Currency Crisis with Capital Controls

	Aggregate Imports		Aggregate Exports	
	External	**Domestic**	**External**	**Domestic**
	(1)	(2)	(3)	(4)
Default (-3)	0.05	-0.02	0.07*	-0.05
	(0.03)	(0.03)	(0.04)	(0.05)
Default (-2)	0.02	-0.00	0.02	-0.07
	(0.03)	(0.03)	(0.03)	(0.05)
Default (0)	-0.05	-0.05*	-0.00	-0.06
	(0.04)	(0.03)	(0.04)	(0.04)
Default (+1)	-0.13**	-0.01	0.02	-0.02
	(0.05)	(0.03)	(0.06)	(0.04)
Default (+2)	-0.12**	0.01	0.04	-0.01
	(0.05)	(0.03)	(0.07)	(0.04)
Default (+3)	-0.11**	0.02	0.05	-0.00
	(0.05)	(0.04)	(0.07)	(0.06)
Default (+4)	-0.13**	0.07	0.03	0.03
	(0.05)	(0.05)	(0.08)	(0.08)
Default (+5)	-0.08	0.08	0.04	0.04
	(0.05)	(0.05)	(0.08)	(0.08)
Banking Crisis	-0.11**	-0.09*	0.01	-0.01
	(0.04)	(0.05)	(0.09)	(0.08)
Currency Crisis	-0.06	-0.07	-0.01	0.03
	(0.04)	(0.04)	(0.04)	(0.04)
Capital Controls	-0.14**	-0.11**	-0.17**	-0.17***
	(0.06)	(0.05)	(0.07)	(0.06)
Controls	✓	✓	✓	✓
Year FE	✓	✓	✓	✓
Country FE	✓	✓	✓	✓
Observations	10,108	11,464	10,108	11,463
R-squared (within)	0.51	0.49	0.50	0.49

Notes. Stacked difference-in-differences. Dependent variable is the natural log of aggregate imports (Columns 1-2) and aggregate exports (Columns 3-4) at constant 2015 US$. Default is a dummy variable equal to 1 at the start of debt restructuring and 0 otherwise, both for defaults on external and domestic debt. Default (-1) is a dummy variable equal to 1 at 1-year before the start of debt restructuring and 0 otherwise. Banking crisis is a dummy that is equal to 1 if the country is in a banking crisis episode and 0 otherwise. Currency crisis is a dummy equal to 1 if the country is in a currency crisis episode and 0 otherwise. Capital controls is a dummy that is equal to 1 for the periods a country imposes capital controls and 0 otherwise. Default (-1) acts as the reference year. Baseline controls are the same as in Table 3. Detailed variable definitions and data sources can be found in Table A2. We report within R-squared values. Heteroskedasticity-robust standard errors are clustered at the country level. *** p<0.01, ** p<0.05, * p<0.1.

Appendix D: Sample Dependence

Table D1
Sovereign Defaults and Aggregate Imports: Sample Dependence

	Aggregate Imports			
	1980-1995		1996-2019	
	External Defaults	Domestic Defaults	External Defaults	Domestic Defaults
	(1)	(2)	(3)	(4)
Default	-0.10**	-0.13*	-0.09**	-0.07*
	(0.04)	(0.07)	(0.04)	(0.04)
Default (+1)	-0.12***	-0.11	-0.14***	-0.05
	(0.04)	(0.07)	(0.05)	(0.04)
Default (+2)	-0.15***	-0.04	-0.10**	-0.06
	(0.04)	(0.07)	(0.05)	(0.05)
Default (+3)	-0.11***	0.02	-0.12***	-0.06*
	(0.04)	(0.09)	(0.04)	(0.04)
Default (+4)	-0.11***	0.04	-0.12***	-0.01
	(0.04)	(0.11)	(0.03)	(0.04)
Default (+5)	-0.07**	0.03	-0.09**	-0.01
	(0.03)	(0.12)	(0.04)	(0.03)
Controls	✓	✓	✓	✓
Year FE	✓	✓	✓	✓
Country FE	✓	✓	✓	✓
Observations	1,385	1,385	2,965	2,965
R-squared	0.36	0.36	0.38	0.37

Notes. The dependent variable is the natural log of aggregate imports at constant 2015 US$. Default is a dummy variable equal to 1 at the start of sovereign default and 0 otherwise, both for defaults on external and domestic debt. Baseline controls include the natural log of GDP at constant 2015 US$, the growth of the real effective exchange rate weighted by partners, the natural log of population, the natural log of real investment over GDP at constant 2015 US$, the ratio of price level of exports to the price level of imports, and official default dummy. Detailed variable definitions and data sources can be found in Table A2. We report within R-squared values. Heteroskedasticity-robust standard errors are clustered at the country level. *** p<0.01, ** p<0.05, * p<0.1.

Table D2
Sovereign Defaults and Aggregate Exports: Sample Dependence

	Aggregate Exports			
	1980-1995		1996-2019	
	External Defaults	Domestic Defaults	External Defaults	Domestic Defaults
	(1)	(2)	(3)	(4)
Default	-0.09*	-0.02	0.11	-0.06
	(0.05)	(0.10)	(0.07)	(0.06)
Default (+1)	-0.06	-0.05	0.07	-0.03
	(0.05)	(0.12)	(0.07)	(0.06)
Default (+2)	-0.06	-0.03	0.01	-0.03
	(0.05)	(0.08)	(0.06)	(0.07)
Default (+3)	-0.01	0.01	-0.01	-0.08
	(0.05)	(0.09)	(0.06)	(0.06)
Default (+4)	-0.01	0.04	-0.05	-0.07
	(0.05)	(0.10)	(0.06)	(0.06)
Default (+5)	-0.01	-0.00	-0.07	-0.06
	(0.04)	(0.11)	(0.05)	(0.05)
Controls	✓	✓	✓	✓
Year FE	✓	✓	✓	✓
Country FE	✓	✓	✓	✓
Observations	1,385	1,385	2,958	2,958
R-squared	0.17	0.17	0.35	0.35

Notes. The dependent variable is the natural log of aggregate exports at constant 2015 US$. Default is a dummy variable equal to 1 at the start of sovereign default and 0 otherwise, both for defaults on external and domestic debt. Baseline controls include the natural log of GDP at constant 2015 US$, the growth of the real effective exchange rate weighted by partners, the natural log of population, the natural log of real investment over GDP at constant 2015 US$, the ratio of price level of exports to the price level of imports, and official default dummy. Detailed variable definitions and data sources can be found in Table A2. We report within R-squared values. Heteroskedasticity-robust standard errors are clustered at the country level. *** p<0.01, ** p<0.05, * p<0.1.