Erosion at the Core: Measuring France's Safe-Asset Transition, 2024–2026*

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Last updated: June 28, 2026

Abstract

Can a large core sovereign begin to lose its safe-asset standing before a default crisis makes the loss obvious? Studying France through its 2024–2026 political and fiscal turmoil, I find that markets reveal the erosion gradually and in real time, and I build a framework to detect it. Applied to this hard case—a large, liquid, core issuer with no default in sight—the framework shows French government-bond pricing pulling away from the euro core: France comes to be priced as an idiosyncratic outlier, not as a sovereign converging to the troubled periphery. The repricing is not explained by default risk, which I strip out using credit-insurance prices, nor by how cheaply the bonds trade. What remains looks like an erosion of the premium investors pay for safety itself, as the pool of close substitutes widens around France. That expanding supply contributes, though its size is not precisely identified.

JEL classification: F34, F41, G12, G15, E43, H63.

Keywords: safe assets, sovereign spreads, convenience yields, euro area, France, asset-swap spreads

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1 Introduction

Whether a government's debt is a safe asset is not a fixed property. It is a position in a hierarchy that investors continually re-rank, and a sovereign can slip down it. Economists know this, but they usually establish that an issuer has lost its place only after a crisis has made the loss unmistakable—a default scare, a market freeze, a downgrade to junk. This paper asks whether the loss can be caught earlier, while the issuer is still investment-grade and still trades as part of the core, and whether prices reveal it as it happens. France in 2024–2026 is the first live case in the euro core in which that question can be put to a test.

In June 2024 the French president dissolved the National Assembly, opening the most sustained fiscal-political stress France had faced inside the euro area: fragmented elections, successive minority governments, repeated budget confrontations, prime-ministerial turnover, confidence votes, and a sequence of rating downgrades. The ten-year spread of French government bonds (*Obligations Assimilables du Trésor*, OATs) over German Bunds widened to its largest since the euro-area debt crisis, and commentators began to ask openly whether France still belonged in the core. France is the hard case for the question precisely because it is large, liquid, and central to euro fixed-income markets—not a small issuer whose pricing can be dismissed as idiosyncratic, and not a periphery sovereign whose spreads already fit a known stress narrative. Yet the spread alone cannot answer it. A wider spread can reflect compensation for default, redenomination (euro-breakup) risk, a common erosion of the safety premium shared across euro core debt, amplification through France's large foreign investor base, or a France-specific loss of safe-asset standing—and these channels move together. Treating the OAT–Bund spread as a sufficient statistic would confuse the object of interest with its confounders.

I build a framework that separates those components and makes the erosion of a core sovereign's safe-asset standing visible in real time. It treats the euro safe-asset pool not as a set of fixed labels but as a hierarchy with a priced boundary—the edge of the core, beyond which markets stop pricing an issuer as a core safe asset—that an issuer can drift across gradually while still investment-grade. The framework rests on three plain steps. First, I ask whether French pricing breaks away from the pre-2024 core, using a factor structure estimated on the *other* core and periphery sovereigns so that the benchmark cannot mechanically track France. Second, I strip default-risk compensation out of the spread using matched-maturity credit default swaps, and read what remains—the part of the spread tied to safety and liquidity rather than to default—alongside the bond's pricing against the swap curve. Third, I relate that remainder to the growing supply of close high-grade substitutes, and test the timing and the cross-country specificity of

the move. The approach draws on three lines of work: the convenience-yield literature, which shows that investors pay for the safety and liquidity services of government debt rather than for its cash flows alone (Krishnamurthy and Vissing-Jorgensen, 2012); the preferred-habitat tradition, in which the quantity of safe paper moves its price even absent a default shock (Vayanos and Vila, 2021); and the work decomposing composite sovereign spreads into their default and non-default parts (Longstaff et al., 2011).

Studying a live, single episode has a cost: there is no clean experiment. France is one treated sovereign, the safe-asset state is latent, and the transition window is short. That cost is precisely the reason the framework is built around objects that do not hinge on a single coefficient or date. The detection rests on scale-free, full-sample measures—how far French pricing has decoupled from the core, and whether the safety-related prices deteriorate—and the identification rests on differencing France against the rest of the core, which nets out the common euro cycle that moves all core sovereigns together. Turning the absence of a textbook experiment into a discipline of measurement is the contribution.

The headline is detection. French pricing decouples sharply from the core: the share of its spread movements that the pre-2024 core-plus-periphery structure can no longer explain roughly triples, from 0.16 to 0.50. France does not converge toward the periphery—it moves away from both the core and the periphery at once, becoming idiosyncratic rather than Italian or Spanish. Two checks then establish that the deterioration is what it appears to be. It is not a liquidity artifact: the France-minus-core gap *widens*, rather than shrinks, once I control for how liquid the individual bonds are, and France's bonds in fact became relatively easier to trade over the episode, so a liquidity story predicts the wrong sign. And it is not default risk alone: credit-insurance prices account for part of the widening but do not exhaust it, and the bond's pricing against the swap curve deteriorates in step. Part of the credit component is, moreover, euro-breakup risk rather than pure default, which I measure directly from the gap between dollar- and euro-settled default insurance on France.

The move is specific to France. Among the core, France is the only sovereign that both decouples in the pricing structure and reprices when the supply of close substitutes grows; the other core issuers do neither, or do only one. That expanding supply is the setting in which the erosion unfolds and a contributing channel behind it: as quantitative tightening and new issuance enlarge the pool of high-grade euro paper that competes with OATs, France cheapens relative to the core. I treat this channel honestly. Its direction is robust, but its size is not precisely identified, because the supply variation that pins it down comes mostly from an earlier window rather than from the French episode itself. Finally, the repricing is gradual: it accrues *between* the

political and budget announcements rather than jumping on them, the signature of a slow-moving adjustment rather than a sequence of headline shocks.

The contribution, then, is to detect and measure a current core sovereign's safe-asset erosion as it happens, with the expanding substitute pool as its setting. The closest work studies adjacent objects: Jiang et al. (2025) measure euro-area convenience yields and the special role of German convenience; Arcidiacono et al. (2024) estimate how safe-sovereign debt supply spills across issuers; Anaya Longaric et al. (2025) show how investment funds amplify euro disaster-risk episodes. None of these can see a *specific* core issuer crossing the safe-asset boundary in real time. This framework can, by combining a France-excluded test of decoupling with a decomposition that separates safe-asset erosion from default, redenomination, and liquidity—and it is demonstrated on the hardest case, where the issuer begins inside the core and no default is in sight.

The claim is empirical and bounded to what prices support. France is a single sovereign over a short window, the within-window supply variation is small, and the default-netted remainder is itself noisy and supply-associated rather than a clean safety premium. The result that carries the paper does not rest on those pieces: a gradual, measurable erosion of French safe-asset pricing relative to the euro core, detected before any default-risk crisis would recognize it.

2 Related Literature

The closest empirical papers sit on exactly the margins this project must confront. Jiang et al. (2025) estimate bond convenience yields inside the euro currency union and show that German convenience is the benchmark around which the rest of the system is priced. Arcidiacono et al. (2024) show that debt supply by safe euro sovereigns spills over to the convenience yields of other safe issuers. Anaya Longaric et al. (2025) document an amplification channel through which investment funds transmit euro disaster risk via portfolio reallocation. These papers define the frontier: they study euro convenience levels, supply spillovers, and investor amplification. This paper instead studies the detection and measurement of a single core issuer's migration—a large, liquid sovereign whose convenience-like status erodes as the pool of close substitutes expands and domestic political-fiscal news arrives.

Arcidiacono et al. (2024) are the closest neighbor, and their central result is the cleanest foil. They estimate that supply by one safe euro sovereign spills over to the convenience yields of the others nearly one for one—with weaker pass-through to riskier issuers—so that extra high-grade paper from any core issuer is absorbed almost symmetrically across the core, leaving relative convenience between core members largely undisturbed.

That near-symmetry is itself a sharp prediction for the France-minus-core gap. If France remains a full member of the core pool, common supply news should move France and its peers together and the gap should not respond: a near-zero gap response is what one-for-one spillover implies. A negative response would mark France as a flight-to-quality leader; a positive response—France repricing by more than the core when substitutable high-grade supply arrives—is the signature of boundary amplification, expected only once an issuer has drifted toward the edge of the pool, where its convenience premium becomes contestable. The benchmark thus turns the level question (is France safe?) into a discriminating differential one (does France still co-move with the core, or reprice apart?). The France-specific evidence answers it: the full-sample factor decoupling together with the France-specific deterioration in asset-swap spreads—a bond's yield against the swap curve—is the boundary-amplification reading against the one-for-one core-membership null.

Theoretically, the paper treats safe-asset status as an equilibrium outcome rather than a permanent issuer label: in He et al. (2019), an asset is safe because investors coordinate on it as a store of value, so shifts in fundamentals and debt capacity can move an issuer across safety regions. The relevant question is therefore not whether France becomes unsafe in an absolute sense, but whether markets price its debt as a less reliable member of the core convenience pool. Measurement follows the convenience-yield literature: Krishnamurthy and Vissing-Jorgensen (2012) show that investors pay for the safety and liquidity services of government debt, so a core issuer can shed a convenience premium while remaining far from a textbook default event. Because sovereign spreads mix default, liquidity, redenomination, and convenience components (Longstaff et al., 2011), the safe-asset reading rests on asset-swap spreads and matched CDS-adjusted residuals (both defined in Section 4), not the Bund spread alone.

On the supply side, the preferred-habitat tradition explains why the quantity of a given maturity matters for its price even absent a default-risk shock (Vayanos and Vila, 2021; Greenwood and Vayanos, 2014). This logic underlies the own-issuance elasticity recovered from the cross-country supply panel—an issuer that floats more high-grade paper cheapens its own bonds—and motivates the substitute-supply variables and common-core controls, which keep the supply/convenience interpretation separate from France-specific political news. In the euro area the relevant supply concept is the privately held float of France relative to Bunds, other core sovereigns, EU supranationals, and official-sector holdings; a rising private float can erode scarcity value without a discrete default-risk event.

The sovereign-default literature explains why the paper does not label all spread widening as convenience loss: models of default incentives, rollover risk, and expectation-

driven crises (Eaton and Gersovitz, 1981; Calvo, 1988; Cole and Kehoe, 2000; Aguiar and Gopinath, 2006; Arellano, 2008; Lorenzoni and Werning, 2019) remain relevant because fiscal news can move expected repayment risk well before default becomes likely. The paper does not try to rule out default-risk pricing; it asks whether prices contain an additional France-specific convenience-like component once the CDS leg and common core movements are netted out.

The euro-area sovereign-risk literature is the immediate empirical background, documenting how monetary-union spreads price fundamentals, ratings, contagion, and regime shifts (Lane, 2012; Pagano and von Thadden, 2012; Beirne and Fratzscher, 2013; Afonso et al., 2015; Delatte et al., 2017), with redenomination risk a distinct within-union channel (De Santis, 2019). This paper differs in object and timing: it studies a current core issuer rather than the crisis-period periphery, and migration within the euro pricing hierarchy rather than the level of stress alone.

Finally, the sovereign-bank literature motivates the investor-base channel: sovereign repricing can be amplified through bank balance sheets, domestic exposures, and real credit supply (Acharya et al., 2014; Gennaioli et al., 2014; Battistini et al., 2014; Brunnermeier et al., 2016; Farhi and Tirole, 2018; Altavilla et al., 2017; Acharya et al., 2018). The paper does not estimate bank-lending or output effects; its link is narrower—if who holds the debt shapes the price response to news, a France-specific widening may combine convenience loss with investor-base amplification. This is why the discrimination design interacts the non-resident share with political and rating shocks.

Taken together, these literatures leave a specific gap. We understand why Treasuries and Bunds command convenience premia, how euro convenience is distributed across sovereigns, why supply spills across safe issuers, why periphery spreads widened during the euro crisis, and how funds and banks amplify sovereign stress. We know less about how a large core sovereign loses part of its convenience status when substitutes become more plentiful but default risk has not yet taken over the narrative. France sits in that middle region. The paper's contribution is not a new estimator but a disciplined empirical architecture for detecting movement in the safe-asset boundary when the issuer is a core sovereign, substitute supply is shifting, and the channels are necessarily entangled. Section 3 turns to the French setting that makes it the decisive case for that architecture.

3 Setting: France at the Edge of the Core

France is useful for studying safe-asset erosion because it starts from the right side of the boundary. The French sovereign market is large, liquid, and deeply integrated into euro collateral and reserve portfolios. OATs are not Bunds, but they have historically belonged to the set of core euro assets rather than to the periphery. This starting point is what makes the episode informative. A periphery spread widening confirms a known hierarchy; a French widening asks whether the hierarchy itself is changing.

The euro-area setting sharpens the question because safety is both national and collective. Bunds provide the benchmark collateral asset, but the euro safe-asset pool also relies on close substitutes whose value depends on common monetary institutions, fiscal credibility, investor mandates, and market liquidity. France is central to that pool because its debt market is large enough to absorb safe-asset demand that cannot be satisfied by Bunds alone. If France begins to trade less like the core, the implication is not simply that one country's spread is higher. The composition of the available euro safe-asset supply changes.

The same institutional setting makes identification demanding. Monetary policy, ECB portfolio runoff, collateral scarcity, and euro-wide risk appetite move core sovereign prices together, so a France-specific widening is overstated if the rest of the core is treated as fixed and understated if the whole core is already deteriorating with France leading. The comparison with Austria, Belgium, Finland, and the Netherlands is therefore a conservative benchmark for the common core, built to net out that shared cycle.

The 2024–2026 period combines fiscal pressure with political uncertainty. The dissolution of the National Assembly after the June 2024 European Parliament election created an abrupt reassessment of fiscal governance risk. The legislative elections that followed did not produce a stable majority. The subsequent sequence of prime-ministerial changes, budget disputes, confidence votes, and rating actions created repeated tests of whether investors still treated France as a core safe asset or as a sovereign moving closer to the euro-area stress region.

The timing also differs from a classic sovereign-debt crisis. There is no single default scare, no market closure, and no sudden loss of monetary union membership credibility. Instead, the relevant information arrives through repeated budgetary and political tests. That is why the event registry is used to discipline timing, while the main estimates compare regime averages and rolling loadings. A boundary can become visible through persistent repricing even when no single date deserves to be called a threshold crossing.

The setting also matters because France is too large for its repricing to be absorbed quietly by the rest of the core. A small core country can lose some richness without

changing the aggregate euro collateral landscape. France is different. Its market size makes OATs a natural substitute for Bunds in portfolios that need liquid euro sovereign duration. When France becomes less Bund-like, investors must either accept lower-quality substitutes, move further toward Germany, or use supranational and swap-market alternatives. This substitution margin is the economic reason to study France rather than only smaller core issuers.

The investor base reinforces this point. Table 1 corroborates from public official statistics that OATs are held disproportionately abroad: non-residents hold about 56% of total negotiable French state debt on the Banque de France measure. On the cross-country comparable ECB measure, France's non-resident share of general government debt is 51.5%, in the middle of the core distribution—fourth among the six core issuers, below Austria, Belgium, and Finland. This investor-base ranking spans all six core sovereigns, including Germany, a broader grouping than the five-member pricing comparison set (France with Austria, Belgium, Finland, and the Netherlands) that excludes Germany as the numeraire. A large foreign investor base does not by itself imply safe-asset erosion, but it is the channel through which a change in OAT status would be transmitted: the marginal holders most able to substitute toward Bunds, supranationals, or swaps are precisely the international portfolios that dominate the French market.

Table 1: Investor-base public corroboration: non-resident shares of sovereign debt

Statistic	Share (%)	Reference
Panel A. France OAT (Banque de France)		
Non-resident share of total negotiable state debt	56.0	2025-Q4, quarterly
Non-resident share of long-term negotiable state debt	51.7	2024, annual
Panel B. Non-resident share of general government debt (ECB GFS)		
Austria	64.1	2023, Rest of World
Belgium	54.6	2023, Rest of World
Finland	52.6	2023, Rest of World
France	51.5	2023, Rest of World
Germany	45.1	2023, Rest of World
Spain	42.6	2023, Rest of World
Netherlands	39.6	2023, Rest of World
Italy	27.7	2023, Rest of World

Panel A: Banque de France "Détention par les non-résidents de la Dette Négociable de l'Etat" (DBnomics mirror BDF/DET); the long-term row is the OAT-relevant maturity bucket. A finer foreign-NBFI sector split is not available on this Tier-1 source. Panel B: ECB Government Finance Statistics, general government debt held by Rest of the World as a share of general government debt (GFS, XDC_R_GD), latest available year. All series are free, public, citable Tier-1 official statistics.

The event sequence creates repeated tests of the same boundary. A one-day political shock is hard to interpret on its own: prices can overreact, reverse, or track unrelated

global risk appetite. The French sequence instead contains several public moments at which investors reassess fiscal governance, coalition stability, and rating risk, which makes the timing informative. If the safe-asset interpretation is right, the repricing cumulates across the period rather than depending on a single event window.

The event registry used in the paper contains 19 dated events. It includes rating actions, the June 2024 dissolution, the two rounds of the legislative election, changes in prime minister, budget presentations, Article 49.3 episodes, and no-confidence or confidence votes. The registry is not meant to be an exhaustive political history. Its role is narrower: to discipline the timing of event-window tests and to build the foreign-share-times-shock variable used in the discrimination regressions.

The institutional setting reinforces why a simple France–Bund spread is insufficient: the same widening can reflect common core convenience loss, default or redenomination risk, investor-base amplification, or a France-specific loss of safe-asset status, and the empirical design treats these as competing interpretations rather than as synonyms. Section 4 maps each to a distinct asset-pricing prediction.

4 Conceptual Framework and Predictions

The organizing idea is that safe-asset status is relative. Investors do not ask whether France is safe in the abstract. They compare OATs with Bunds, with the other core euro sovereigns, with EU-level paper, and with the periphery, and they price OATs by where they sit in that ranking. A deterioration in French fundamentals, a rise in France's privately held float, a growing supply of close substitutes, or a fall in safe-asset demand can therefore matter most when France is near the boundary at which investors stop treating OATs as part of the core pool. The empirical task is to read that boundary in prices. This section builds the price objects that make it readable and states what each should do if France is crossing it.

Why the spread alone will not do. The ten-year OAT–Bund spread bundles several distinct compensations. Write it as the sum of the premia an investor requires, less the premium the investor will pay:

$$\underbrace{\text{spread}}_{\text{OAT}-\text{Bund}} = \underbrace{\text{default}}_{\text{expected loss}} + \underbrace{\text{redenomination}}_{\text{euro-exit risk}} + \underbrace{\text{liquidity}}_{\text{trading frictions}} - \underbrace{\text{convenience}}_{\text{safety/liquidity services}} .$$

The first three terms widen the spread; the last compresses it. A *convenience yield* is the return an investor gives up to hold an asset for the safety and liquidity services it provides—its acceptability as collateral, its role as a store of value—rather than for its

cash flows. It is not a risk premium and not a term premium; it is a deviation from the standard pricing of cash flows, a price investors pay for what the asset *does*. By analogy with the capital asset pricing model, where an asset's return reflects its exposure to risk times the market price of risk, the convenience term prices a bond by the safety services it provides times the price investors place on those services. When close substitutes proliferate, that price falls, and with it the convenience premium of every issuer near the margin. Safe-asset erosion is exactly a fall in this term: holding default, redenomination, and liquidity fixed, the issuer is paid less for what its debt does, and the spread widens. The problem is that a raw spread shows all four pieces at once, so it cannot separate erosion of the convenience term from a rise in default risk. The framework's job is to isolate the convenience term, and that requires reading prices designed to net the others out.

Two instruments, two things they price. A *credit default swap* (CDS) is an insurance contract on default: the protection buyer pays an annual premium—the CDS spread—and is compensated if the sovereign defaults. The CDS spread is therefore a market price of default risk and nothing else; it pays nothing for a bond being convenient to hold. An *asset-swap spread* (ASW) measures the same bond against the swap curve: an investor who buys the bond and swaps its fixed coupons for floating earns this spread over the floating reference rate, so ASW is the price at which the bond trades relative to the market's benchmark discount curve. It moves with how richly or cheaply the bond trades. A bond in heavy demand for its safety and collateral value trades *rich*—its yield sits below the swap curve, a negative ASW—so a rising France-minus-core ASW means OATs are losing that richness. ASW is thus convenience-sensitive in a way the CDS spread is not.

Why I use both. No single price isolates the convenience term, so I read two imperfect windows onto it and let them bracket the truth. Subtracting matched-maturity CDS from the sovereign spread nets out default-risk compensation and leaves a default-netted residual; because the CDS leg I use is settled in dollars, the residual also nets out most euro-breakup risk, but it still contains liquidity and segmentation, so it *over*-states pure convenience. The ASW reads the same richness against the swap curve directly, but it can be distorted by the specialness of an individual benchmark bond, so it need not move one-for-one with convenience either. The two measures err in different directions; their agreement is more informative than either alone. The one credit-side component I do not net out by assumption but measure directly is redenomination risk—the chance that euro claims are repaid in a devalued national currency—read from the gap between dollar- and euro-settled CDS on the same sovereign, since only the euro-settled contract pays in the currency a euro exit would debase.

Predictions. These objects turn the boundary idea into signed, falsifiable predictions. First, if France is leaving the core pool, French spreads should become *less* explained by the pre-2024 core/periphery factor structure; the signal is the decoupling itself, not the level of the spread. Second, the deterioration should appear in the convenience-sensitive prices—ASW and the default-netted residual—and not only in the CDS leg; if the CDS leg carries the whole move, the episode is default, not safe-asset erosion. Third, the France-specific deterioration should be *larger* when the France-excluded pool of high-grade substitutes expands, since a deeper substitute pool is what compresses a marginal issuer's convenience premium. Fourth, the France-specific component should survive controls for common-core convenience erosion, bond-level liquidity, and investor-base amplification; if any of these absorbs it, that rival, not safe-asset erosion, is the explanation.

These mechanisms are not mutually exclusive, and the rival explanations are close enough that the design must be built to separate them. Table 2 maps each mechanism to its pricing implication and to the evidence that discriminates it; the empirical strategy in Section 6 attaches a specification to each row.

Table 2: Mechanisms and discriminating evidence

Mechanism	Pricing implication	Discriminating evidence
Safe-asset erosion	France decouples from the core convenience pool and becomes more idiosyncratic in the euro pricing system.	Factor migration plus France-specific ASW and matched-residual deterioration.
Substitute-supply channel	Growth in high-grade substitutes reduces OAT scarcity value.	France-minus-core ASW or residual rises when France-excluded substitute supply expands.
Common convenience erosion	Quantitative tightening (QT) and supply lower convenience for the entire euro core.	The French residual disappears after common core ASW or residual controls.
Investor-base amplification	Foreign investors and funds amplify political and rating news.	Foreign-share exposure interacted with shocks absorbs the French residual.
Default or redenomination risk	Investors price expected credit losses or euro-breakup risk.	CDS carries the episode while convenience proxies add little; redenomination is measured directly via the USD-minus-EUR CDS quanto.

The mechanisms are not mutually exclusive. The empirical question is which mechanism is needed to interpret the French transition after the others are included.

The framework also disciplines the paper's language. The evidence will show that

France lost convenience-like pricing relative to the core, not that markets crossed a unique theoretical tipping point, so I speak of movement *toward* a boundary rather than a realized threshold crossing. The next section turns these predictions into measurement, describing the data and the price objects behind each test.

5 Data and Measurement

The data are organized to keep apart the pricing components the previous section defined. The main panel is monthly, because the fiscal series, holdings, and event aggregates that enter the design move at lower frequency than daily market prices; a monthly panel avoids assigning high-frequency precision to slow-moving variables. The event-window analysis then uses daily prices only where daily timing is economically meaningful: around the dated political, budget, and rating events.

Market prices come from two vendors. FactSet provides daily benchmark five- and ten-year sovereign yields for the euro-area issuers, the ten-year benchmark asset-swap spread, and a bond-level European panel that carries, for each individual bond, its asset-swap spread together with the security characteristics needed to gauge liquidity—bid–ask spread, issue size, age, and modified duration. The bond-level panel does double duty: it supports an amount-weighted ASW reconstruction from bonds with eight-to-twelve-year residual maturity, and it supplies the security-level controls that test whether the France-minus-core ASW gap is a liquidity artifact rather than a convenience movement. Refinitiv/LSEG provides five- and ten-year sovereign CDS mid-spreads, which makes the matched-maturity default adjustment possible; the dollar-settled contract is the headline credit leg, and the euro-settled contract supplies the redenomination quanto. The bond-level cleaning and the matching of CDS to benchmark maturities are documented in the data appendix.

The two convenience-sensitive objects are the ten-year benchmark ASW and the matched-maturity CDS-adjusted residual—the ten-year spread net of the ten-year CDS—both defined in Section 6. A higher France-minus-core ASW means OATs trade less richly against the swap curve; a higher residual means a larger non-default component remains in the spread.[1]

The central mechanism variable is the supply of substitutable high-grade euro paper—the *substitute pool*. The relevant quantity is not French debt but the float that com-

[1]The headline ASW gaps are invariant to the swap-curve convention. The benchmark ASW is FactSet's vendor series, and over the sample the euro discounting basis migrated from EONIA to the ESTR overnight-index-swap curve. That convention change moves ASW *levels*, but the common floating-leg convention cancels in any France-minus-core difference, so the cross-issuer gaps the paper uses are unaffected.

petes with OATs for safe-asset demand, so I build a France-excluded measure: central-government debt outstanding for Germany, Austria, Belgium, Finland, and the Netherlands (Eurostat and ECB Government Finance Statistics, on the issuer-reported S1311 convention used by the debt-management offices), net of Eurosystem holdings under the asset-purchase and pandemic programmes (ECB). Because the construction nets only Eurosystem holdings, it is an upper bound on privately held float. Robustness specifications add three supranational pools—EU bonds, active EU/ESM/EFSF bonds, and the extended set including EIB paper—as checks; the headline series stays country-sovereign based to align with the factor design. The construction recipe is in the data appendix.

A second holdings source records *who* holds French debt rather than how much competing paper exists. From the ECB Securities Holdings Statistics by Sector I take quarterly holdings of French government securities split by holder sector—banks, investment funds, insurers, pension funds, and the Eurosystem—so the composition of the investor base can be tracked across the transition. As Eurosystem holdings ran down under quantitative tightening, price-sensitive domestic holders absorbed the float, a shift that co-moves with the France-minus-core ASW gap. The series corroborates the investor-base channel; it does not identify it. France's non-resident share of state debt comes from the Banque de France, with the ECB cross-country measure used for comparability.

The remaining controls are deliberately low-frequency. Fiscal fundamentals are France's debt and deficit ratios relative to the core-ex-France average (Eurostat). These are not precise enough to identify a tipping schedule month by month; their role is to check whether the price movement has the direction and timing the safe-asset mechanism implies.

The sample is defined by the comparison the design needs. The normal window is 2019–2023 and the transition window is 2024–2026. Germany is the benchmark against which all spreads are measured, so it is the numeraire and not a member of the comparison group. The core-ex-France group is Austria, Belgium, Finland, and the Netherlands; the periphery group is Spain, Greece, Ireland, Italy, and Portugal. France is excluded from both pricing factors, so that the factor-migration test cannot mechanically build France into its own benchmark. Appendix Table 18 reports pre- and post-transition summary statistics for the mechanism and supply variables.

Three measurement threats deserve naming, and each is met by design rather than assumption. A benchmark series can be distorted by the choice of benchmark bond or by specialness in one issue; I rebuild near-ten-year ASW from individual bonds as a check. A core-issuer ASW gap could reflect relative liquidity rather than convenience; I add per-bond bid–ask, size, age, and duration controls to the France-versus-core comparison.

And France is a single treated sovereign over a short window; the weight therefore falls on the convergence of several scale-free objects, on core-country placebos, and on block-bootstrap inference rather than on a single causal coefficient. These responses are set out in Section 6 and Section 7. Before the estimators touch the French data, the pipeline runs a synthetic planted-effect recovery exercise as a validation gate (Appendix Table 15).

A note on availability closes the section. The security-level pricing inputs are proprietary: the benchmark yields, asset-swap spreads, and bond-level panel are from FactSet, and the sovereign CDS legs from Refinitiv/LSEG, and their redistribution terms prevent the author from sharing the raw extracts. Researchers with the corresponding vendor entitlements can reproduce these legs from the identifiers and field definitions in the replication package, which records the full source provenance (Appendix Table 14). All other inputs—from the ECB, the Banque de France, and Eurostat—are public and fully replicable.

6 Empirical Strategy

The empirical strategy pairs a market-pricing claim with a mechanism test. The safe-asset state is latent and France is a single treated core sovereign, so the design is a disciplined decomposition rather than a treatment-control experiment: does France move away from the pre-existing core pricing cluster, does that movement appear in convenience-like prices after matched-maturity CDS adjustment, and does it line up with the growth of substitutable high-grade euro paper?

The identifying assumption is mild: the core-ex-France group benchmarks the common euro convenience movements and the pre-existing core pricing cluster. It can bind in two directions. If the whole core loses convenience together, the France-minus-core comparison understates aggregate safe-asset erosion. If another core country experiences a hidden France-like shock, the comparison understates the France-specific component. Common-core controls and core-country placebos address both directions.

6.1 Factor Migration

The first test asks whether French pricing is decoupling from the pre-2024 core—the detection prediction of Section 4. Let the euro *core* be the set C comprising France (FR), Austria (AT), Belgium (BE), Finland (FI), and the Netherlands (NL); Germany is the numeraire against which spreads are measured, so it is not a member of C. Let $s_{i,t}^{10Y}$ denote the ten-year benchmark spread of sovereign i over Germany in month t. Using a fixed pre-2024 factor-estimation window, 2014–2023, I estimate two principal

components from *standardized* spreads:

$$F_t^C = \mathrm{PC}_1\{s_{i,t}^{10Y} : i \in C \setminus \{FR\}\}, \qquad F_t^P = \mathrm{PC}_1\{s_{i,t}^{10Y} : i \in P\}, \tag{1}$$

where $C \setminus \{FR\} = \{AT, BE, FI, NL\}$ is Austria, Belgium, Finland, and the Netherlands, and $P = \{ES, GR, IE, IT, PT\}$ is Spain, Greece, Ireland, Italy, and Portugal. France is deliberately excluded from both factors. This exclusion matters because the question is whether French prices migrate relative to pre-existing euro-area pricing groups, not whether a factor mechanically follows France. Each principal component PC_1 is the projection of the standardized spreads on the first eigenvector of their pre-window correlation matrix; the standardization—each country's mean and standard deviation—and the factor loadings are fixed on the 2014–2023 pre-window and then applied to the whole sample. The components are sign-oriented so that higher factor values correspond to wider average spreads in the relevant group, an orientation choice that is necessary because principal components otherwise have an arbitrary sign. This 2014–2023 factor-estimation window is deliberately longer than, and distinct from, the 2019–2023 "normal" comparison window used by the transition statistic Δz in (5).

I then estimate rolling 36-month regressions of French spreads on the two factors of (1):

$$s_{FR,t}^{10Y} = \alpha_\tau + \beta_\tau^C F_t^C + \beta_\tau^P F_t^P + u_t, \qquad t \in \tau, \tag{2}$$

where τ indexes the rolling window, α_τ is a window-specific intercept, and u_t is a mean-zero disturbance. Throughout the paper, α (with subscripts where shown) denotes a regression intercept and u and ε (with the relevant subscripts) denote mean-zero error terms. The object the analysis leans on is not the raw loadings but the scale-free fit of this regression. Define the rolling *unexplained share*

$$U_\tau = 1 - R_\tau^2, \tag{3}$$

the fraction of French ten-year-spread variance in window τ left unexplained by the pre-2024 core-plus-periphery factors F^C and F^P. A rise in U_τ says that French spreads are less and less well summarized by the old two-factor system—a movement of France across the euro pricing hierarchy and out of the core convenience pool. Because U_τ is a fit statistic it is invariant to the sign and scale normalizations that make principal components individually arbitrary, and it requires no choice of spread threshold: safe-asset status is relative, so the relevant object is France's position in the euro pricing system, not its absolute spread.

The loadings β_τ^C and β_τ^P are reported only as a symptom. They are not causal estimates, and post-2024 collinearity between F^C and F^P makes them unstable, so I do not rely on

their sign or scale: a movement in the periphery loading does not mean that France has become Italy or Spain. The interpretable statement is the deterioration of fit itself, measured by U_τ; it distinguishes core decoupling and rising idiosyncrasy from the stronger claim that France is increasingly explained by the periphery factor.

6.2 Convenience-Like Price Objects

The second test asks *where* the widening shows up—the localization prediction: a safe-asset erosion should deteriorate the convenience-sensitive prices, not only the CDS leg. Raw Bund spreads mix default compensation, liquidity, repo specialness, collateral value, and common euro rates, so I use the two convenience-sensitive objects introduced in Section 4: the ten-year asset-swap spread, where a higher value means the sovereign trades less richly relative to the swap curve, and the matched-maturity CDS-adjusted residual,

$$b_{i,t}^{10Y} = s_{i,t}^{10Y} - \mathrm{CDS}_{i,t}^{10Y}. \tag{4}$$

If France's Bund spread rises only because credit risk rises, the CDS leg should absorb much of the movement; if France loses convenience-like pricing, both objects should also deteriorate relative to the core. The five-year matched residual and the legacy ten-year-spread-minus-five-year-CDS residual are diagnostics, not the headline object.

For each pricing object $z_{i,t}$, the transition statistic is

$$\Delta z^{FR-C} = \left\langle z_{FR,t} - \bar{z}_{C\setminus\{FR\},t} \right\rangle_{2024:2026} - \left\langle z_{FR,t} - \bar{z}_{C\setminus\{FR\},t} \right\rangle_{2019:2023}. \tag{5}$$

Here $\bar{z}_{C\setminus\{FR\},t} = \frac{1}{|C\setminus\{FR\}|}\sum_{i\in C\setminus\{FR\}} z_{i,t}$ is the *cross-sectional* average of the pricing object over the core-ex-France issuers in month t (the bar denotes a cross-sectional mean), $\langle\,\cdot\,\rangle_W$ denotes the *time* average over the months in window W, and Δ here denotes the between-window (regime) change—the 2024:2026 average minus the 2019:2023 average—distinct from the one-month difference operator introduced below. This statistic is transparent and carries most of the paper's quantitative content. The regression evidence is useful only if it is consistent with these level changes; it is not allowed to overturn the basic measurement facts.

The statistic also has a clear interpretation for skeptical readers. If all euro core sovereigns lose the same convenience premium, the France-minus-core statistic should not move much. If France is repriced for default risk alone, the CDS row should absorb most of the spread movement. If the residual is only a CDS-curve artefact, the ten-year matched residual should be much weaker than the legacy maturity-mismatched residual and the France CDS 5s10s slope (its ten-year minus five-year CDS spread) should explain the movement. If benchmark construction drives the result, bond-level ASW

should disagree with benchmark ASW. The main results section uses these comparisons as a sequence of objections rather than as separate facts.

6.3 Substitute Supply and Discrimination Tests

The third test asks whether French convenience-like pricing erodes as close substitutes become more plentiful—the supply prediction. Let $S_{-FR,t}$ denote the France-excluded stock of high-grade core free float, measured in trillions of euros. The monthly specification is

$$\Delta z_t^{FR-C} = \alpha + \beta_1 \Delta S_{-FR,t} + \beta_2 \Delta x_t^{FR-C} + \beta_3 \Delta \bar{z}_t^{C} + \beta_4 \Delta \text{Slope}_{FR,t}^{\text{CDS}} + \varepsilon_t, \tag{6}$$

where $\Delta w_t \equiv w_t - w_{t-1}$ is the one-month first-difference operator—so Δz_t^{FR-C} is the monthly change in the France-minus-core object $z_t^{FR-C} \equiv z_{FR,t} - \bar{z}_{C\setminus\{FR\},t}$, distinct from the between-window regime change Δz^{FR-C} of (5)—z is either the ten-year residual or ASW, x_t^{FR-C} collects France's debt/GDP and deficit/GDP relative to the core, $\bar{z}_t^{C}$ is the common core movement, and $\text{Slope}_{FR,t}^{\text{CDS}}$ is the French 5s10s CDS slope. The coefficient of interest is β_1. The safe-asset-substitution prediction is $\beta_1 > 0$: as QT and issuance increase the competing substitute pool, France cheapens relative to the rest of the core even after controlling for France's own fiscal position and common core pricing.

The headline supply estimate, however, comes from the twelve-month-change analogue of (6), in which the twelve-month difference operator Δ_{12} replaces the monthly Δ:

$$\Delta_{12} z_t^{FR-C} = \alpha + \beta_1 \Delta_{12} S_{-FR,t} + \beta_2 \Delta_{12} x_t^{FR-C} + \beta_3 \Delta_{12} \bar{z}_t^{C} + \beta_4 \Delta_{12} \text{Slope}_{FR,t}^{\text{CDS}} + \varepsilon_t. \tag{7}$$

The twelve-month horizon matches the slow pace at which the substitute pool moves and absorbs the shared monetary cycle. The headline supply coefficient reported in the results—the rise in the France-minus-core residual gap per additional trillion euros of substitute supply (Table 9)—is the β_1 of (7), not of the monthly (6), and is estimated with heteroskedasticity- and autocorrelation-consistent (HAC; Newey–West) standard errors over the overlapping twelve-month windows. The monthly specification (6) is retained as a mechanism diagnostic (Appendix Table 29).

The substitute-supply variation is predetermined relative to French political news: ECB portfolio runoff and EU issuance schedules follow program design and multi-year funding plans, not monthly French headlines. A further feature of this variation dictates the design. Almost all of the variation in $S_{-FR,t}$ is a common time-series swing: in a one-way decomposition of monthly $\Delta_{12} S_{-i}$ with the month as the grouping factor, the common between-month component is 98.2% of the variance across all euro issuers and 97.3% among the core dependents off which the supply elasticity is identified, leaving

under 3% that is cross-sectional.[2] Because the series is almost entirely one shared QE-to-QT cycle, it cannot be identified from cross-country level variation—which is exactly why the France-minus-core difference is the identifying design. The common-core control and the twelve-month supply-growth specification absorb the shared cycle.

A sharper, dated version of the same supply test is the announcement design tested in Section 7.7. For each dated supply-news event e—a shock that raises the stock of substitutable high-grade euro paper—I regress the five-trading-day France-minus-core response of pricing object z on the signed supply surprise:

$$\Delta_5 z_e^{FR-C} = \alpha + \beta\, SupplySurprise_e + \varepsilon_e, \tag{8}$$

where $\Delta_5 z_e^{FR-C}$ is the five-day change in the France-minus-core object around event e and $SupplySurprise_e$ is the signed size of the supply news. The boundary mechanism predicts $\beta > 0$: France should cheapen relative to the core on impact when substitutes become more plentiful.

The discrimination specifications then add the rival channels of Table 2 directly to the regression:

$$z_t = \alpha + \gamma' X_t + \rho\, \Delta \bar{z}_{C\setminus\{FR\},t} + \lambda\, (\mathrm{NR}_{FR,t} \times Shock_t) + \varepsilon_t. \tag{9}$$

Here z_t is the French pricing object—the matched ten-year residual of (4) or, in the ASW version, the asset-swap spread. The controls X_t, entering with coefficient vector γ, are the relative-fundamentals terms: the change in the France-minus-core debt/GDP ratio, that ratio interacted with a near-boundary indicator, and the change in the France-minus-core free-float share. The common-core term $\Delta \bar{z}_{C\setminus\{FR\},t}$, with scalar coefficient ρ, is the change in the core-ex-France average and absorbs euro-wide convenience erosion; the interaction $\mathrm{NR}_{FR,t} \times Shock_t$, with scalar coefficient λ, captures investor-base amplification of political and rating news, where $\mathrm{NR}_{FR,t}$ is the non-resident (foreign) share of French government debt and $Shock_t$ is the signed political/rating shock from the dated event registry. I then repeat the design with $\Delta\,\mathrm{CDS}_{FR,t}$ as the dependent variable: if the same event-shock exposure prices CDS, the interpretation must include default-risk or redenomination-risk compensation, not only convenience. Redenomination risk is measured directly rather than inferred from the CDS leg alone—a quanto spread, the USD-minus-EUR par-mid CDS differential on matched sovereign contracts (Kremens, 2024; De Santis, 2019), isolates the euro-breakup component of the credit leg.

Inference follows the same discipline. Time-series regressions use HAC standard errors with at least twelve monthly lags in the overlapping twelve-month supply-growth specifications, and the appendix reports moving-block bootstrap intervals (resampling

[2] One-way ANOVA of $\Delta_{12} S_{-i}$ with month as the grouping factor.

overlapping blocks of consecutive months) for the key discrimination terms to guard against serial dependence and the short transition window. The dated political, budget, and rating events serve a second role beyond the shock index in (9): they anchor an event-window/diffusion decomposition—splitting each pricing leg's total transition change into an in-window component and a between-window component—reported in Section 7.7. The evidence stack is redundant by design: the objects collected in Section 7 point in a coherent direction before the paper uses safe-asset language.

6.4 Ruling Out Liquidity and Bounding Own Supply

Two designs confront the leading rivals to the convenience reading directly. The first asks whether the France-minus-core asset-swap gap is a liquidity artifact. I move from benchmark series to individual bonds, keep every core sovereign bond b with seven-to-thirteen-year residual maturity, and estimate a France×Post difference-in-differences on bond-level ASW with and without security-level liquidity controls:

$$\mathrm{ASW}_{b,t} = \alpha + \beta\,\mathrm{France}_b + \kappa\,\mathrm{Post}_t + \delta\,(\mathrm{France}_b \times \mathrm{Post}_t) + \theta' L_{b,t} + \varepsilon_{b,t}, \tag{10}$$

where France_b marks French bonds, Post_t the 2024–2026 transition, and $L_{b,t}$ collects each ISIN's bid–ask spread, issue size, age, and modified duration. The coefficient of interest is δ. If the gap were a liquidity phenomenon, adding the security characteristics in $L_{b,t}$ would shrink δ. The control group is the core-ex-France pool $\{\mathrm{AT}, \mathrm{BE}, \mathrm{FI}, \mathrm{NL}\}$; German bonds, as the numeraire, are held out of the headline and added back in a robustness pool. Section 7.1 reports the estimate (Table 6).

The second design bounds how much of the gap France's own issuance can explain. A two-way fixed-effects regression of the twelve-month change in each issuer's pricing on the twelve-month change in its issuer-excluded substitute supply,

$$\Delta_{12} z_{i,t} = \eta\,\Delta_{12} S_{-i,t} + \mu_i + \mu_t + \varepsilon_{i,t}, \tag{11}$$

recovers an own-issuance elasticity η in the preferred-habitat sense of Vayanos and Vila (2021): the time effects μ_t absorb the common QE→QT cycle, the issuer effects μ_i absorb fixed level differences, and an issuer that floats more high-grade paper cheapens its own bonds. Multiplying η by France's excess free-float growth relative to the core bounds the share of the France-minus-core gap attributable to own supply at roughly half to three-quarters of the asset-swap gap, and more than fully accounts for the small default-netted residual (Table 10). Section 7 reports both designs.

The specifications do not estimate the welfare cost of losing safe-asset status, the probability of a future fiscal crisis, or the effect of a particular government announcement.

They answer a narrower asset-pricing question: whether the pricing objects that should contain convenience premia move against France relative to the rest of the core, and whether rival channels can fully absorb that movement. That narrower question is the one the available data can answer credibly.

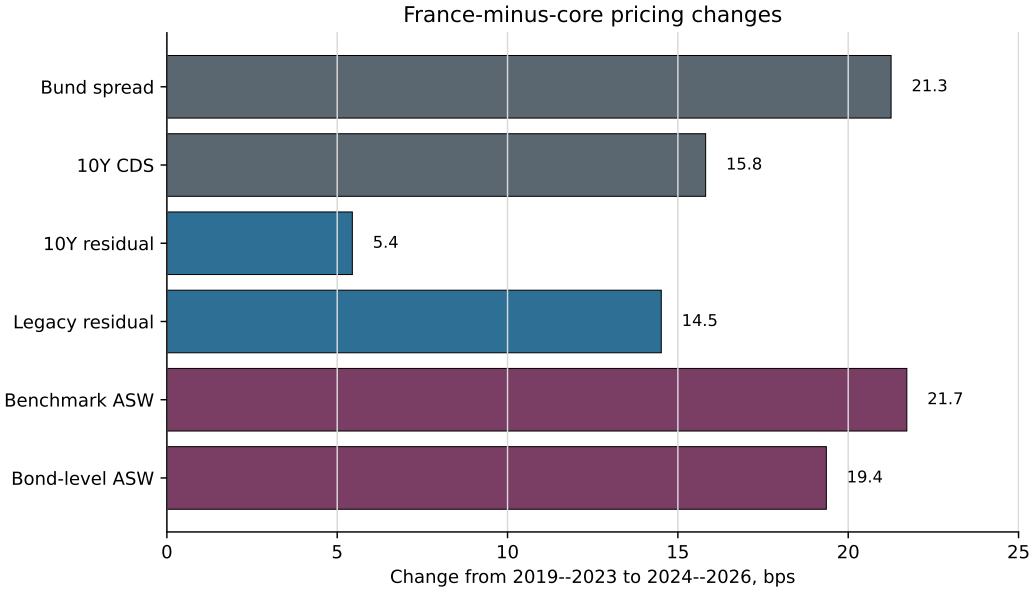
7 Results

Over 2024–2026 France comes to be priced less like the rest of the euro core, and the change shows up exactly where a loss of safe-asset standing should leave a trace: in the factor structure of euro sovereign pricing, in how richly French bonds trade against the swap curve, and in the part of the spread that default risk cannot account for. I read the episode as a sequence of objections. A France-specific safe-asset erosion makes a chain of signed predictions—French pricing should decouple from the pre-2024 core, the deterioration should sit in the convenience-sensitive prices and not only in default compensation, it should not be a liquidity artifact, it should not be convergence to the periphery, and it should track the supply of close substitutes—and each rival reading makes a different one. I take the predictions in turn: at each step I say first what the channel should move and in which direction, then show the exhibit, then read it. The detection comes first and carries the most weight, because it rests on full-sample, scale-free measures that do not hinge on a single date or coefficient. The episode is not a pure convenience shock either—French pricing reprices on convenience and on default at once—and the section is built to show how much of each.

The organizing fact is in Figure 1. Over the transition the France-minus-core relative spread widens by roughly 21.26 basis points, and the benchmark asset-swap gap—the same relative richness read against the swap curve—widens by 21.72 basis points (Appendix Table 19 gives every component's pre- and post-transition level). For a high-grade core issuer that began the period trading rich, a relative cheapening of this size is not a rounding move; it is the price at which the market now holds OATs against their closest peers, and it is what the rest of the section decomposes. This is one fact, not three.

That single fact splits cleanly, and the split disposes of the first rival at once. Table 3 writes the relative spread as an accounting identity: the ten-year credit-default-swap leg plus the part of the spread that default insurance does not price, the default-netted residual ($21.26 = 15.81 + 5.44$ basis points, up to rounding). The credit leg and the residual are two pieces of one gap, not two independent confirmations of it; and the asset-swap gap is the same object again, because the common swap leg cancels in any cross-issuer difference, leaving it a relabeling of the relative yield spread up to a maturity-matching wedge of about 0.46 basis points. If the episode were default and

Figure 1: France-minus-core pricing changes. The figure reports the change in average France-minus-core pricing components from 2019–2023 to 2024–2026. Positive values mean France cheapens (trades less richly) relative to the core-ex-France average; for the 10Y CDS row, a positive value means French default protection becomes more expensive.



nothing more, the credit leg would absorb the whole gap. It does not: the credit leg widens by 15.81 basis points, but the default-netted residual is positive, so default alone is not the story.

Table 3: France-minus-core spread decomposed into a CDS leg and a default-netted residual

Quantity	Role	Change (bps)
Relative yield-spread gap	Identity target	21.26
10Y CDS leg	Identity component	15.81
Non-CDS matched residual	Identity component	5.44
CDS leg + residual	Reconstruction	21.26
Identity residual	Target − reconstruction	0.00
Benchmark ASW gap	Relabeling of the relative yield spread	21.72
Bond-level ASW gap	Measurement validation	19.36

All figures are France-minus-core changes from 2019–2023 to 2024–2026, in basis points. The relative yield-spread gap is an accounting identity: the 10Y CDS leg plus the non-CDS matched residual. The benchmark-ASW gap is a relabeling of the relative spread: the common swap leg cancels, leaving a small maturity-matching wedge. The bond-level ASW row is a measurement validation, not a separate fact.

7.1 The detection: France decouples from the core

If France is leaving the core pool, the first thing that should happen is that its pricing stops being summarized by the structure that described the core through 2023. A safe-asset erosion predicts that French spreads become *less* explained by the pre-2024 core-and-periphery factor system—the signal is the decoupling itself, not the level of the spread. The competing reading, that France is simply converging to the troubled periphery, predicts something different and testable: France should move *toward* the periphery, not away from it.

I read the decoupling from the fit of the rolling regression of French spreads on the two pre-2024 factors, not from the loadings themselves. The raw loadings are uninterpretable here: post-2024 collinearity between the core and periphery factors drives the periphery loading β_τ^P of (2) to an implausible -16.22, so its sign and size carry no economic content. The interpretable, scale-free object is how much of French spread variance the old system can no longer explain—the unexplained share $U_\tau = 1 - R_\tau^2$ of (3). Table 4 and the left panel of Figure 2 show it rising from 0.16 to 0.50: the two-factor structure that left only one-sixth of French pricing unexplained before 2024 now misses half of it. France's correlation with the periphery factor falls by 0.94, almost its entire range—but, consistent with the collinearity just noted, I read that only as a symptom that the old system has broken down for France, not as a measure of how Italian or Spanish France has become.

Table 4: France's ten-year spread becomes far less explained by the pre-2024 core factors

Country	Metric	2019–2023	2024–2026	Change	Break date
FRA	Correlation with periphery factor	0.801	-0.137	-0.938	2024-10-31
FRA	Unexplained share, core+periphery model	0.161	0.499	0.338	2024-08-31
FRA	R^2 from core factor only	0.720	0.384	-0.336	2024-08-31
FRA	R^2 from periphery factor only	0.648	0.374	-0.274	2024-07-31

Diagnostics for France's ten-year Bund spread against the core-ex-France factor and the periphery factor. Factors are oriented so that higher values correspond to wider average spreads in the relevant group and are standardized to unit variance in the pre-2024 window. Correlations, variance shares, and unexplained shares are scale-free; we report them rather than raw principal-component loading magnitudes.

Whether the decoupling is idiosyncratic or convergence to the periphery is settled by the centroid distances in Table 5, measured in standardized spread space. France moves farther from the core centroid, from 0.331 to 1.920—a near-sixfold increase—but it also moves farther from the periphery centroid, from 0.849 to 3.662. A sovereign converging to the periphery would close the distance to it; France widens both. The right description is therefore core decoupling and rising idiosyncrasy: France is becoming its own outlier

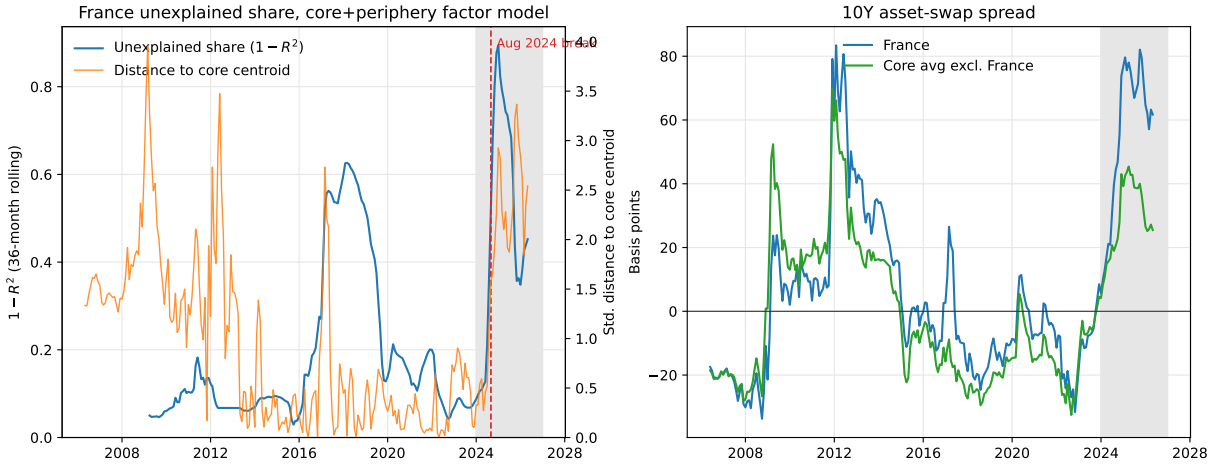
in the euro pricing system, not a new member of the periphery (leave-one-out core placebos, which re-estimate the factors dropping one core country at a time, give the same reading; Appendix Table 21).

Table 5: France distances to core and periphery centroids

Distance	2019–2023	2024–2026	Change
Distance to core centroid	0.331	1.920	1.589
Distance to periphery centroid	0.849	3.662	2.814

Distances are absolute differences between France's standardized ten-year Bund spread and the standardized core or periphery centroid. Standardization uses country-specific means and standard deviations from 2014–2023. A falling periphery distance would support literal movement toward the periphery; a rising core distance with no periphery-distance decline supports core decoupling.

Figure 2: France factor migration and asset-swap spread deterioration. The left panel reports the scale-free factor diagnostics: the share of French spread variance left unexplained by the pre-2024 core-plus-periphery structure, together with France's standardized distance from the core centroid. The right panel reports ten-year benchmark ASW in basis points for France and the core-ex-France average.



A direct price comparison points the same way. Over the transition window France trades above both the active and the broader supranational ten-year points, in yield and in asset-swap terms (Appendix Tables 24 and 25). These series cannot support the pre/post split the national-core benchmark allows—supranational asset-swap coverage begins only in mid-2024—so I treat them as corroborating description rather than as a second detection test: OATs lost ground not only against national core issuers but against EU-level paper as well.

7.2 The price at the centre: asset-swap deterioration is not liquidity

At the centre of the gap is the asset-swap deterioration, and it is the largest piece economically. France's ten-year asset-swap spread rises by 64.77 basis points over the transition against 43.05 for the rest of the core, so the France-minus-core asset-swap gap widens by 21.72 basis points (right panel of Figure 2). A bond in demand for its safety and collateral value trades rich, below the swap curve; a gap of this size means OATs gave up much of that richness relative to their core peers—the market stopped paying France as much for what its debt does.

The first objection a careful reader raises is liquidity: perhaps OATs simply became harder and cheaper to trade, and the asset-swap gap measures that, not convenience. The prediction is signed and specific. If the gap were a liquidity phenomenon, controlling for how liquid the individual bonds are should shrink it toward zero, and France's bonds should have become *less* liquid as they cheapened. I test this with a France×Post difference-in-differences on individual near-ten-year bonds, equation (10), run with and without security-level liquidity controls (Table 6). The France×Post coefficient does the opposite of what the liquidity story needs: it *rises* when issue size, age, duration, and the bid–ask spread enter, from 20.74 basis points without controls to 23.25 with them. And the bid–ask data run the wrong way for that story—France's bid–ask spread *tightened* by 0.56 basis points over the transition against 0.18 for the control group, so France became relatively easier to trade, by 0.38 basis points, even as it cheapened. The liquidity channel accounts for about -1% of the gap: essentially none, and with the wrong sign. The asset-swap deterioration is a repricing of the same bonds, not a change in how cheaply they trade.

The deterioration is also not an artifact of how the benchmark series is built. Benchmark asset-swap spreads can be distorted by the choice of on-the-run bond or by idiosyncratic specialness in a single issue, so I rebuild the gap from individual near-ten-year bonds drawn from different underlying data: it comes to 19.36 basis points, close to the 21.72-basis-point benchmark figure (Appendix Table 26), and the liquidity-controlled bond-level estimate above pushes it higher still. The headline asset-swap finding does not depend on the benchmark export.

7.3 Inside the credit leg: CDS, redenomination, and the small residual

The identity put 15.81 basis points of the gap in the credit leg, and the natural next question is what that leg contains. It is not all pure default. Part of it is redenomination risk—the chance that euro claims are repaid in a devalued national currency after a euro exit—and a safe-asset erosion at a core sovereign predicts that this component, too, moves against France. Because the credit leg I net out is measured on dollar-settled

Table 6: France ASW deterioration survives bond-level liquidity controls

Dependent variable:	(1) No controls ASW (bp)	(2) + Liquidity controls ASW (bp)
France × Post	20.744***	23.251***
	(2.787)	(2.073)
	[3.184]	[2.518]
Bid–ask spread (bp)		0.602
		(0.468)
log(issue size, EUR bn)		1.474
		(3.540)
Age (years)		0.264**
		(0.092)
Duration (years)		3.986***
		(0.498)
Country (issuer) FE	Yes	Yes
Month FE	Yes	Yes
Observations	2125	2125
R^2	0.934	0.966

Near-10Y (7–13y) fixed-coupon nominal euro government bonds, France vs. the control group {AT, BE, FI, NL}, monthly, 2019-01 to 2026-05. Dependent variable: bond-level asset-swap spread, ASW (bp); $Post = 1$ from June 2024. France × Post is France's differential ASW change relative to controls. SEs in parentheses are two-way clustered by issuer and month; with only 5 sovereign clusters, bracketed SEs clustered by bond (ISIN) and month are the benchmark and set the stars.
$^{*}p < 0.10$, $^{**}p < 0.05$, $^{***}p < 0.01$.

CDS, which pay in a currency a euro break-up would not debase, redenomination is already stripped from the residual; but I can measure it directly rather than leave it implicit. The instrument is the quanto spread, the dollar-minus-euro CDS differential on the same sovereign (Kremens, 2024; De Santis, 2019): only the euro-settled contract pays in the currency at risk, so the gap between them prices euro-breakup risk. The prediction is that France's quanto rises over the transition while the core's does not.

That is what Table 7 shows. France's ten-year redenomination premium rises by 5.89 basis points (12.54 to 18.43), while the core's is flat (-0.89), leaving a France-minus-core increase of 6.78 basis points. That is a sizable share of the 15.81-basis-point credit leg: a meaningful part of what would otherwise read as default compensation is in fact the market pricing the small but rising chance that France's euro debt is redenominated. The credit leg is default *and* euro-breakup risk, not default alone.

Table 7: Measured France redenomination quanto (USD−EUR sovereign CDS)

	5-year			10-year		
	Pre	Post	Δ	Pre	Post	Δ
France	6.94	10.26	3.32	12.54	18.43	5.89
Core average	4.02	3.85	-0.17	7.40	6.51	-0.89
France − core	2.93	6.41	3.49	5.14	11.92	6.78

Redenomination quanto = USD-denominated minus EUR-denominated sovereign CDS par mid spread (Refinitiv), in basis points. A EUR-settled contract under-prices euro break-up risk relative to a USD-settled contract, so a positive quanto measures the market price of redenomination risk (De Santis, 2019; Kremens, 2024).

Monthly averages of daily par-mid spreads. Pre = 2019–2023, Post = 2024–2026, Δ = Post − Pre. Core average is the equal-weighted mean quanto across DE, AT, BE, FI, NL.

Both legs share one weekday grid, dated by the real France CDS trading-day index from the matched Refinitiv daily file. That index is a Monday–Friday weekday grid (holidays carried forward) and coincides exactly with a business-day calendar, so absolute dating of every observation entering the quanto is exact and there is no calendar drift.

The France 10Y quanto change (5.89 bp) and the France−core 10Y quanto change (6.78 bp) both exceed the matched 10Y CDS-adjusted spread residual change (5.44 bp), so a measured redenomination leg of plausible size absorbs the residual. Descriptive; no standard errors.

What remains once both default and redenomination are set aside is the default-netted residual, and it is deliberately the part of the argument I lean on least. It moves with everything else but is small: the France-minus-core ten-year residual rises by 5.44 basis points and the five-year matched residual by 7.73, both far below the 14.51 basis

points of the legacy residual that subtracted a five-year CDS from a ten-year spread. The difference is mechanical, not economic: France's CDS curve steepened over the episode—its five-to-ten-year slope rose by 8.55 basis points—so the maturity-mismatched legacy measure overstated the residual. The clean matched residual survives, but it is small and noisy, and the supply evidence below shows it loads on substitute supply and own issuance rather than forming a clean convenience-specific leg (Appendix Table 23). I therefore rest the convenience reading on the asset-swap deterioration and the factor decoupling—robust, full-sample, scale-free—not on this residual. Setting it aside leaves the contribution, detecting and measuring the migration, intact while making plain that the mechanism is mixed.

That mixture is the section's main restraint, and it is worth stating once, plainly. A pure convenience shock would move the asset-swap gap and the residual a lot and the CDS leg little. France does not deliver that: the convenience-sensitive prices deteriorate, and the credit leg moves too. The mechanism regressions that follow discipline the interpretation; they do not convert the episode into a single-channel causal claim.

7.4 Specificity: France is the unique outlier

A France-specific erosion has to be specific to France. The objection here is that the whole core might be decoupling and repricing together, or that the tests mechanically manufacture a post-2024 break for any core country; both predict that France's neighbours should look like France. They do not. In the factor structure, France alone shows the rise in the unexplained share—Austria, Belgium, Finland, and the Netherlands move in individual correlations or variance shares, but France is the clear outlier in becoming less explained by the pre-2024 system. The asset-swap break is just as specific: core-country placebos that run the same specification for each of the other four (Table 27) return a post-2024 indicator that is statistically insignificant for all of them, so the test is not picking up a mechanical post-2024 pattern shared across the core. A data-driven counterfactual—synthetic difference-in-differences and augmented synthetic control (Arkhangelsky et al., 2021; Abadie et al., 2010; Ben-Michael et al., 2021)—tells the same story for the asset-swap and residual rows, though I read it as corroboration rather than identification: the credit leg also diverges, the permutation inference is not sharp enough to isolate a convenience-only effect, and the French "treatment" is a sequence of political and fiscal news rather than a clean adoption date (Appendix Table 22 and Figure 3).

The cross-country supply panel both sharpens the specificity and explains why the France-minus-core design is necessary. Estimating the supply regression (7) issuer by issuer (Table 8), only France ($+17.19$, $p = 0.002$) and the Netherlands ($+5.15$, $p < 0.001$)

load positively on the substitute pool in asset-swap space; the other core issuers and most of the periphery load negatively, simply tracking the common QE-to-QT cycle. A positive loading is the convenience-boundary sign—an issuer cheapens as close substitutes proliferate—and it appears in exactly the two highest-convenience core benchmarks, the issuers a boundary reading would single out. This is why a pooled cross-country coefficient is not a clean estimate of the channel, and why differencing France against the core is the right design. The panel does not by itself isolate France, because the Netherlands shares the supply-sensitive premium. What isolates France is the combination: it is the only core sovereign that both decouples from the pre-2024 factor structure and carries a supply-sensitive convenience premium. The Netherlands has the second without the first.

7.5 The substitute-supply channel: setting, magnitude, and its inference limits

The episode unfolds while the pool of close substitutes for OATs is growing, and a boundary mechanism predicts that this matters: as high-grade euro paper that can absorb safe-asset demand becomes more plentiful, a marginal issuer's convenience premium compresses and France should cheapen relative to the core. The relevant pool is not French debt but the France-excluded stock of high-grade euro free float—German, Austrian, Belgian, Finnish, and Dutch paper net of Eurosystem holdings, plus a supranational margin—which rose from 1.538 to 1.810 trillion euros over the transition (Appendix Table 35), with the EU and EU/ESM/EFSF bond sets adding a further 0.129 and 0.195 trillion euros. The signed prediction is $\beta_1 > 0$ in (7).

The design has to difference out the common swing in that pool, for a measurement reason. Almost all of the movement in the France-excluded float is one shared QE-to-QT cycle: a one-way decomposition assigns 98.2% of the variation in its twelve-month change to a common between-month component, and 97.3% among the core issuers off which the coefficient is identified, leaving under 3% that is cross-sectional.[3] The level of supply therefore cannot be identified from cross-country dispersion; differencing France against the core, which shares the common cycle, is what isolates France's own loading.

Within that design the coefficient is positive and stable. The controlled twelve-month estimate (Table 9) is that a one-trillion-euro increase in the substitute pool is associated with a 2.60-basis-point rise in the France-minus-core residual gap, and it holds across the EU, active-supranational, and extended-supranational pools (2.51, 2.48, and 2.54), under

[3] One-way ANOVA of the twelve-month change in issuer-excluded substitute supply with the month as the grouping factor.

Table 8: Per-country substitute-supply elasticity (does the France result generalize?)

Country	Group	Δ_{12} ASW β	Δ_{12} Resid. β	N
AUT	core	-7.937***	-23.538***	53
		(1.196)	(1.631)	
BEL	core	-2.377**	8.100*	53
		(0.969)	(4.510)	
FIN	core	-4.988**	-12.760***	53
		(2.333)	(0.771)	
FRA	core	17.192***	24.495***	53
		(5.574)	(6.129)	
NLD	core	5.153***	2.252	53
		(1.442)	(4.395)	
ESP	periphery	-6.221***	0.423	53
		(1.556)	(4.533)	
GRC	periphery	-40.194**	-33.959***	22
		(16.925)	(8.664)	
IRL	periphery	10.897**	18.191*	53
		(4.614)	(10.445)	
ITA	periphery	-46.616***	-20.568***	53
		(3.470)	(1.976)	
PRT	periphery	-2.586	-8.006	53
		(3.604)	(6.959)	

Each row is a separate country time-series regression of the twelve-month change in the outcome on that in the country's own-excluded high-grade euro float S_{-i}, controlling for the leave-one-out common-core movement and the twelve-month CDS-slope change. Standard errors (in parentheses) are Newey–West with twelve lags; positive β is the substitute-supply sign. Among the core issuers, positive ASW loadings are confined to France and the Netherlands; on the CDS-orthogonalized residual, France (and marginally Belgium) load positive instead. The positive substitute-supply elasticity does not generalize across the core comparators, so the pooled panel coefficient is not a clean estimate of the substitute-supply channel.
$^{*}p < 0.10$, $^{**}p < 0.05$, $^{***}p < 0.01$.

duration-weighting (Appendix Table 37), and under a harmonized central-government debt base (Appendix Table 34). The sign is robust: France cheapens relative to the core as substitutes proliferate.

Table 9: Substitutable-supply mechanism regressions

	12m S	ASW 12m S+All
$\Delta_{12} S$ core	2.599***	
	(0.940)	
$\Delta_{12} S$+all supra		2.887***
		(0.810)
Δ debt/GDP gap	0.221	0.113
	(0.794)	(0.492)
Δ deficit/GDP gap	-5.438***	-3.510***
	(1.916)	(0.995)
Δ core residual	-0.139	
	(0.088)	
Δ core ASW		0.117
		(0.080)
Δ CDS slope	-1.043***	
	(0.353)	
Observations	53	53
R^2	0.380	0.104

Dependent variables are monthly changes in France-minus-core pricing gaps; both columns use the twelve-month change in substitutable supply. S is the France-excluded core free-float pool: debt securities outstanding minus ECB PSPP/PEPP holding proxies for DE, AT, BE, FI, NL. The ASW column adds the extended EU/ESM/EFSF/EIB supranational universe to the pool. National debt is ECB CSEC, sector S1311 (central government). Standard errors are HAC with twelve lags.
$^{*}p < 0.10$, $^{**}p < 0.05$, $^{***}p < 0.01$.

The magnitude is where I stop short of a firm claim, and deliberately. Taken at face value the point estimate is large: on a cumulative horizon it accounts for about four-fifths of the credit-inclusive asset-swap gap (78.7%, Appendix Table 36). But that share admits no valid inference—its bootstrap interval runs from 14.9% to 110.8% of the gap—and on the small default-netted residual the same horizon over-explains (195.0%), the signature of a noisy denominator rather than a precise share. Two facts pin down why. First, the coefficient's significance comes from the 2021–2022 QE-unwind window, where the supply regressor actually varies, not from the French episode: dropping those months leaves the full-sample sign and size intact but removes significance ($p \approx 0.20$; Appendix Table 38). Restricted to the 2024–2026 episode alone, which carries almost no supply variation, the asset-swap supply coefficient is in fact significantly *negative* (-18.9, $p = 0.01$). The point estimate is robust; its significance borrows from the earlier window, and its in-episode sign is, if anything, wrong. I therefore read substitute supply

as a directionally-consistent contributing channel, alongside the detection, not as a measured magnitude.

A second qualification fixes what the residual is. It is not an inert convenience-specific leg waiting to be explained: it responds strongly to supply in its own right—France's by-country residual loading on the substitute pool is +24.49 ($p < 0.001$; Table 8)—so it behaves like a supply or preferred-habitat object. France's own issuance reinforces the point. Bounding the own-supply channel through the elasticity η of (11) (Table 10), France's excess free-float growth of 0.210 trillion euros implies 11.2 to 16.8 basis points of the asset-swap gap, roughly 52 to 78% of it—and applied to the small default-netted residual, the same own-issuance bound more than exhausts it ($\approx$ 143–151%). These are overlapping associations on the credit-inclusive gap, not a partition to be summed; the over-explanation is one more sign that the residual is small and noisy rather than a convenience-specific remainder. The substantive reading rests on the detection and the asset-swap deterioration, with supply as a contributing channel—not on the residual.

Table 10: Preferred-habitat own-issuance bound on the France-minus-core gap.

Gap	Excess own ΔFF (EUR trn)	Own-supply elast. (bp/trn)	Implied Y (bp)	Share of gap (%)
asw	0.210	53–80	11.2–16.8	52–78
residual	0.210	39–37	8.2–7.8	151–143

Excess own free-float change = France's own free-float change minus the mean change across the pricing-core peers {AUT,BEL,FIN,NLD}, 2019–2023 vs 2024–2026 (free-float data begin 2020-12). Own-supply elasticity is the negated two-way-FE coefficient on the leave-one-out pool S_{-i} (core vs all-issuer range, tier3_panel_supply.csv), a symmetric-substitutes proxy. Implied Y = excess × elasticity; share = Y/ observed gap change (ASW 21.7 bp, residual 5.4 bp).

7.6 Rival channels: common-core, investor base, default risk

A France-specific asset-swap deterioration is still not proof of safe-asset erosion, because three rivals could produce it: a convenience cycle common to the whole euro core, amplification by France's large foreign-investor base, or plain default-risk compensation. Each makes a signed prediction. If the move is common-core, the France-specific component should vanish once I control for the core's own convenience change. If it is investor-base amplification, an interaction of France's foreign-ownership share with political and rating shocks should enter positively and absorb the French component. If it is default, the same shocks should price French CDS. I put all three into the discrimination regression (9) directly (Table 11).

Table 11: Discriminating France-specific convenience erosion from rival channels

	Res. H1	ASW H1	Res. + core	Res. + foreign	ASW + foreign	CDS leg	Res. + slope
Δ debt/GDP	1.615***	0.743	1.725	1.778***	0.760	1.443	1.681
	(0.322)	(2.653)	(1.884)	(0.555)	(3.203)	(1.683)	(1.052)
Δ debt/GDP × boundary	0.362	1.830	-0.992	-0.403	1.962	-3.608**	
	(0.735)	(2.749)	(1.935)	(0.742)	(3.107)	(1.762)	
Δ free-float share vs core	110.891	-421.527**	-217.413*	136.270	-461.844***	-158.998	-247.029***
	(144.826)	(175.876)	(120.999)	(171.962)	(179.064)	(219.936)	(81.823)
Δ core residual			0.933***		0.208	0.032	0.871***
			(0.161)		(0.128)	(0.201)	(0.102)
Δ core ASW				0.165			
				(0.134)			
Foreign × shock				-0.000	0.026*	0.036**	
				(0.019)	(0.016)	(0.015)	
Δ CDS 5s10s slope							-1.029***
							(0.252)
Observations	63	63	63	63	63	63	63
R^2	0.015	0.091	0.518	0.033	0.128	0.082	0.676

Notes: The sample is monthly France observations. The residual is the 10Y Bund-spread residual after subtracting 10Y CDS; the CDS column is the default-risk check. The free-float regressor is France's free-float share (central-government debt outstanding net of ECB holdings, divided by debt outstanding) minus the core-ex-France average, expressed as a 0–1 fraction; a coefficient of order 100–300 therefore corresponds to basis points per unit (100-percentage-point) move in the relative share, and the realised monthly standard deviation of the regressor is about 0.003, so the implied per-month effect is roughly one basis point. The negative and significant free-float coefficient in the CDS-leg column is a mechanical basis effect rather than genuine default-risk news: a supply-driven rise in free float cheapens the cash bond and compresses measured 10Y CDS relative to the cash leg, so a supply proxy loads negatively on the CDS leg by construction. Standard errors in parentheses are HAC with six monthly lags. $^{*}p < 0.10$, $^{**}p < 0.05$, $^{***}p < 0.01$.

The common-core channel is real, and it is part of the story rather than a defeat for it. Once the core's own residual change enters the residual regression, the fit rises sharply and the relative-fundamentals terms weaken: France repriced while the entire euro safe-asset pool was shifting, and a credible France-specific claim has to survive against that background—which is exactly what the France-minus-core differencing imposes. The investor-base channel is also present, and in both legs. The foreign-share-times-shock interaction is positive in the asset-swap specification, with a bootstrap interval above zero, consistent with a larger foreign base making the price response to political and rating news stronger—but the same interaction is positive in the CDS specification, so those events move default compensation too, not convenience alone.

The holder data show the amplification mechanism at work. As the Eurosystem ran down its French portfolio under quantitative tightening—a residual, price-insensitive holding sector that fell by 89.0 billion euros—domestic banks absorbed 70.1 billion euros of French paper (Table 12). A price-insensitive holder gave way to a price-sensitive one, raising bank–sovereign concentration exactly as the bonds cheapened: across the nine episode quarters the France-minus-core asset-swap gap correlates $+0.88$ with domestic bank holdings and -0.84 with the Eurosystem-dominated sector. These are episode-level co-movements, so they corroborate the amplification reading rather than identify it; the moving-block bootstrap confirms that the sign pattern survives serial dependence (Appendix Table 28).

The bottom line is deliberately disciplined. The evidence supports a France-specific erosion of safe-asset pricing—in the factor diagnostics, the asset-swap gap, the matched residual, and the bond-level data—but it does not isolate a pure convenience channel, because the same shocks that move the convenience-sensitive prices also move CDS. That is the ambiguity one should expect near a safe-asset boundary, where investors reassess convenience and credit risk at the same time. Table 11 is therefore a discrimination among coexisting channels, not a horse race with a single winner: the common-core terms show France is not moving in isolation, the CDS column shows credit-risk compensation is active, and the asset-swap and residual evidence shows that neither exhausts the move.

7.7 Timing: events, diffusion, and the announcement test

The timing of the repricing is itself evidence on the mechanism. A gradual safe-asset migration, driven by capital that rebalances slowly as the substitute pool grows, predicts that the deterioration accrues *between* the political and budget announcements; a story of discrete news shocks predicts the opposite, that it jumps *on* them. The break dates already lean the first way—common core-level convenience erosion begins earlier, in

Table 12: Who held French government debt over the 2024–2026 episode: domestic holder-sector decomposition (ECB SHS-S)

	Holdings (EUR bn)		Δ level	Δ share
Domestic holder sector	2023-Q4	2025-Q4	(EUR bn)	(pp)
Panel A. Domestic holdings of French government debt				
Banks (MFIs ex. central bank)	208.1	278.3	+70.1	+6.0
Investment funds	37.2	46.3	+9.1	+0.8
Insurance corporations	300.2	299.9	-0.4	+0.2
Pension funds	24.8	25.2	+0.4	+0.0
Named private financial (sum)	570.3	649.6	+79.3	+7.0
Residual (Eurosystem, households, etc.)	633.9	544.9	-89.0	-7.0
Total economy (all domestic holders)	1204.2	1194.5	-9.7	+0.0
Panel B. Co-movement with the France−core asset-swap spread				
France−core ASW, 2023-Q4 (bps)				2.6
France−core ASW, 2025-Q4 (bps)				40.5
Corr(ASW, named-private share)				+0.88 (n=9)
Corr(ASW, bank holdings)				+0.88 (n=9)
Corr(ASW, residual holdings)				-0.84 (n=9)

Source: ECB Securities Holdings Statistics by Sector (SHS-S); *domestic holdings only* (French holders of French debt). Levels in EUR bn; Δ share in pp, 2023-Q4 to 2025-Q4. "Named private financial" is the sum of the four sectors above; "Residual" is total economy minus those four, mostly the Eurosystem portfolio. Panel B reports descriptive Pearson correlations that corroborate, but do not identify, investor-base amplification.

the monetary-normalization period, while the France-specific measures break only in 2024, after the June dissolution—and two designs make the point sharp.

The first is an on-impact announcement test, equation (8): when a dated supply-news shock enlarges the pool of high-grade euro paper, does France cheapen relative to the core within five days? It does not. The pooled response is a null, and the residual and asset-swap versions even disagree in sign ($\beta = 0.49$ and $\beta = -0.57$; Appendix Table 39). This is not a power failure: at the supply slope estimated above, the per-event effect the residual should show exceeds the minimum detectable effect at nine events ($e_z/\text{MDE}_z \approx 2.83$; Appendix Table 40), so the test could detect the mechanism if it operated on impact. A null from an adequately powered on-impact test is exactly what a diffusing supply effect predicts: an effect that accrues as intermediaries slowly rebalance should not surface in a five-day window (Duffie, 2010; Lou et al., 2013). One dated signal does survive, and I report it as suggestive only: France is the single core member whose relative residual response to supply news turns decisively positive after June 2024, from about -0.52 to $+1.83$ (Appendix Table 41), the boundary sign the thesis predicts—though it rests on few events, is window-sensitive, and flips in the asset-swap version. The 2011–2013 French stress is a useful foil (Appendix Table 42): it unfolded while the substitute pool was static, whereas the 2024–2026 transition is precisely the configuration—a growing pool—under which the boundary mechanism can operate.

The second design measures the diffusion directly. Table 13 splits each pricing leg's total transition change into an in-window component—the sum of five-day moves around the dated French political, budget, and rating events—and a between-window remainder, by construction. The reading is sharp: for both the asset-swap and the CDS legs the repricing accrues predominantly between the windows. The asset-swap gap moves 7.4 basis points in window against a total of 32.6, an in-window share of 22.8%; the CDS gap moves -3.8 against 22.8, a share of -16.5%. Barely a fifth of the asset-swap deterioration, and none of the CDS deterioration, lands on the announcement dates—the rest seeps in between them, the signature of a supply or diffusion mechanism rather than a stack of headline jumps. The matched residual is the most window-concentrated of the three legs at 41.8%, still a minority. The announcement null and the between-window accrual are two readings of one mechanism.

The event-window figures fill in the texture (Appendix Figures 4 and 5). The June 2024 dissolution is credit-heavy, with CDS jumping alongside the asset-swap gap, and the convenience-like repricing reads more convincingly as a cumulative, persistent level change across the window than as the response to any one announcement; later events scatter, some moving the asset-swap gap more, some moving CDS, some partly reversing—a sequence of information arrivals, not a single clean shock. That scatter is

Table 13: Event versus diffusion: where the France-minus-core transition change accrues

Metric	In-window sum (bps)	Total transition change (bps)	Between-window diffusion (bps)	In-window share (%)
ASW gap	7.43	32.60	25.17	22.8
Matched residual gap	11.82	28.24	16.42	41.8
10Y CDS gap	-3.77	22.78	26.55	-16.5

All figures are France-minus-core changes in basis points. The split is exact: in-window plus between-window equals the total transition change over 2024-01-31 to 2026-04-30. In-window counts days within the 19 event windows (five trading days each side of each dated French shock); between-window (diffusion) is the complement, and the share is in-window over total. A low in-window share supports diffusion/supply.

the visual case for the paper's restraint: the episode contains both convenience-like and credit-risk repricing, so neither a pure safe-asset nor a pure default story fits. Finally, the demoted monthly fundamentals regressions are kept visible as mechanism diagnostics (Appendix Table 29); their sign instability is why they are no longer identification evidence.

7.8 Taking stock

The confluence of the evidence is what carries the argument, because no single piece is decisive on its own. First, and load-bearing, is the detection: French pricing decouples from the pre-2024 core-and-periphery factor structure—the unexplained share rises from 0.16 to 0.50 while France moves away from both the core and the periphery centroids—and the relative spread decomposes by an accounting identity into a credit leg and a default-netted residual. Both are full-sample and scale-free, independent of any single date or p-value, and at their centre the asset-swap deterioration survives bond-level liquidity controls. Second, the move is specific to France: it is the unique core outlier in the factor decoupling, and the only core issuer that both decouples and carries a convenience premium that reprices on substitute supply—the Netherlands does the second but not the first. Third, the expanding substitute pool is the setting and a directionally-consistent contributing channel: the controlled twelve-month coefficient is positive and stable, an own-issuance bound accounts for half to three-quarters of the asset-swap gap, the repricing diffuses between event windows rather than jumping on them, and France is the only core member whose supply-news response turns positive after 2024. Fourth, the investor base moved in step, domestic banks absorbing French paper as the Eurosystem withdrew.

Two qualifications bound the reading, and I state them plainly. France is a single

sovereign over a short window, so the within-episode supply variation is small and the supply coefficient's significance borrows from the earlier 2021–2022 high-variation window—within the episode its sign even reverses; and the default-netted residual is the most fragile leg of the identity, small and noisy and supply-associated rather than a clean convenience premium. Neither touches the result that carries the section: a France-specific erosion of safe-asset pricing, visible in the factor decoupling and the asset-swap gap, robust to liquidity controls and specific to France, unfolding as the high-grade substitute pool expanded while political and rating news raised default-risk compensation at the same time.

8 A Boundary Model

The empirical sections measure a transition; this section asks what kind of boundary could rationalize it. The model is an organizing device for the signs the data recover, not a structural counterpart to the accounting identity. The environment is a static global game in the tradition of Carlsson and van Damme (1993); Morris and Shin (2003); Goldstein and Pauzner (2005). A unit continuum of investors each decide whether to roll a marginal unit of French debt as recognized-safe euro collateral or to exit into substitutes. France retains safe-asset status if the run mass ℓ is below its resilience fundamental θ and loses it if $\ell \geq \theta$. Investors observe private signals $x_i = \theta + \sigma\varepsilon_i$, where $\sigma > 0$ scales the idiosyncratic signal noise ε_i.

Let S_t denote privately held high-grade substitute supply and $B_{FR,t}$ the French stock. The recognized-safe pool is $Q_t = S_t + B_{FR,t}$ and earns a convenience premium $\lambda(Q_t)$ with $\lambda'(Q_t) < 0$. The loss of safe-asset standing in that state is δ, capped by the backstop parameter $\phi \in [0, 1]$, so $\delta^{\text{eff}} = \delta(1 - \phi)$. In the uniform-prior global game, the unique threshold is

$$\theta_t^* = \frac{\delta(1-\phi)}{\lambda(S_t + B_{FR,t}) + \delta(1-\phi)}.$$

The comparative statics are immediate, and each lines up with a sign the empirical sections recover. More substitute supply raises the threshold because scarcity value falls:

$$\frac{\partial \theta_t^*}{\partial S_t} = \frac{-\delta(1-\phi)\lambda'(Q_t)}{[\lambda(Q_t) + \delta(1-\phi)]^2} > 0,$$

the model counterpart of the positive substitute-supply coefficient—the France-minus-core gap widens as the France-excluded pool expands ($\beta_1 > 0$ in (7), Table 9). A stronger backstop ϕ lowers the threshold, the margin behind the reading that credible backstops keep a core issuer inside the substitutable pool.

To map the model into prices, I write France's resilience as

$$\theta_{FR,t} = a_0 - a_1 \, relfund_t, \qquad a_1 > 0,$$

where $relfund_t$ is France's debt and deficit position relative to the core-ex-France average; $a_1 > 0$ is the model counterpart of the predicted sign on the relative-fundamentals controls x^{FR-C}, a deterioration in France's relative fiscal position widening the gap. Aggregate uncertainty smooths the safe-status probability,

$$\Pi_t = \Phi\left(\frac{\theta_{FR,t} - \theta_t^*}{\sigma_\theta}\right),$$

where $\Phi(\cdot)$ is the standard-normal cumulative distribution function and $\sigma_\theta > 0$ is the scale (standard deviation) of aggregate uncertainty about France's resilience fundamental $\theta_{FR,t}$. The observable normalized France-minus-core convenience gap is

$$\mathrm{GAP}_t = [\lambda(Q_t) + \delta(1-\phi)](1-\Pi_t).$$

This equation isolates the two forces behind the measured gap. The first bracket is the convenience value at stake and moves with the common safe-asset pool—the common-core convenience erosion the empirical design nets out through the core-ex-France control. The second bracket is France-specific boundary risk—the factor decoupling and France-specific asset-swap deterioration I isolate. The model therefore nests both common convenience erosion, as substitute supply expands, and France-specific erosion, as relative fundamentals reduce $\theta_{FR,t}$ or as the threshold rises.

The closed-form threshold, the comparative statics, and the $\mathrm{GAP}_t = [\lambda(Q_t) + \delta(1-\phi)](1-\Pi_t)$ factorization are the model's contribution: they show how common convenience erosion and France-specific boundary risk enter the observable gap multiplicatively rather than additively. The empirical France-minus-core decomposition is instead an additive identity—a CDS leg plus a non-CDS residual—which is why the model serves to organize the signs the data recover, not to mirror that identity.

9 Conclusion

Whether a government's debt is a safe asset is a rank, not a label, and markets regrade that rank continuously. France in 2024–2026 shows that a large, liquid, core euro sovereign can begin to slip down it while still firmly investment-grade and with no default in sight—and that the slip is legible in prices as it happens. French pricing pulled away from the pre-2024 core rather than toward the periphery; the deterioration sat in the convenience-sensitive prices and not only in default compensation; it was not

a liquidity artifact and not a pool-wide cycle; and it unfolded as the supply of close high-grade substitutes grew around France. The contribution is the framework that separates these pieces and makes the erosion measurable in real time, demonstrated here on the hardest case the euro area offers.

The claim is bounded to what prices support. France is one sovereign over a short window, the safe-asset state is latent, and the within-episode variation in substitute supply is small, so the framework detects and dates the migration without resolving it into a single causal channel: substitute supply is a directionally-consistent contributing channel rather than a pinned-down magnitude, and the episode mixes convenience-like and credit-risk repricing, as one should expect near a boundary where investors reassess safety and default at once.

These limits do not blunt the implication. The euro safe-asset pool is better studied as a moving hierarchy than as a fixed set of country labels, and the natural state variable is a sovereign's distance to the convenience boundary rather than the boundary itself. For policy, the quiet, between-crisis process by which markets decide which sovereigns remain close substitutes for Bunds—visible here in a price-insensitive holder, the Eurosystem, giving way to a price-sensitive one, domestic banks—is itself a margin that credible backstops and EU-level safe-asset issuance can act on, not only in a crisis but in keeping core issuers inside the substitutable pool. What the French episode establishes is that this erosion can be watched as it happens, which is what makes acting before the crisis possible.

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A Data Construction and Validation

The raw local market inputs are immutable under `data/raw`. The main monthly market panel is generated by `src/build/market_panel.py`. It merges five- and ten-year benchmark Bund spreads, five- and ten-year CDS, benchmark ASW, and matched CDS-adjusted residuals. The mechanism panel is generated by `src/build/mechanism_panel.py`. It adds Banque de France non-resident holdings, Eurostat fiscal series, ECB CSEC debt securities outstanding, and PSPP/PEPP holdings proxies. The source audit is recorded in `memo/data_audit.md`.

This appendix first documents source provenance and synthetic validation. The source table is a family-level audit trail: it tells the reader which raw source classes enter the paper, where they are stored locally, and how they map into empirical objects. The file-level manifest remains machine-readable in `data/processed/source_manifest.csv`. The synthetic recovery table is a pipeline gate rather than a substantive result; it checks that the estimator can recover planted signs before it is applied to the French data.

The section also reproduces the sample map, the variable dictionary, and the pre- and post-transition summary statistics for the mechanism and supply regression variables.

B Detection, Counterfactual, and Residual Robustness

This appendix collects the detection, counterfactual, supranational-comparison, and residual-bounding exhibits that support Section 7.1. Table 19 reports the full pre- and post-transition levels of every France-minus-core pricing component summarized in Figure 1. Table 20 reports the underlying factor split with the raw loadings, and Table 21 reports the leave-one-out core placebo diagnostics. Table 22 and Figure 3 report the data-driven counterfactual; donor weights, narrow-core rows, and false-onset checks were examined and give the same broad message. Tables 24 and 25 compare France with constant-maturity EU and active EU/ESM/EFSF supranational ten-year series. Table 23 audits the matched residual.

Figure 3: France and its data-driven counterfactual. Synthetic DiD weights are chosen on the pre-onset path and relative-fundamental predictors. The vertical line marks the June 2024 dissolution onset.

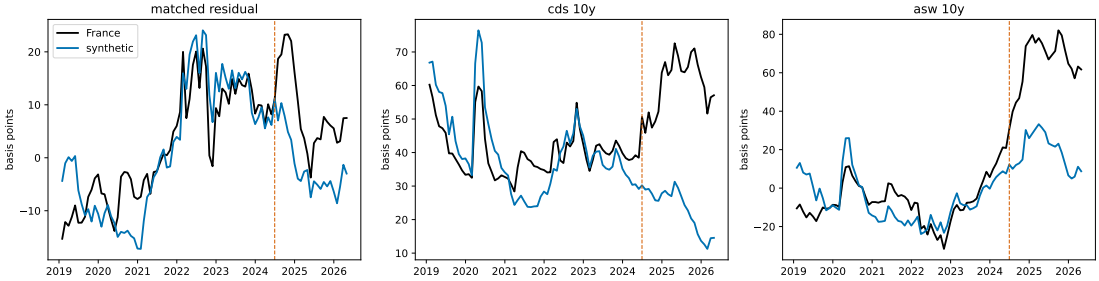


Table 14: Raw-source provenance and empirical use

Source family	Local raw path	Unit and transformation	Empirical role	Validation flag
FactSet sovereign market panel	`Factset`	Sovereign-day five- and ten-year benchmark yields; averaged to country-month Bund spreads.	Factor migration, raw spread changes, headline 10Y residual, 5Y cross-check, and legacy 10Y-minus-5Y row.	local=yes; files=16
Sovereign CDS panel	`CDS`	Sovereign-day five- and ten-year CDS mid-spreads; averaged to country-month.	Default-risk leg, headline 10Y matched residual, 5Y cross-check, legacy row, and CDS dependent-variable checks.	local=yes; files=6
Benchmark bond ASW panel	`Bond-benchmark`	Benchmark ten-year sovereign ASW; daily files aggregated to monthly means.	Headline convenience-like price and event-window ASW response.	local=yes; files=8
EU-bond FactSet workbook	`Factset/EU-bonds.xlsx`	EU-bond daily YTM, z-spread, and ASW by ISIN; interpolated to a constant-maturity ten-year series.	Direct France-versus-EU-bond pricing comparison.	local=yes; files=1
Supranational FactSet workbook	`Factset/supra-bonds`	EU/ESM/EFSF daily YTM, z-spread, ASW, and amount outstanding by ISIN.	Direct France-versus-supranational pricing comparison and broader substitute-supply robustness.	local=yes; files=1
Extended supranational FactSet workbook	`Factset/supra-extended`	EU/ESM/EFSF/EIB daily YTM, z-spread, ASW, and amount outstanding by ISIN, including retired bonds while outstanding.	Complete supranational pricing anchor and all-supranational substitute-supply robustness.	local=yes; files=1
Bond-level Europe file	`Bond-Europe`	Bond-day observations; amount-weighted eight-to-twelve-year ASW reconstruction.	Bond-level robustness against benchmark-selection artefacts.	local=yes; files=8
Banque de France and Eurostat	`public`	Monthly or quarterly public macro-financial series; aligned to month-end.	Non-resident share, debt/GDP, and deficit/GDP controls.	local=yes; files=101
ECB programme and CSEC files	`ecb`	Issuer-month holdings proxies and country-quarter debt outstanding.	Central-bank holdings, private-float, and common-supply controls.	local=yes; files=10
France event registry	`public/events`	Dated political, budget, and rating events with shock weights.	Event-window timing and foreign-share-times-shock interaction.	local=yes; files=5

The table records source families rather than every raw file. The full file-level inventory is generated as `data/processed/source_manifest.csv`. Raw files remain immutable; all transformations are performed by the Python pipeline.

Table 15: Synthetic recovery gate

	H1 only	Add H2/H3	Full basis	CDS placebo
Relative safe-asset pressure	-17.26***	-13.72***	-11.51***	5.45**
	(2.83)	(1.01)	(1.26)	(2.27)
Pressure × near boundary	-9.17***	-8.54***	-8.03***	1.16
	(2.57)	(0.78)	(0.73)	(1.25)
Common core factor		0.73***	0.67***	-0.09
		(0.03)	(0.03)	(0.07)
Amplification term		1.35***	2.25***	0.69
		(0.47)	(0.59)	(2.03)

The table reports the planted-effect recovery exercise that must pass before the real-data estimators are used. Standard errors are in parentheses.
$^{*}p < 0.10$, $^{**}p < 0.05$, $^{***}p < 0.01$.

Table 16: Sample map across empirical blocks

Block	Frequency	Sample	Reason
Transition pricing	Monthly	2014–2026, headline means 2019–2026	Long enough pre-window to estimate core and periphery factors before the 2024 transition.
Matched residual audit	Monthly	2019–2026	Compares the normal pre-transition window with the fiscal-political transition window.
Substitute-supply regressions	Monthly changes	2021-02 to 2026-04	Requires debt outstanding, holdings proxies, fiscal fundamentals, and market prices in the same month.
Event windows	Daily	Dated France rating, political, and budget events	Measures short-window pricing responses around pre-assigned public events.
Appendix robustness	Monthly/daily	Output-specific	Uses the widest sample available for each falsification or robustness exercise.

The table explains why observation counts differ across tables. Raw data are kept immutable; all samples are generated by the pipeline.

Table 17: Variable dictionary and sign conventions

Variable	Formula	Sign	Source
10Y CDS-adjusted spread residual	10Y yield spread over Bund minus 10Y CDS	Higher = larger non-CDS component of Bund spread	FactSet benchmark yields; local CDS panel
5Y matched residual	5Y yield spread over Bund minus 5Y CDS	Higher = larger non-CDS component at 5Y	FactSet benchmark yields; local CDS panel
Legacy residual	10Y yield spread over Bund minus 5Y CDS	Higher = larger residual, but maturity-mismatched	Legacy robustness only
Asset-swap spread	Vendor benchmark-bond ASW	Negative = bond rich to swaps; increase = cheapening	Bond-benchmark local files
Substitute supply excl. France	DE/AT/BE/FI/NL debt outstanding minus PSPP/PEPP holdings proxy	Higher = larger competing high-grade free float	ECB CSEC; ECB PSPP/PEPP histories
EU 10Y pricing anchor	Constant-maturity interpolation across EU-bond ISINs	France minus EU > 0 means France trades cheaper than EU paper	FactSet EU-bond workbook
EU/ESM/EFSF 10Y pricing anchor	Constant-maturity interpolation across active EU, ESM, and EFSF ISINs	France minus supranational > 0 means France trades cheaper than supranational paper	FactSet supranational-bond workbook
EU/ESM/EFSF/EIB 10Y pricing anchor	Constant-maturity interpolation across the extended EUR supranational ISIN set	France minus all-supranational > 0 means France trades cheaper than the broader supranational curve	FactSet extended supranational-bond workbook
Event shock weight	Pre-assigned event-type weight from rating, political, and budget characteristics	Higher = larger ex ante adverse public event	France event registry

All market variables are in basis points except substitute supply, which is in EUR trillions in regressions.

Table 18: Summary statistics for mechanism and supply regression variables

	2019–2023					2024–2026				
Variable	Mean	SD	Min	Max	N	Mean	SD	Min	Max	N
Δ France−core matched residual (bp)	0.031	3.571	-12.130	8.247	60	0.543	3.231	-4.102	12.068	28
Δ France−core ASW gap (bp)	-0.128	1.805	-6.791	3.018	60	1.240	3.870	-5.553	10.830	28
Δ France−core legacy residual (bp)	0.024	2.907	-9.829	8.477	60	0.870	3.199	-5.539	10.449	28
Δ France matched residual (bp)	0.384	4.508	-16.838	11.369	60	-0.030	3.495	-5.855	7.580	28
Δ France ASW (bp)	0.335	4.337	-13.264	12.746	60	2.001	5.982	-7.573	18.488	28
Δ France Bund spread (bp)	0.075	4.850	-11.658	20.079	60	0.587	5.604	-9.234	15.086	28
Δ relative debt/GDP (pp)	0.016	0.275	-0.820	1.380	35	0.031	0.163	0.000	0.860	28
Δ relative deficit/GDP (pp)	-0.002	0.242	-0.940	1.440	60	0.010	0.053	0.000	0.280	28
Δ debt/GDP × near-boundary	0.000	0.000	0.000	0.000	35	0.031	0.163	0.000	0.860	28
Free-float share (0–1)	0.668	0.041	0.617	0.752	37	0.714	0.030	0.665	0.762	28
Δ relative free-float share	0.001	0.004	-0.009	0.008	36	-0.001	0.004	-0.006	0.008	28
Foreign share × event shock	0.415	3.215	0.000	24.900	60	23.671	37.949	0.000	131.040	28
Δ core matched residual (bp)	0.353	3.936	-8.492	10.296	60	-0.572	2.698	-5.081	6.001	28
Δ core ASW (bp)	0.463	3.622	-6.473	10.683	60	0.762	3.996	-5.125	15.032	28
Δ CDS 5s10s slope (bp)	-0.129	1.492	-3.848	4.446	60	0.478	2.020	-3.574	6.309	28
ΔS core (EUR trn)	-0.013	0.062	-0.109	0.108	36	0.018	0.035	-0.051	0.101	28
$\Delta_{12}S$ core (EUR trn)	-0.243	0.272	-0.563	0.344	25	0.270	0.043	0.183	0.335	28
ΔS+all supra (EUR trn)	-0.011	0.062	-0.114	0.108	36	0.023	0.036	-0.052	0.097	28
$\Delta_{12}S$+all supra (EUR trn)	-0.211	0.281	-0.538	0.384	25	0.318	0.043	0.232	0.394	28
Post-2024 indicator	0.000	0.000	0.000	0.000	60	1.000	0.000	1.000	1.000	28

Descriptive statistics for the France-level series used by the Block B/C and substitute-supply regressions. Columns are the 2019–2023 pre-transition and 2024–2026 transition windows. Pricing and CDS variables are in basis points; relative fiscal variables in percentage points; substitute-supply changes in EUR trillions; free-float share is a 0–1 fraction. Δ and Δ_{12} denote one- and twelve-month changes; a dash means no finite observation in that window.

Table 19: France-minus-core pricing decomposition

Component	2019–2023	2024–2026	Change	Months
Bund spread	6.81	28.07	21.26	88
10Y CDS	14.52	30.34	15.81	88
10Y residual	-7.71	-2.27	5.44	88
Legacy residual	-2.17	12.34	14.51	88
Benchmark ASW	5.01	26.73	21.72	88
Bond-level ASW	4.40	23.75	19.36	88

Values are France minus the core-ex-France average. A positive change means France cheapens (trades less richly) relative to the core; for the 10Y CDS row, a positive value means French default protection becomes more expensive. The bond-level ASW row uses the amount-weighted eight-to-twelve-year reconstruction. Months is the pooled total of 60 pre-transition (2019–2023) and 28 transition (2024–2026) months.

Table 20: France safe-asset transition diagnostics

Metric	2019–2023	2024–2026	Change	Break date	SSE gain
France 10Y residual	1.25	9.01	7.76	2021-11-30	0.68
Core 10Y residual	8.96	11.28	2.32	2022-02-28	0.57
France minus core 10Y residual	-7.71	-2.27	5.44	2024-07-31	0.29
France ASW	-8.38	56.39	64.77	2024-06-30	0.88
Core ASW	-13.39	29.66	43.05	2024-02-29	0.81
France minus core ASW	5.01	26.73	21.72	2024-07-31	0.86

Means compare the pre-transition window 2019–2023 with 2024–2026. Spread residual and ASW rows are in basis points. The break date is the one-break split that minimizes within-regime squared deviations over 2019–2026. Raw two-factor principal-component loadings are omitted here: they are scale-dependent and unstable under post-2024 factor collinearity. The scale-free migration diagnostics in Table 4 and the centroid distances in Table 5 carry the interpretation.

Table 21: Leave-one-out core placebos: the other core issuers do not show France's loss of fit

Country	Metric	2019–2023	2024–2026	Change	Break date
AUT	Correlation with periphery factor	0.609	0.769	0.160	2021-11-30
AUT	Unexplained share, core+periphery model	0.184	0.144	-0.041	2020-06-30
AUT	R^2 from core factor only	0.765	0.621	-0.143	2020-06-30
AUT	R^2 from periphery factor only	0.426	0.625	0.199	2021-12-31
BEL	Correlation with periphery factor	0.749	0.662	-0.088	2020-09-30
BEL	Unexplained share, core+periphery model	0.102	0.110	0.008	2020-06-30
BEL	R^2 from core factor only	0.823	0.885	0.062	2022-02-28
BEL	R^2 from periphery factor only	0.597	0.457	-0.139	2020-09-30
FIN	Correlation with periphery factor	0.486	0.674	0.188	2020-11-30
FIN	Unexplained share, core+periphery model	0.279	0.202	-0.077	2020-06-30
FIN	R^2 from core factor only	0.632	0.700	0.068	2020-06-30
FIN	R^2 from periphery factor only	0.367	0.503	0.135	2021-08-31
NLD	Correlation with periphery factor	0.630	0.763	0.132	2022-03-31
NLD	Unexplained share, core+periphery model	0.265	0.184	-0.081	2022-02-28
NLD	R^2 from core factor only	0.676	0.607	-0.069	2022-01-31
NLD	R^2 from periphery factor only	0.451	0.604	0.153	2022-03-31

The table recomputes core factors leave-one-out for each core issuer. Factors are oriented so that higher values correspond to wider average spreads in the relevant group and are standardized to unit variance in the pre-2024 window. Correlations, variance shares, and unexplained shares are scale-free; we report them rather than raw principal-component loading magnitudes.

Table 22: Data-driven counterfactual France

Outcome	Donors	Estimator	Pre RMSPE	Post gap	Cumulative gap	Placebo p
matched_residual	broad	equal_weight_did	8.95	10.42	239.59	0.11
matched_residual	broad	augmented_equal_weight	5.09	10.36	238.33	0.11
matched_residual	narrow_core	synthetic_did	4.16	6.94	159.71	0.20
matched_residual	narrow_core	augmented_scm	3.82	6.71	154.33	0.20
cds_10y	broad	equal_weight_did	19.57	36.99	850.76	0.22
cds_10y	broad	augmented_equal_weight	10.21	31.98	735.44	0.22
cds_10y	narrow_core	synthetic_did	9.40	14.39	331.01	0.20
cds_10y	narrow_core	augmented_scm	5.62	17.88	411.25	0.20
asw_10y	broad	equal_weight_did	27.12	46.39	1067.06	0.22
asw_10y	broad	augmented_equal_weight	13.81	38.58	887.32	0.22
asw_10y	narrow_core	equal_weight_did	6.54	26.97	620.27	0.20
asw_10y	narrow_core	augmented_equal_weight	4.05	26.83	617.13	0.20

Equal-weight rows are cases where the constrained optimizer collapses to near-uniform donor weights, so the design is read as weakly corroborative difference-in-differences evidence, not a clean synthetic-control estimate. With eight donors the smallest attainable permutation p-value is $1/9 \approx 0.11$, so a reported p of 0.11 means France is the most extreme unit in the pool, not a marginal failure to reject.

Table 23: Matched-maturity residual and ASW sign audit

Diagnostic	2019–2023	2024–2026	Change	Months
10Y CDS-adjusted spread residual	-7.71	-2.27	5.44	88
5Y matched residual	-4.17	3.57	7.73	88
Legacy 10Y spread minus 5Y CDS	-2.17	12.34	14.51	88
France CDS 5s10s slope	16.09	24.64	8.55	88
Monthly residual change on France CDS 5s10s slope change	-0.45	0.30	0.14	213
Bund 10Y ASW level	-47.97	-9.52	38.45	88
France 10Y ASW level	-8.38	56.39	64.77	88

Residual rows are France minus the core-ex-France average. The headline residual subtracts 10Y CDS from the 10Y Bund spread; the 5Y row matches 5Y yields to 5Y CDS; the legacy row is the old 10Y spread minus 5Y CDS proxy. In the slope-control row, the first numeric column is the slope coefficient, the second its HAC standard error, and the third its p-value. ASW rows audit vendor sign conventions: negative ASW means the bond yield is below the swap curve; an increase means the bond cheapens relative to swaps.

Table 24: France relative to EU-bond 10Y pricing

Object	First month	Last month	Mean	Latest
France minus EU 10Y yield	2021-09-30	2026-04-30	22.67	32.84
France minus EU 10Y ASW	2024-07-31	2026-04-30	31.87	36.34

Values are basis points. The EU 10Y series is a constant-maturity interpolation across the EU ISINs in `data/raw/Factset/EU-bonds.xlsx`. Yield gaps are France 10Y yield minus EU 10Y YTM. ASW gaps are France benchmark ASW minus EU 10Y ASW. EU ASW coverage starts in July 2024 in the supplied workbook, so the ASW row is a within-transition comparison rather than a 2019–2023 versus 2024–2026 transition mean.

Table 25: France relative to EU/ESM/EFSF 10Y pricing

Object	First month	Last month	Mean	Latest
France minus EU/ESM/EFSF 10Y yield	2017-03-31	2026-04-30	25.76	44.48
France minus EU/ESM/EFSF 10Y ASW	2024-07-31	2026-04-30	34.47	42.18

Values are basis points. The supranational 10Y series is a constant-maturity interpolation across active EU, ESM, and EFSF EUR bonds in `supranational-bonds.xlsx`. Yield gaps are France 10Y yield minus supranational 10Y YTM. ASW gaps are France benchmark ASW minus supranational 10Y ASW. EIB bonds and matured bonds not in the active-ISIN pull are not included.

C Robustness and Diagnostic Tables

This appendix reports the robustness checks referenced in Section 7.7. The tables are generated by the same pipeline as the main results and are regenerated by `python run_all.py -stage all`. They cover event-window timing, benchmark-versus-bond-level ASW measurement, core-country placebos, moving-block bootstrap inference for the discrimination specifications, and the demoted monthly mechanism diagnostics.

The robustness checks are organized by objection. Event windows address timing and ask whether the transition is driven by a single date. Bond-level ASW addresses measurement error in the benchmark series. Core-country placebos ask whether the same specification mechanically produces similar patterns for other core issuers. Moving-block bootstrap intervals address serial dependence in the short monthly transition window. The mechanism-diagnostic table keeps the original relative-fundamentals regressions visible while making clear that they do not identify a nonlinear safe-asset schedule.

Table 26: Bond-level ASW robustness

Metric	2019–2023	2024–2026	Change	Months
France bond-level ASW	-10.12	54.29	64.41	88
Core bond-level ASW	-14.52	30.54	45.06	88
France minus core	4.40	23.75	19.36	88

The table rebuilds ASW from individual sovereign bonds in `data/raw/Bond-Europe` with remaining maturity between eight and twelve years. Values are amount-weighted by amount outstanding.

The event-window timing exhibits referenced in Section 7.7 follow. Figures 4 and 5 plot the France-minus-core legs through the event sequence and the event-window ASW–CDS scatter, and Table 30 reports the France event-window responses.

D Supply, Liquidity, and Cross-Country Tests

This appendix collects the supply and liquidity tables that support the substitute-supply material in Section 7. They rule out a bond-level liquidity explanation for the France asset-swap gap, place the substitute-supply elasticity in a cross-country panel, and reconcile the France residual supply coefficient across estimation horizons.

Table 27: Core-country placebo regressions

	AUT	BEL	FIN	NLD
Δ relative debt/GDP	-0.823	-0.583	0.729***	-1.194
	(1.061)	(0.394)	(0.182)	(0.913)
Δ free-float share vs core	-28.196	-139.752	110.724**	67.146
	(76.545)	(99.328)	(53.736)	(47.096)
Post-2024	-0.065	0.195	-0.171	0.493
	(1.213)	(1.346)	(1.173)	(1.254)
Observations	63	64	63	64
R^2	0.002	0.027	0.053	0.044

Dependent variable is the monthly change in ten-year benchmark ASW. Standard errors are HAC with six monthly lags.
$^{*}p < 0.10$, $^{**}p < 0.05$, $^{***}p < 0.01$.

Table 28: Moving-block bootstrap inference

Specification	Term	Estimate	Boot. SE	2.5 pct.	97.5 pct.
Basis	Δ relative debt/GDP	1.724	2.824	-5.364	4.413
Basis	Δ relative debt/GDP × near boundary	-0.965	2.357	-3.394	6.178
Basis	Foreign share × shock	0.002	0.011	-0.014	0.029
ASW	Δ relative debt/GDP	1.839	0.783	-0.572	2.950
ASW	Δ relative debt/GDP × near boundary	-2.745	1.330	-4.023	0.000
ASW	Foreign share × shock	0.037	0.020	0.005	0.066
CDS	Δ relative debt/GDP	1.443	2.573	-1.524	7.642
CDS	Δ relative debt/GDP × near boundary	-3.608	2.769	-9.188	0.000
CDS	Foreign share × shock	0.036	0.025	-0.006	0.061

Bootstrap: 499 six-month moving-block resamples, checking serial dependence in the key Block C discrimination specifications.
Units: free-float coefficients are basis points per unit (100-percentage-point) move in the relative free-float share, a 0–1 fraction.
The ASW foreign-share-shock estimate is 0.041 here versus 0.033 in the main discrimination table; the gap reflects a different core control (bootstrap: core-ASW, OLS; main: core residual, HAC), not a disagreement in sign or significance.

Table 29: Mechanism regressions for France

	Basis sparse	Basis full	ASW full	Spread full
Δ debt/GDP vs core	1.821***	2.130***	-6.200***	8.535***
	(0.217)	(0.699)	(0.670)	(1.129)
Δ debt/GDP × near-boundary		-0.397	14.367***	-14.071***
		(1.688)	(2.417)	(2.527)
Δ deficit/GDP vs core		1.457	-19.118***	14.971***
		(1.908)	(2.538)	(2.446)
Δ free-float share vs core		101.906	-393.894***	-87.209
		(149.924)	(151.598)	(281.622)
Post-2024 indicator		-0.408	1.351	-0.343
		(0.989)	(1.726)	(1.258)
Observations	63	63	63	63
R^2	0.008	0.017	0.129	0.037

Notes: The sample is monthly France observations. Dependent variables are monthly changes in the named basis-point series. Debt/GDP and deficit/GDP are relative to the core-ex-France average. Standard errors in parentheses are HAC with six monthly lags. $^{*}p < 0.10$, $^{**}p < 0.05$, $^{***}p < 0.01$.

Figure 4: France-minus-core pricing around the political-fiscal sequence. The figure plots monthly France-minus-core ASW, matched ten-year CDS-adjusted residual, and ten-year CDS, with major rating, political, and budget events marked by vertical lines.

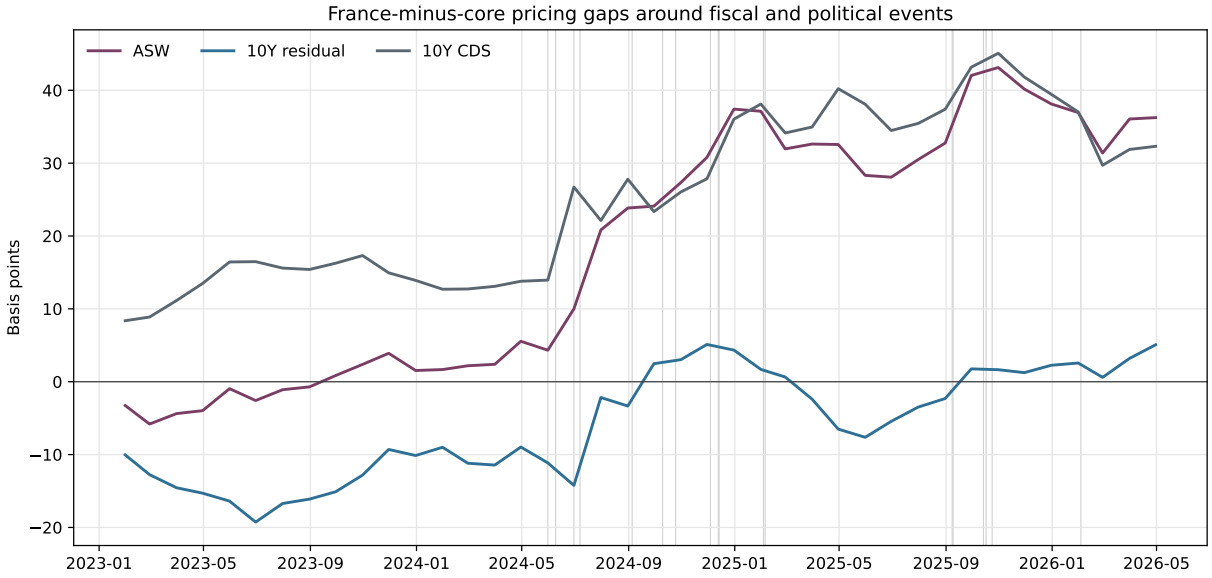
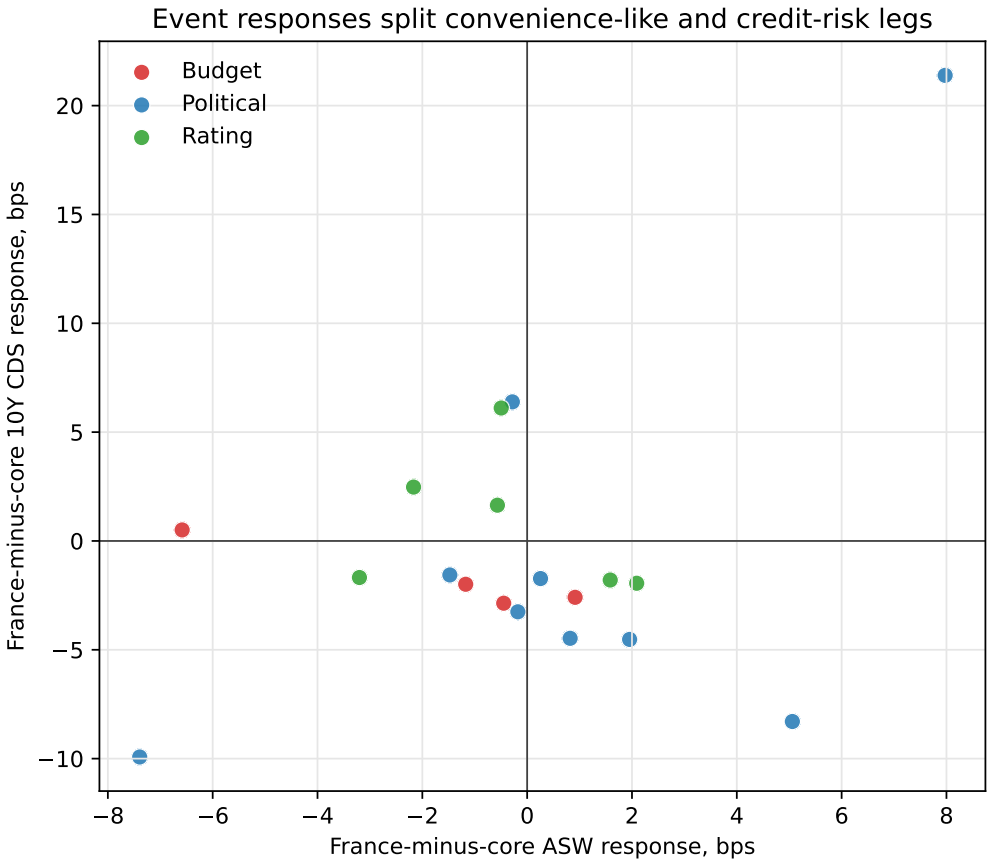


Table 30: France event-window changes

Date	Type	Metric	France	Core excl. France	France − core
2022-12-02	rating	ASW	-0.5	1.7	-2.2
2022-12-02	rating	10Y CDS	0.1	-2.4	2.5
2024-05-31	rating	ASW	1.0	1.6	-0.6
2024-05-31	rating	10Y CDS	0.8	-0.9	1.6
2024-06-09	political	ASW	8.2	0.2	8.0
2024-06-09	political	10Y CDS	22.6	1.2	21.4
2024-06-30	political	ASW	5.5	0.4	5.1
2024-06-30	political	10Y CDS	-8.6	-0.4	-8.3
2024-07-07	political	ASW	-6.3	1.1	-7.4
2024-07-07	political	10Y CDS	-11.0	-1.1	-9.9
2024-09-05	political	ASW	-0.6	0.9	-1.5
2024-09-05	political	10Y CDS	-1.6	0.0	-1.6
2024-10-10	budget	ASW	2.4	2.8	-0.4
2024-10-10	budget	10Y CDS	-2.4	0.4	-2.9
2024-10-25	rating	ASW	11.1	9.5	1.6
2024-10-25	rating	10Y CDS	-1.6	0.2	-1.8
2024-12-04	political	ASW	-2.5	-2.7	0.3
2024-12-04	political	10Y CDS	-0.8	1.0	-1.7
2024-12-13	political	ASW	4.5	4.7	-0.3
2024-12-13	political	10Y CDS	8.5	2.1	6.4
2024-12-14	rating	ASW	3.5	4.0	-0.5
2024-12-14	rating	10Y CDS	8.3	2.2	6.1
2025-02-03	budget	ASW	-0.5	0.6	-1.2
2025-02-03	budget	10Y CDS	-1.2	0.7	-2.0
2025-02-05	political	ASW	2.1	2.3	-0.2
2025-02-05	political	10Y CDS	-2.6	0.6	-3.3
2025-09-08	political	ASW	-0.8	-2.8	2.0
2025-09-08	political	10Y CDS	-6.4	-1.9	-4.5
2025-09-09	political	ASW	-2.4	-3.2	0.8
2025-09-09	political	10Y CDS	-6.2	-1.7	-4.5
2025-10-14	budget	ASW	-9.7	-3.1	-6.6
2025-10-14	budget	10Y CDS	-1.2	-1.7	0.5
2025-10-17	rating	ASW	-4.7	-1.5	-3.2
2025-10-17	rating	10Y CDS	-2.4	-0.7	-1.7
2025-10-24	rating	ASW	3.7	1.6	2.1
2025-10-24	rating	10Y CDS	-1.7	0.2	-1.9
2026-02-03	budget	ASW	4.0	3.0	0.9
2026-02-03	budget	10Y CDS	-2.7	-0.2	-2.6

Entries are five-trading-day changes around each event date. ASW and CDS are in basis points; the France-minus-core column subtracts the average of Austria, Belgium, Finland, and the Netherlands.

Figure 5: Event-window ASW and CDS responses. Each point is a five-trading-day event-window response. The horizontal axis reports the France-minus-core ASW response; the vertical axis reports the ten-year CDS response.



The tables are generated by the supply-side scripts under `src/` (`tier3_liquidity.py`, `tier3_panel_supply.py`, and `tier3_reconcile.py`).

Table 31 reports the liquidity robustness on the legacy control pool that includes Germany: the France-minus-core ASW deterioration is unchanged when bond-level liquidity controls are added, confirming the Germany-excluded headline.

Table 31: France ASW deterioration survives bond-level liquidity controls (legacy Germany-included control pool)

Dependent variable:	(1) No controls ASW (bp)	(2) + Liquidity controls ASW (bp)
France × Post	21.578***	23.265***
	(1.477)	(1.070)
	[2.712]	[2.239]
Bid–ask spread (bp)		0.479
		(0.541)
log(issue size, EUR bn)		0.938
		(1.615)
Age (years)		0.046
		(0.172)
Duration (years)		3.291***
		(0.657)
Country (issuer) FE	Yes	Yes
Month FE	Yes	Yes
Observations	3180	3180
R^2	0.940	0.955

Near-10Y (7–13y) fixed-coupon nominal euro government bonds, France vs. the control group {DE, AT, BE, FI, NL}, monthly, 2019-01 to 2026-05. Dependent variable: bond-level asset-swap spread, ASW (bp); *Post* = 1 from June 2024. France × Post is France's differential ASW change relative to controls. SEs in parentheses are two-way clustered by issuer and month; with only 6 sovereign clusters, bracketed SEs clustered by bond (ISIN) and month are the benchmark and set the stars.
$^{*}p < 0.10$, $^{**}p < 0.05$, $^{***}p < 0.01$.

Table 32 reports the full cross-country substitute-supply panel: the common monetary cycle dominates the substitute-supply series across issuers, which is why the France-minus-core difference, rather than a cross-sectional regression, is the identifying design.

Table 33 reconciles the France residual supply coefficient across specifications, showing that the change in the estimate from the one-month France-minus-core specification to the twelve-month own-horizon specification is a specification choice rather than a data conflict.

The remaining supply exhibits referenced in Section 7.5 follow. Table 34 reports the pool-variant and horizon robustness of the headline twelve-month supply coefficient; Table 35 reports the substitutable high-grade euro supply pool; Table 36 the implied cumulative-horizon magnitude shares; Table 37 the duration-weighted supranational add-on robustness; and Table 38 the subsample stability of the twelve-month coefficient.

Table 32: Cross-country panel of the substitute-supply elasticity

	Δ_{12} ASW (bps)			Δ_{12} Residual (bps)		
	Country FE	Two-way FE	Two-way FE, core	Country FE	Two-way FE	Two-way FE, core
$\Delta_{12} S_{-i}$ (EUR trn)	-7.781	-80.108***	-53.225***	-8.734*	-36.951***	-38.978***
	(5.624)	(27.167)	(8.458)	(4.645)	(10.457)	(11.609)
Δ_{12} common-core	0.784***	absorbed	absorbed	0.610***	absorbed	absorbed
	(0.082)			(0.143)		
Δ_{12} CDS slope	0.924***	0.557**	0.514*	-0.732**	-0.835**	-0.697***
	(0.252)	(0.218)	(0.267)	(0.302)	(0.360)	(0.209)
Country FE	Yes	Yes	Yes	Yes	Yes	Yes
Time FE	No	Yes	Yes	No	Yes	Yes
Sample	All	All	Core	All	All	Core
Observations	499	499	265	499	499	265
Countries	10	10	5	10	10	5
Within R^2	0.571	0.213	0.488	0.562	0.155	0.274

Euro-area sovereign panel, monthly, overlapping twelve-month changes (2021m12–2026m4). Outcomes: twelve-month change in each country's ten-year ASW and its CDS-orthogonalized residual (bps). S_{-i} is the own-excluded high-grade euro float—central-government debt (ECB CSEC, S1311) minus ECB PSPP+PEPP holdings, summed over the core issuers {DE, FR, AT, BE, FI, NL} other than i; for periphery countries, the full core pool.

The common-core control is the leave-one-out average movement in the same outcome, absorbed by the time effects under two-way FE. Standard errors (in parentheses) are clustered by country and by month (two-way).

Identification caveat: with $\Delta_{12} S_{-i}$ overwhelmingly common across countries, the two-way-FE coefficient conflates the substitute-supply channel with an own-supply channel and is identified off the core issuers only, and the positive France-specific elasticity does not generalize—per-country estimates (Table 8) are positive only for France and the Netherlands.

$^{*}p < 0.10$, $^{**}p < 0.05$, $^{***}p < 0.01$.

Table 33: Reconciling the France residual supply coefficient: the 2.54 $\rightarrow$ 24.49 gap is a specification ladder, not a contradiction; at the matched (Δ_{12}) horizon the France residual responds significantly to supply.

Specification	Outcome	Core coef.	β_{supply}	p	N
Paper headline (native N)	d1 (Fr-core)	unit(+free adj)	2.54	0.004	53
Tier-3 by-country FRA (native N)	d12 (own)	free(looc)	24.49	0.000	53
Paper spec, common sample	d1 (Fr-core)	unit(+free adj)	2.59	0.004	52
+ outcome $\Delta_1 \rightarrow \Delta_{12}$	d12 (Fr-core)	unit(+free adj)	27.44	0.000	52
+ core unit $\rightarrow$ free	d12 (own)	free	27.44	0.000	52
+ drop fiscal controls	d12 (own)	free	22.34	0.000	52
+ supply pool $\rightarrow S_{-i}$ (= tier-3)	d12 (own)	free	24.47	0.000	52

Common sample $N = 52$ months (intersection of all ladder variables). Newey–West HAC(12) standard errors. The paper's France-minus-core residual series equals the tier-3 own residual (max abs diff 0.0) and the core membership is identical (leave-one-out vs core-ex-France Δ_{12} max abs diff $1.07e-14$), so neither data nor sample window drives the gap.

Unit-vs-free core is immaterial: once the core movement is a free right-hand-side control (as in both the paper and tier-3 specs), the differenced (unit) and own-residual (free) Δ_{12} rows give an identical supply coefficient (27.44 in both, to 13 digits). The large gap between the one-month headline (2.54) and the twelve-month estimate (27.44) is driven by the outcome differencing horizon ($\Delta_1 \rightarrow \Delta_{12}$), which cumulates the supply response over the year. At the matched (Δ_{12}) horizon the residual responds significantly to supply: the coefficient is 27.44 ($p < 0.001$) and stays significant and economically similar when the relative-fiscal controls are dropped (22.34, $p < 0.001$) and when the supply pool is narrowed to the tier-3 S_{-i} measure (24.47, $p < 0.001$). These Δ_{12} changes overlap, so the HAC(12) p-values rest on few non-overlapping windows and the moving-block bootstrap interval in the economic-magnitude table is correspondingly wide; the point estimate, however, is large and stable across the control set and the supply pool, so the matched-horizon supply response is a robust feature, not an artefact of the Δ_1-outcome spec.

Table 34: Substitutable-supply regressions: substitute-pool and horizon robustness

	Residual	ASW	12m S+EU	12m S+Supra	12m S+All Supra	Legacy
ΔS core	7.345	6.736				8.140
	(8.352)	(6.183)				(9.044)
$\Delta_{12} S$+EU			2.511***			
			(0.884)			
$\Delta_{12} S$+EU/ESM/EFSF				2.484***		
				(0.872)		
$\Delta_{12} S$+all supra					2.539***	
					(0.892)	
Δ debt/GDP gap	1.031*	0.926	0.233	0.237	0.241	0.975
	(0.597)	(0.871)	(0.789)	(0.788)	(0.792)	(0.821)
Δ deficit/GDP gap	-3.486***	-1.154	-5.477***	-5.476***	-5.494***	-3.839**
	(1.278)	(1.348)	(1.907)	(1.904)	(1.928)	(1.853)
Δ core residual	-0.145		-0.138	-0.138	-0.138	-0.075
	(0.123)		(0.088)	(0.088)	(0.089)	(0.146)
Δ core ASW		0.127*				
		(0.074)				
Δ CDS slope	-0.989***		-1.045***	-1.045***	-1.044***	
	(0.288)		(0.352)	(0.351)	(0.352)	
Observations	63	63	53	53	53	63
R^2	0.332	0.046	0.381	0.381	0.380	0.066

Substitute-pool and horizon robustness variants of the substitutable-supply regressions. Dependent variables are monthly changes in France-minus-core pricing gaps. S is the France-excluded core free-float pool: debt securities outstanding minus ECB PSPP/PEPP holding proxies for DE, AT, BE, FI, NL. S+EU, S+Supra, S+All Supra add EU, then active EU/ESM/EFSF, then the extended EU/ESM/EFSF/EIB universe. The Residual and ASW columns use one-month supply changes; the Legacy column uses the legacy ten-year residual. National debt is ECB CSEC, sector S1311 (central government). Standard errors are HAC with six lags (twelve for twelve-month changes).
$^{*}p < 0.10$, $^{**}p < 0.05$, $^{***}p < 0.01$.

Table 35: Substitutable high-grade euro supply

Component	2019–2023	2024–2026	Change
Core substitute free float excl. France	1.538	1.810	0.272
Core substitute free float plus EU bonds	1.569	1.969	0.400
Core substitute free float plus EU/ESM/EFSF bonds	1.722	2.189	0.467
Core substitute free float plus EU/ESM/EFSF/EIB bonds	2.095	2.482	0.387
Core free float plus EU/ESM/EFSF/EIB bonds (duration-weighted 10y add-on)	1.973	2.355	0.383
EU-bond outstanding in supplied ISIN set	0.031	0.160	0.129
EU/ESM/EFSF bond outstanding in supplied ISIN set	0.184	0.379	0.195
EU/ESM/EFSF/EIB bond outstanding in extended ISIN set	0.557	0.672	0.115
Eurosystem supranational holdings proxy	0.405	0.395	-0.010

Values are EUR trillions. The first row is the headline France-excluded core free-float proxy. The S+EU row adds amount outstanding for EU bonds; the S+Supra row adds active EU, ESM, and EFSF bonds from the supplied FactSet workbook; S+All Supra adds the extended EU, ESM, EFSF, and EIB universe including historical retired/matured bonds while outstanding. The Eurosystem row records only supranational holdings from PSPP/PEPP histories.

Table 36: Economic magnitude of the supply channel

Outcome	Basis	β_1	p	Sig.	Implied [95% CI]	Gap	Share [95% CI]
Matched residual	Cumulative horizon	27.438	0.000	yes	10.61 [-0.27, 18.23]	5.44	195.0% [-4.9, 334.9]
ASW	Cumulative horizon	44.211	0.000	yes	17.10 [3.23, 24.07]	21.72	78.7% [14.9, 110.8]

implied level effect = beta_1^(h=12) x (Sbar_{2024-26} - Sbar_{2019-23}); share = implied level effect / observed gap change. Units: (bp per EUR trn) x (EUR trn) = bp. beta_1 uses the core-plus-EU/ESM/EFSF/EIB pool.

The implied ASW share is a descriptive point estimate near four-fifths of the observed gap change (78.7%), but it is NOT validly inferable: its moving-block bootstrap interval is very wide (14.9–110.8%). The "yes" ($p = 0.000$) entry in the Sig. column is the HAC p-value on overlapping twelve-month changes, whose effective non-overlapping sample is small; it overstates precision and does not license a precise share. Read the share as an order of magnitude (roughly four-fifths), not a point-identified quantity.

Table 37: Duration-weighted (DW10) supply robustness

Outcome	Face value	DW10
Matched residual	2.539***	2.572***
	(0.892)	(0.850)
ASW	2.887***	2.930***
	(0.810)	(0.798)
Observations	53	53

Controlled twelve-month supply coefficient (basis points per EUR trillion) on the France-excluded core-plus-EU/ESM/EFSF/EIB pool, for the matched-residual and ASW outcomes. The Face value column uses the supranational add-on's amount outstanding; the DW10 column replaces it with a ten-year duration-weighted measure (national base unchanged). Standard errors are HAC with twelve lags.

$^{*}p < 0.10$, $^{**}p < 0.05$, $^{***}p < 0.01$.

Table 38: Subsample stability of the controlled twelve-month supply coefficient

Outcome	Subsample	β	SE	p
Matched residual	Full sample	2.539***	0.892	0.004
	Excl. 2021–2022	1.177	0.913	0.197
	Post-2024 episode	5.049	5.088	0.321
ASW	Full sample	2.887***	0.810	0.000
	Excl. 2021–2022	1.262	1.844	0.494
	Post-2024 episode	-18.949**	7.443	0.011
Observations	Full / Excl. 21–22 / Episode	53	40	28

Controlled twelve-month supply coefficient β (basis points per EUR trillion) on the France-excluded core-plus-EU/ESM/EFSF/EIB pool, for three subsamples: full, excluding 2021–2022 (the QE-unwind window), and the post-2024 episode. Standard errors are HAC with twelve lags.
The post-2024 episode subsample is small and carries little supply variation, so it cannot identify the supply channel; it is reported only for completeness.
$^{*}p < 0.10$, $^{**}p < 0.05$, $^{***}p < 0.01$.

E Supply-News Tests

This appendix reports the announcement-based supply-news tests of Section 7.7. The announcement tests regress the five-day France-minus-core response on the signed supply surprise: Table 39 reports the pooled $n = 9$ null, Table 40 the minimum-detectable-effect power calculation, Table 41 the France-only post-2024 decoupling, and Table 42 the 2011–2013 static-pool contrast.

Table 39: Pooled supply-news surprise regression

Metric	Role	β	HAC SE	p	n
Matched residual gap	primary	0.49	0.73	0.509	9
ASW gap	primary	-0.57	0.60	0.345	9
10Y CDS gap	placebo/secondary	0.33	0.21	0.116	9

Pooled OLS of the France-minus-core five-day response on the signed supply surprise, excluding events whose window overlaps a French political-event window and events with no signed surprise. HAC (Newey–West) standard errors with one lag. The 10Y CDS gap is a placebo/secondary check. $^{*}p < 0.10$, $^{**}p < 0.05$, $^{***}p < 0.01$.

F Supplementary Tables

This appendix lists the full France-exogenous substitute-supply news registry behind the announcement-based supply-news tests. The date-by-date France, core, and France-minus-core event-window responses are summarized in Table 30 in Appendix C and decomposed in Table 13. Table 43 reports, for each registry event, its signed weight, its weight-to-trillion conversion, and whether it entered the pooled $n = 9$ test or was excluded for political-window overlap or being unsigned.

Table 40: Power statement for the pooled supply-news announcement test

Metric	Slope (bp/trn)	e_z (bps)	σ_z (bps)	MDE_z (bps)	e_z/MDE_z
Matched residual	27.44	9.756	3.70	3.45	2.828
ASW	44.21	15.719	2.68	2.50	6.290

Power for the pooled $n = 9$-event announcement test. $e_z = \text{slope}_z \times \overline{\text{surprise}}$, with slope_z the twelve-month cumulative supply slope (bp per EUR trn) and $\overline{\text{surprise}} = 0.356$ EUR trn the mean absolute signed surprise per event; σ_z the placebo standard deviation of the five-day France-minus-core change; $\text{MDE}_z = 2.8\,\sigma_z/\sqrt{n}$. Both nulls are now adequately powered ($e_z > \text{MDE}_z$): the matched-residual implied per-event effect exceeds its minimum detectable effect, so the pooled null is consistent with between-window diffusion (slow-moving capital) rather than a power failure.

Table 41: France-only post-2024 relative-beta decoupling

	Relative residual β		
Country	Pre Jun-2024	Post Jun-2024	Shift
France	-0.52	1.83	2.35
Austria	0.91	-0.08	-0.99
Belgium	-2.11	0.45	2.56
Finland	1.63	0.22	-1.41
Netherlands	-0.43	-0.59	-0.16

Each β is the slope of a country's five-day relative residual response (country minus core-group average) on the signed supply surprise, estimated separately pre- and post-June-2024 (political windows excluded). Only France turns decisively positive; core comparators revert toward zero. Caveat: based on very few events, window-sensitive, and the ASW version flips sign for France; suggestive, not decisive.

Table 42: 2011–2013 French stress episode: stress without substitute growth

Panel A: episode transition statistics (France minus core)				
Metric		Calm	Stress	Change
Matched residual gap		-15.1	-26.1	-11.1
ASW gap		-7.6	11.3	18.9
10Y CDS gap		7.9	40.8	32.9
Panel B: per-date five-day responses (France minus core)				
Date	Event	Resid.	ASW	CDS
2011-08-08	ECB SMP reactivated; Italy/Spain stres	0.9	13.9	5.1
2011-11-09	Italian 10Y > 7%; peak euro-crisis con	7.1	22.5	2.7
2012-01-13	S&P strips France of AAA (nine-soverei	12.3	3.1	-3.9
2012-06-29	EU summit / ESM direct bank recap agre	8.0	5.0	-5.4
2012-07-26	Draghi 'whatever it takes'	2.8	-5.3	-10.3
2012-09-06	OMT announced	-4.7	-5.7	-2.5
2013-02-22	Commission grants France 2-year defici	5.8	3.4	-1.7

Panel A contrasts the France-minus-core average pricing gap in a calm window (2010–2011H1) with the euro-crisis stress window (2011H2–2012), in basis points. Panel B reports five-day France-minus-core responses around salient euro-crisis dates. In this episode the substitute pool was static (pre-QE, small EFSF, no EU bonds), so French stress had no growing high-grade float to price against – the contrast with the 2024–2026 transition, where the substitute pool grew, is the point.

Table 43: Full France-exogenous substitute-supply news registry and pooled-test inclusion

Date	Leg	Event	Signed wt.	Surprise (trn)	In n=9?
2022-12-15	ECB runoff / QT	ECB decides APP partial reinvestment end (-EUR 15bn/month from Mar-2023)	+0.60	+0.30	Yes
2023-06-15	ECB runoff / QT	ECB decides full APP runoff (reinvestments stop from Jul-2023)	+1.00	+0.50	Yes
2023-11-15	German fiscal regime	Federal Constitutional Court voids EUR 60bn KTF reallocation, re-imposes debt brake	-1.00	-0.50	Yes
2023-12-12	EU funding plan	EU funding plan H1-2024 announced (EUR 75bn)	–	–	No (unsigned)
2023-12-14	ECB runoff / QT	ECB announces PEPP reinvestment wind-down (-EUR 7.5bn/month H2-2024, full stop end-2024)	+0.70	+0.35	Yes
2024-06-24	EU funding plan	EU funding plan H2-2024 announced (EUR 65bn)	-0.40	-0.20	No (political overlap)
2024-12-18	EU funding plan	EU funding plan H1-2025 announced (EUR 90bn)	+1.00	+0.50	No (political overlap)
2024-12-31	ECB runoff / QT	PEPP reinvestments cease (effective full stop)	+0.30	+0.15	Yes
2025-03-04	German fiscal regime	German fiscal package proposal announced (debt-brake reform + EUR 500bn fund)	+0.60	+0.30	Yes
2025-03-18	German fiscal regime	Bundestag passes debt-brake reform + EUR 500bn infrastructure/climate fund (513-207)	+1.00	+0.50	Yes
2025-03-21	German fiscal regime	Bundesrat assents to debt-brake reform (53-16)	+0.40	+0.20	Yes
2025-06-23	EU funding plan	EU funding plan H2-2025 announced (EUR 70bn)	-0.80	-0.40	Yes

The full registry of 12 France-exogenous supply-news events. The pooled test uses $n = 9$: the 12 less 1 unsigned event and 2 events whose five-day window overlaps a French political-event window. Surprise = signed weight $\times$ 0.50 EUR trn per unit (weight 1.0 = the German 2025 EUR 0.5 trn package). Positive = more substitute high-grade euro float; negative = constrained supply.