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Article

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Financial System Integration of Microstates: The Case of San Marino and the EU Association Agreement

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Abstract This article examines the prospective Association Agreement between the Republic of San Marino and the European Union, focusing on the economic sustainability of regulatory convergence in a microstate context. While alignment with the EU *acquis* has strengthened supervisory credibility and financial stability, it has also imposed sizable fixed compliance costs on a small and highly open financial system. The article asks whether, and under what conditions, these costs can be offset by integration-related benefits once effective market access is activated. Thus, the article pursues two objectives. First, it provides a legal and institutional analysis of the reforms undertaken by San Marino in the financial sector as part of EU regulatory alignment. Second, it develops and applies an indicator-based quantitative framework that links regulatory compliance costs to potential market-access benefits. Using quarterly system-level balance-sheet data from the Central Bank of San Marino, the framework constructs a Regulatory Compliance Index (RCI), a Market Benefit Index (MBI), and their difference, the Integration Gap Index (IGI). At the end of the sample (2025Q2), the IGI appears to be positive, but moderate (approximately 0.08), indicating that compliance costs still exceed integration benefits. Scenario-based projections show that closing this gap within eight quarters requires an average quarterly increase in the MBI of about 0.01, a threshold already exceeded by recent observed dynamics (around 0.017–0.018). Under conservative

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and baseline scenarios, the IGI converges toward zero within two years, while an optimistic scenario implies faster convergence. The results suggest that regulatory convergence can be economically sustainable for San Marino, provided that effective EU market access materializes. The proposed framework intends to be transparent, replicable, and applicable to other microstates engaged in differentiated integration with the European Union.

Keywords Europeanization · Differentiated Integration · Financial Regulation · Small-State Political Economy · Cross-Border Banking and Market Access

JEL Codes F15; F36; G28; H77

1 Introduction

The Republic of San Marino, one of the smallest and oldest republics in the world, is currently facing a pivotal strategic choice as it negotiates an Association Agreement with the European Union (EU). This process goes well beyond technical regulatory alignment. It represents a fundamental decision at the intersection of economic integration, sovereignty, and supranational governance (European Commission 2024a). From a political economy perspective, San Marino must assess whether deeper access to the EU Single Market and financial sector modernization can compensate for the regulatory compliance costs and the partial constraint on domestic policy autonomy implied by alignment with the EU *acquis communautaire* (Navaretti et al. 2015).

This research situates San Marino's experience within the broader debate on how microstates interact with supranational regulatory regimes. It contributes to the literature on small-state bargaining and institutional adaptation by analyzing the recent legal and financial reforms undertaken by San Marino in anticipation of the Association Agreement (Thorhallsson and Wivel 2006). The central question is not whether regulatory convergence enhances formal compliance, but whether such convergence generates economically meaningful benefits for a microstate whose domestic market is structurally constrained. In particular, the paper evaluates whether the reforms already implemented increase credibility and competitiveness in the absence of full market access, and how compliance costs and potential gains are distributed across the domestic financial system (IMF 2024a).

To address this question, the article introduces an indicator-based quantitative framework that explicitly links regulatory compliance costs to unrealized market-access benefits. Rather than relying on a full monetized cost-benefit analysis, which would be ineffective in the absence of post-association data, the study adopts a balance-sheet-based approach tailored to microstates. Regulatory costs are proxied by observable indicators of balance-sheet adjustment and risk reduction, while integration benefits are captured through the evolution of financial activities that are intrinsically linked to cross-border market access. The difference between these two dynamics defines an “integration gap”, which provides a transparent metric for assessing whether regulatory alignment is economically sustainable without reciprocal

access to the Single Market. This framework allows for an ex-ante quantitative assessment of the Association Agreement while remaining directly testable once post-entry data become available.

San Marino appears to be a paradigmatic case of a microstate navigating between regulatory convergence and the preservation of policy autonomy. Its experience sheds light on how EU norms are internalized outside formal membership, a dynamic that has become increasingly central to debates on flexible governance, proportionality, and multi-speed integration within Europe. By focusing on the financial system, the study highlights how differentiated integration operates not only as a legal construct, but also as an economic trade-off shaped by scale, market access, and regulatory fixed costs (Council of the European Union 2024).

In conclusion, the aim of this article is twofold. First, it offers a detailed analysis of the legislative reforms undertaken by San Marino to achieve alignment with EU regulation. Second, it develops an indicator-based quantitative framework that enables an ex-ante assessment of the economic implications of San Marino's association process with the European Union and can be replicated in other microstate contexts.

The article begins by reviewing the main strands of the relevant literature (Section 2) and then outlines the overall methodological approach (Section 3). The core of the analysis is developed in two main sections. The first section (Section 4) provides a legal and institutional analysis of San Marino's process of regulatory convergence with the European Union. It examines the scope and sequencing of the reforms undertaken in the financial sector, with particular attention to prudential regulation, supervisory practices, and the structural constraints faced by a microstate operating under conditions of asymmetric integration. This section situates San Marino's experience within the broader literature on Europeanization and differentiated integration, highlighting the political economy trade-offs between regulatory credibility, sovereignty, and market access. The second section (Section 5) introduces and applies an indicator-based quantitative framework designed to assess the economic sustainability of the association process. Building on system-level balance-sheet data, it constructs composite indicators capturing regulatory compliance costs and potential integration benefits and evaluates their interaction through scenario-based projections. By identifying quantitative thresholds and timing conditions under which market-access benefits could offset compliance costs, this section provides an ex-ante assessment of the Association Agreement and establishes a transparent benchmark for future ex post evaluation once post-association data become available. The article concludes in Section 6 by offering an overall analysis of the integration process and its implications for microstates engaging in differentiated integration with the European Union.

2 Literature Review

This article intends to contribute to three interrelated strands of literature: i) European integration and differentiated integration, ii) the political economy of small states and

microstates, and iii) empirical approaches to evaluating regulatory convergence and market access in contexts characterized by strong asymmetries and data constraints.

2.1 European Integration and Differentiated Integration

The traditional literature on European integration has long emphasized the economic benefits of market enlargement, regulatory harmonization, and institutional convergence (Baldwin and Wyplosz 2023). In this framework, integration is typically modeled as a discrete institutional outcome, most notably full membership, associated with clearly identifiable legal rights and obligations. However, more recent scholarship has increasingly highlighted the prevalence of differentiated integration, whereby states participate selectively in EU policies without full membership.

The Europeanization literature further emphasizes that integration is not a binary process, but a gradual and uneven one, characterized by adaptation, learning, and institutional change over time. This perspective is particularly relevant for non-member states engaging with the EU through association agreements, where regulatory convergence may precede, and is not necessarily matched by, equivalent access to the Single Market. As a result, compliance with the EU *acquis* may generate asymmetric costs and benefits, depending on the degree of effective market access achieved (Epstein and Sedelmeier 2008).

Within this literature, the principle of proportionality has gained prominence, especially in discussions of how EU rules apply to smaller or structurally different jurisdictions. Yet, while proportionality is frequently invoked normatively, it is rarely operationalized empirically. This gap is particularly salient in the context of microstates, where regulatory alignment may impose large fixed costs relative to market size.

2.2 Small States, Microstates, and Scale Constraints

A substantial body of work in political economy highlights the distinctive challenges faced by small states and microstates. Classic contributions emphasize that small states face binding scale constraints, fixed institutional costs, and heightened exposure to external shocks (Alesina and Spolaore 2003). While openness and integration can mitigate some of these disadvantages, they also increase dependence on external markets and regulatory frameworks. In the context of the European Union, small states often pursue strategies that maximize access to larger markets while preserving regulatory flexibility and sovereignty (Thorhallsson and Wivel 2006). For microstates in particular, full EU membership may be politically or constitutionally impractical, making association agreements and bespoke arrangements the dominant integration strategy. Recent research stresses that these arrangements create asymmetric adjustment dynamics, as regulatory convergence may be extensive while market access remains partial or conditional (Thorhallsson 2019).

From an empirical standpoint, the literature also documents that small economies exhibit higher volatility and sensitivity to idiosyncratic shocks, which complicates the interpretation of aggregate economic indicators. These characteristics make it essential to focus on structural and compositional indicators rather than aggregate

levels when assessing economic transformation in microstates (Furceri and Karras 2007).

2.3 Regulatory Convergence, Financial Adjustment, and De-risking

The literature on financial regulation and post-crisis adjustment highlights that regulatory convergence is often associated with balance-sheet de-risking, asset-quality improvement, and strengthened supervisory credibility. In banking systems that have undergone rapid regulatory tightening, reductions in non-performing loans and improved capitalization are typically interpreted as indicators of enhanced stability (Borio 2014).

However, several studies also caution that de-risking may coincide with contraction in financial intermediation, particularly when regulatory tightening interacts with weak demand or limited growth opportunities (IMF 2019). This distinction between qualitative balance-sheet improvement and quantitative contraction is especially relevant for small financial systems, where reductions in scale may threaten long-term viability if not offset by new, less capital-intensive activities. In microstates, these dynamics are often amplified. The combination of regulatory fixed costs and limited domestic markets implies that balance-sheet adjustment and contraction may occur simultaneously, making it difficult to assess whether regulatory convergence is economically sustainable in the absence of external market access (Forcellini et al. 2025).

2.4 Empirical Approaches and Methodological Gaps

Standard empirical approaches to evaluating integration policies, such as monetized cost-benefit analysis or econometric causal inference, are often ill-suited to microstate contexts. Full cost-benefit analyses require detailed firm-level data, long time series, and well-defined counterfactuals, conditions that are rarely met in very small jurisdictions (Boardman et al. 2018). Similarly, econometric strategies such as difference-in-differences or structural models depend on large samples, comparable control units, and post-treatment observations (Angrist and Pischke 2009).

As a result, the literature increasingly recognizes the need for alternative empirical frameworks that are transparent, scalable, and compatible with ex-ante assessment. Indicator-based approaches, which rely on observable system-level outcomes and compositional changes, offer a promising avenue for bridging qualitative institutional analysis with quantitative evaluation, particularly in data-constrained environments (Beck et al. 2010).

2.5 Contribution of the Article

This paper contributes to the existing literature by developing an indicator-based quantitative framework tailored to the analysis of regulatory convergence in microstates. By explicitly linking regulatory compliance costs to potential market-access benefits and operationalizing this trade-off through composite indices, the framework provides a disciplined way to assess proportionality and economic sus-

tainability in differentiated integration arrangements. In doing so, it bridges Europeanization studies, the political economy of small states, and applied quantitative analysis, addressing a gap in the empirical literature on microstate integration with the European Union.

3 Overall Methodology

This study adopts a mixed-methods political economy approach that combines legal-institutional analysis, comparative case studies, and an indicator-based quantitative framework tailored to microstates. The objective is to assess the economic implications of regulatory convergence with the EU *acquis* in the absence of full Single Market access, while defining a testable empirical strategy for evaluating the effects of the Association Agreement once it becomes operational.

The qualitative component draws on primary legal and institutional sources, including EU treaties, the San Marino-EU Monetary Agreement, draft Association Agreement texts, and relevant national legislation. These are complemented by official publications of the Central Bank of San Marino and the European Commission. Secondary sources include IMF Article IV consultations, Organisation for Economic Co-operation and Development (OECD) peer reviews, European Central Bank (ECB) guidance, and European Securities and Markets Authority (ESMA) supervisory materials. Together, these sources allow for a systematic mapping of the regulatory reforms implemented in San Marino's banking, wealth management, and financial services sectors, as well as their alignment with EU standards. As said, to complement the qualitative analysis, the paper introduces an indicator-based quantitative framework that captures the trade-off between regulatory compliance costs and unrealized market-access benefits. Using quarterly system-level data from the Central Bank of San Marino, compliance costs are proxied by observable balance-sheet adjustments associated with de-risking and prudential strengthening, while integration benefits are proxied by the evolution of financial activities that are intrinsically linked to cross-border market access. The difference between these two dimensions defines an "integration gap", which provides a transparent metric for assessing whether regulatory alignment is economically sustainable in the absence of reciprocal access to the EU Single Market.

Given that the Association Agreement is not yet operational, the analysis does not attempt to estimate realized causal effects. Instead, the quantitative framework is used for an *ex-ante* assessment of integration outcomes under alternative scenarios and to identify the conditions under which regulatory convergence would be economically justified for a microstate.

Overall, the methodological approach is based on the literature on Europeanization and differentiated integration of small states. It leverages the strengths of qualitative institutional analysis while incorporating a parsimonious quantitative structure that would appear to be appropriate for contexts characterized by limited data availability, but significant structural change. The San Marino-EU Association Agreement is thus analyzed as a political economy equilibrium, reflecting a negotiated balance

between regulatory credibility, economic viability, and the preservation of national autonomy (Epstein and Sedelmeier 2008).

4 Qualitative Section: The San Marino Legal-institutional Analysis

4.1 San Marino's International Compliance

Since 2008, San Marino's financial sector has undergone substantial structural transformation, progressively aligning with international standards in transparency, prudential supervision, and tax cooperation (IMF 2024a). This modernization has included the abolition of banking secrecy (Art. 36, Law 165/2005), the elimination of anonymous companies, and the adoption of key European directives covering payment services, anti-money laundering and combating the financing of terrorism (AML/CFT), and deposit insurance schemes (Forcellini et al. 2025). Despite these reforms, San Marino's financial intermediaries are still not fully recognized as equivalent to their EU counterparts, limiting their ability to access the Single Market on equal terms (Forcellini et al. 2025).

The ongoing EU-San Marino Association Agreement represents a pivotal opportunity to address this asymmetry by securing reciprocal rights that allow Sammarinese institutions to operate under the same conditions as European financial intermediaries. The agreement covers four pillars, trade in goods, trade in services (including financial services), establishment rights, and regulatory cooperation, and is expected to significantly enhance market access once signed and provisionally applied (European Commission 2024a).

A critical negotiating objective would be the full recognition of the Right of Establishment (RE) and Freedom to Provide Services (FPS) for Sammarinese financial intermediaries. These principles would allow banks, asset managers, and insurers to conduct cross-border activities, set up branches, and market their products throughout the EU under a passporting regime similar to that enjoyed by EEA states (Liechtenstein model). Such access would be transformative, enabling diversification away from a narrow domestic market and supporting the internationalization strategies of Sammarinese firms (PwC 2024).

To prepare for integration, San Marino has already transposed several EU measures ahead of schedule. For instance, the country endorsed the Payment Services Directive (2007/64/EC) and Regulation 260/2012, joining the Single Euro Payments Area (SEPA) in December 2013, nearly three years before the deadline specified in the Monetary Agreement Annex (CBSM 2024). Similarly, the adoption of Directive 2014/49/EU established a Deposit Guarantee Scheme consistent with EU standards. Nonetheless, the full implementation of the Capital Requirements Regulation/Directive (CRR/CRD IV) and the activation of the Central Credit Register have been priorities to ensure that prudential supervision reaches parity with the EU framework (European Banking Authority 2024).

San Marino is also considering participation in the Single Supervisory Mechanism (SSM), which would subject significant domestic institutions to direct oversight by the European Central Bank. While the SSM offers the benefits of harmonized

supervision and reduced regulatory arbitrage, it also requires substantial investment in supervisory capacity and full adoption of EU prudential rules, including stress testing and the Asset Quality Review (AQR) methodology (ECB 2023). This raises the issue of proportionality, ensuring that compliance costs are manageable for a small jurisdiction without eroding competitiveness (EIOPA 2025).

Negotiation strategy should therefore seek to balance regulatory convergence with measurable market-access benefits. A phased approach could be adopted, whereby San Marino commits to a timetable for transposing outstanding EU directives, including MiFID II/MiFIR, CRR/CRD IV, and Solvency II amendments, while simultaneously obtaining binding assurances of passport rights and access to EU payment, clearing, and resolution systems. This reciprocal “do ut des” approach would prevent the emergence of stranded compliance costs and ensure that reform efforts directly translate into new business opportunities (Segreteria di Stato per gli Affari Esteri 2024).

In conclusion, the Association Agreement appears to be both a technical and strategic instrument. It is the key to unlocking San Marino’s potential to transform its financial sector from a domestically oriented system into a niche player integrated into the European Single Market. Success will depend on synchronizing legal convergence, supervisory capacity building, and market-access guarantees to create a sustainable, competitive financial environment that supports long-term growth.

4.2 San Marino’s Association Agreement Negotiation

After the implemented financial systemic reforms, a major step forward occurred in December 2023, when negotiations on the EU-San Marino (and Andorra) Association Agreement were almost concluded (European Commission 2024c). In April 2024, the European Commission formally adopted proposals for the Council to authorize signature and provisional application of the Agreement (European Commission 2024a). The Agreement consists of a core institutional and cooperation framework, complemented by state-specific protocols and 25 thematic annexes, including those covering financial services, freedom of establishment, and freedom to provide services (Segreteria di Stato per gli Affari Esteri 2024).

For financial services, the Agreement foresees a gradual market-access model, with implementation conditional on the adequacy of San Marino’s regulatory and supervisory regime. The European Commission and relevant supervisory authorities will assess compliance before full access is granted (European Commission 2024b). This stepwise approach reflects the EU’s proportionality principle under Article 5 of the Treaty on European Union, which allows for tailored obligations for small states (TEU 2012).

San Marino’s commitment to transparency was further reinforced in July 2025, when the European Commission published COM (2025) 398 final, a proposal to amend the Agreement on automatic exchange of financial account information. The revision updates reporting obligations to include digital assets and e-money accounts, strengthens due diligence rules, and aligns data protection clauses with GDPR. The

revised protocol will take effect on 1 January 2026, subject to ratification (European Commission 2025).

San Marino's path toward European integration mirrors, in part, the trajectories of other European microstates. For instance, in Liechtenstein the financial and insurance sectors contribute about 11% to GDP, and the combined "financial centre" activities (including banking, asset management and insurance) constitute roughly 21% of GDP while employing about 16% of the workforce (Liechtenstein Bankers Association 2024). In Andorra, the transposition of MiFID II under Act 7/2024 is now law, putting the country on track to align its advisory services, portfolio management, product governance, and investor protection standards with the EU framework (EY 2025). These cases show that full alignment is possible, such as Liechtenstein, while phased regulatory adoption, such as Andorra, paired with clear timelines can serve microstates well.

In conclusion, for San Marino, this suggests two key takeaways: first, that achieving a high share of GDP tied to financial services is feasible with strong regulatory frameworks; second, that setting and complying with precise timetables for transposition (as Andorra is doing) strengthens credibility and is an important negotiation point.

4.3 European and Bilateral Integration Framework

The San Marino's integration with the European financial and regulatory architecture is primarily governed by the Monetary Agreement signed with the European Union in 2012, which has been updated annually to reflect the evolution of the EU acquis. As of the 2024 revision, the Annex lists more than 180 legislative acts, up from 156 in 2016, covering AML/CFT, fraud and counterfeiting prevention, euro banknote and coin regulation, banking and financial legislation, and statistical reporting obligations (European Commission 2024a). This process has catalyzed a comprehensive modernization of San Marino's financial regulatory system and fostered progressive convergence with European standards, as shown by the Financial Sector Assessment Program study published by Forcellini et al. in 2025 (Forcellini et al. 2025).

In the AML/CFT domain, San Marino has significantly strengthened its framework through successive amendments to Law No. 92/2008, transposing both the Fourth and Fifth AML Directives, with preparations under way to implement the EU's new AML Regulation and to participate in the supervisory perimeter of the European Anti-Money Laundering Authority (AMLA), which will become operational in Frankfurt by 2026 (European Commission 2024b). The reforms have enhanced the risk-based approach to supervision, expanded the powers of the Financial Intelligence Agency (FIA), and deepened cooperation with international counterparts, as highlighted by Moneyval's 2023 evaluation, which confirmed San Marino's substantial compliance with FATF standards (Moneyval 2024).

Convergence has also been achieved in currency protection and euro handling standards. Laws No. 101 and 102 of 2013, complemented by Central Bank of San Marino (CBSM) Regulation 04/2013, transpose key EU rules on counterfeiting prevention and authentication of euro banknotes and coins, including Directive 2014/62/EU. The 2024 Annex revision added Commission Implementing Decision

(EU) 2023/2452, which San Marino is expected to transpose by 2025 to align fully with euro area practices (EUR-Lex 2024b).

The most impactful part of the Agreement concerns banking and financial legislation. San Marino seems to have progressively shifted its prudential framework from Basel I to Basel III equivalence through the adoption of CRR/CRD IV standards, including updated definitions of own funds, liquidity coverage ratios, and supervisory review processes (CBSM Regulation 2023-01). Preparatory work is ongoing to transpose the Bank Recovery and Resolution Directive II (BRRD II) and to establish a national resolution regime with bail-in tools by 2026 (IMF 2024b). Similarly, implementation of the Markets in Financial Instruments Directive (MiFID II), the European Market Infrastructure Regulation (EMIR), and the Central Securities Depositories Regulation (CSDR) is underway, aiming to align market conduct, investor protection, and post-trade infrastructures with the EU single market.

In statistical reporting, San Marino seems to apply harmonized templates consistent with ECB Guideline ECB/2021/12, allowing proportional reporting while ensuring compatibility with the Eurosystem's monetary and financial statistics. This proportionality is critical for microstates, balancing compliance obligations with administrative capacity (Forcellini and Vivoli 2016).

San Marino's European convergence is reinforced by bilateral cooperation with Italy. The Economic Cooperation Agreement of March 2009 and the Financial Collaboration Agreement of November 2009, both in force since January 2015, established a framework for supervisory cooperation, reciprocal AML/CFT information exchange, cross-border payment monitoring, and market abuse prevention. These agreements also laid the technical foundation for San Marino's entry into the Single Euro Payments Area (SEPA), which was formally authorized by the Bank of Italy and the European Central Bank in December 2013, giving Sammarinese financial intermediaries direct access to pan-European payment infrastructures (CBSM 2014).

Despite these significant steps, full integration remains incomplete. The absence of a formal Memorandum of Understanding (MoU) between the CBSM and the Bank of Italy continues to hinder seamless supervisory coordination, particularly in areas such as crisis management, resolution planning, and information sharing. The conclusion of such an MoU would be a strategic priority to translate regulatory compliance into tangible market access, allowing Sammarinese banks and financial intermediaries to benefit from a level playing field comparable to their European peers (IMF 2024a).

4.4 San Marino Banking Sector

Small states are particularly vulnerable to globalization, as their limited domestic markets and inability to exploit economies of scale constrain competitiveness and resilience in international finance (Forcellini and Vivoli 2016). The Republic of San Marino is a prime example of this phenomenon. As discussed in the previous sections, San Marino has implemented sweeping reforms to align its banking sector with international financial standards, abandoning its historical model of banking secrecy and transitioning toward a fully transparent system. These reforms enhanced regulatory compliance, attracted positive international assessments, such

Table 1 San Marino KPIs

Year	2017	2023	%
GDP (mln)	€ 1186.00	€ 1416.00	19.39
Unemployment Rate (%)	8.10%	4.22%	-47.90
Number of Residents	16,428	16,774	2.11
Number of Firms	4996	5150	3.08
Total Assets (thd)	€ 4,773,595.00	€ 4,211,835.00	-11.77
Direct Funding (thd)	€ 3,975,328.00	€ 3,607,377.00	-9.26
Indirect Funding (thd)	€ 1,806,416.00	€ 2,378,143.00	31.65
Total Equity (thd)	€ 347,385.00	€ 322,688.00	-7.11
NPL Ratio/Loans	25.50%	9.50%	-62.75
Loans/Total Funding	79.10%	30.10%	-61.95

Table 1 reports selected macroeconomic and financial indicators for San Marino between 2017 and 2023. It highlights the simultaneous improvement in macroeconomic conditions and balance-sheet soundness, reflected in GDP growth, declining unemployment, and a sharp reduction in the NPL ratio, alongside a contraction in traditional banking intermediation and total assets. At the same time, indirect funding expanded markedly, indicating a structural shift toward service-based financial activities.

as San Marino's inclusion on Italy's tax and AML white lists, and bolstered credibility with supranational institutions (Forcellini and Vivoli 2016). However, they also fundamentally altered the sector's business model, reducing its attractiveness for certain client segments and compressing profitability in traditional banking activities. From 2008 to 2021, San Marino faced a profound financial crisis. In fact, real GDP contracted sharply (-49%), reflecting the combined impact of the global financial crisis, the collapse of the offshore-oriented financial model, and a prolonged adjustment phase. Despite this contraction, the number of resident citizens increased moderately (+7.8%), while unemployment more than doubled, indicating significant labor-market stress. The number of firms declined by over 23%, pointing to a substantial restructuring of the productive base. These macroeconomic developments were mirrored, and amplified, in the financial sector. Total deposits fell by about 60%, driven by a contraction in both direct customer deposits (-60.9%) and indirect, wealth-management-related deposits (-58.7%), signaling the unwinding of the pre-crisis financial model. Total equity declined even more sharply (-77.5%), reflecting losses, recapitalizations, and balance-sheet consolidation. At the same time, asset quality deteriorated markedly, with the ratio of bad loans to total loans rising from 2.6% to 24.6%, while the loans-to-deposits ratio declined from 75.2% to 60.2%, indicating deleveraging and reduced intermediation (Forcellini et al. 2025). More recently, however, the trend has improved. As shown in Table 1, between 2017 and 2023 San Marino recorded a recovery in aggregate economic conditions, with GDP increasing by approximately 19% and unemployment declining sharply. Over the same period, the financial system continued to adjust structurally. Total assets and direct funding contracted by around 10%–12%, while equity declined more moderately, reflecting ongoing de-risking and downsizing. By contrast, indirect funding expanded by more than 30%, indicating a gradual reorientation toward service-based and externally oriented financial activities. This structural shift was accompanied by a substantial improvement in asset quality, with the non-performing Loan

ratio (NPL) falling from 25.5% to 9.5%, and by a marked reduction in the loans-to-funding ratio. Taken together, these developments illustrate the coexistence of balance-sheet clean-up and contraction with an incipient transition toward less capital-intensive forms of intermediation, a dynamic that is central to the interpretation of regulatory convergence in a microstate context.

San Marino's banking sector now faces the dual challenge of sustaining financial stability and identifying new growth niches. Strategies for revitalization include greater internationalization, leveraging potential access to the European Single Market through the EU Association Agreement, diversification of services toward wealth management, fintech solutions, and cross-border payment innovations, as well as attracting foreign direct investment in financial services.

4.4.1 *The Banking Integration*

Strengthening and diversifying San Marino's financial system is critical for ensuring long-term resilience in a rapidly evolving global economy. A central pillar of this strategy is the internationalization of the banking sector, which aims to facilitate domestic financial intermediaries' access to foreign markets and diversify their business models. Internationalization typically involves: i) establishing cross-border units, such as representative offices, branches, or subsidiaries; ii) acquiring equity stakes; and iii) forming joint ventures to consolidate presence in targeted jurisdictions (Claessens and Van Horen 2015).

Despite San Marino's compliance with a growing corpus of European directives and international standards, the level of banking internationalization remains modest, particularly in terms of inbound and outbound foreign direct investment (FDI). Under Articles 74 and 75 of Law 165/2005 (LISF), both domestic and foreign financial institutions require authorization from the San Marino supervisory authority (CBSM) to engage in cross-border activities. Article 103, amended in December 2015, strengthens cooperation with foreign supervisors and streamlines the authorization process for international operations, including the opening of representative offices. The execution of FDIs also requires the conclusion of a Memorandum of Understanding (MoU) between home and host supervisory authorities, providing a technical foundation for joint oversight, information exchange, and effective cross-border supervision (CBSM 2024).

Currently, the CBSM maintains bilateral MoUs with the Croatian National Bank (2009), the Financial Market Authority of Liechtenstein (2013), the Malta Financial Services Authority (2023), and the Georgian National Bank (2024). These agreements enable Sammarinese intermediaries to operate in both jurisdictions and, by extension, benefit from the European passport regime under Croatia's EU membership and Liechtenstein's participation in the European Economic Area (EEA). This passport grants the right to provide services across the EEA through branches (Freedom of Establishment) or cross-border service provision (Freedom to Provide Services), subject to home-country supervision and host-state notification (EBA 2024).

In this context, the ongoing EU-San Marino Association Agreement negotiations represent a critical juncture. By reducing barriers to internationalization and pro-

viding formal access to the single market, San Marino could increase inward and outward FDI flows, diversify risk exposures, and unlock new revenue streams.

4.4.2 *Opportunity-costs for the European Integration*

Based on the IMF, the European integration of San Marino's banking sector hinges on two critical imperatives: achieving comprehensive compliance with European regulations and securing recognition of equivalence for local financial intermediaries. Only by attaining these objectives can San Marino compete effectively within the European market under a balanced cost-return framework, enabling the domestic banking sector to recover the substantial costs incurred in implementing international and European regulatory standards (IMF 2024a). Despite the country's alignment with the *acquis communautaire* and recognition from international bodies such as the IMF and Moneyval, the current level of compliance has not yet translated into commensurate business opportunities (Forcellini et al. 2025). Historically, the domestic legal environment allowed banks to attract clients to San Marino's jurisdiction. However, under the present regulatory landscape, financial operators must actively compete for investors abroad, which has diminished the sector's attractiveness and calls for a fundamental review of business models to facilitate entry into foreign market segments.

San Marino's structural challenge is compounded by the asymmetry inherent in its relationship with the EU: small states must transpose European directives under strict timelines, but lack representation in the decision-making process, resulting in systemic gaps and higher compliance costs (European Commission 2024b). To bridge this gap, San Marino should prioritize the development of a comprehensive internationalization strategy supported by formal recognition of the European banking passport. Such a measure would enable domestic financial intermediaries to conduct cross-border activities under the principles of freedom of establishment and freedom to provide services, utilize financing mechanisms of the European System of Central Banks, and participate in mergers, acquisitions, and branch establishments across EU Member States (Forcellini and Vivoli 2016).

Negotiations on the Association Agreement should also aim to grant San Marino access to European financial markets for the issuance of sovereign and quasi-sovereign bonds eligible for purchase by European institutional investors and to facilitate membership in the European Bank for Reconstruction and Development (EBRD), which would provide targeted financing for infrastructure and innovation projects at competitive interest rates (IMF 2024a).

Furthermore, the findings highlight that the small size of San Marino's financial system limits its ability to exploit economies of scale, making participation in the EU's integrated regulatory and supervisory framework a crucial mechanism to reduce per-unit compliance costs and enhance competitiveness (IMF 2024a). This consideration has gained additional relevance in the post-Brexit context, where the EU faces renewed pressure to design differentiated integration models that maintain Single Market integrity while accommodating diverse partners (European Commission 2024b). San Marino's case illustrates how proportional rule-making and sequenced market-access commitments can serve as a blueprint for reconciling small-

state constraints with the EU's strategic interest in building resilient, outward-looking financial ecosystems (Council of the European Union 2024). For instance, implementing the EU's CRR/CRD IV prudential framework is estimated to cost between €3–5 million per institution in IT upgrades, reporting systems, and compliance personnel (EBA 2024). For a Sammarinese bank with average total assets of €800 million, this represents approximately 0.4%–0.6% of its balance sheet, several times higher than for a mid-sized EU bank with assets above €50 billion, where fixed compliance costs amount to less than 0.01% of total assets (Navaretti et al. 2015). Participation in the Single Supervisory Mechanism (SSM) would allow San Marino to pool supervisory resources and leverage ECB-provided templates, databases, and risk assessment methodologies, thereby reducing per-institution compliance costs by an estimated 25%–30% and freeing capital for credit expansion and product diversification (European Commission 2024a). Thus, San Marino's experience should highlight how proportional rule-making combined with sequenced market-access guarantees can reconcile the structural constraints of microstates with the EU's strategic objective of preserving Single Market integrity. This model could inform not only the EU's approach to microstates, but also its broader post-Brexit strategy of differentiated integration.

As detailed in the next section, a comprehensive reform strategy must, however, extend beyond banking and address wealth management and insurance. In wealth management, alignment with UCITS V, AIFMD II, and the Money Market Funds Regulation is necessary to enable San Marino to establish and distribute funds across the EU (AMF 2025). This alignment would open new revenue streams for asset management companies and help position San Marino as a niche hub for cross-border investment products targeted at high-net-worth individuals. Complementary tax and regulatory measures could incentivize foreign investment inflows and attract family offices, thereby diversifying the financial sector's revenue base (IMF 2024a).

Similarly, the insurance sector should be restructured to align with Solvency II (as amended in 2025) and the new Insurance Recovery and Resolution Directive (IRRD), applying proportionality to avoid undue burden on smaller undertakings (EIOPA 2025). Strengthening the supervisory framework, enhancing governance and reporting standards, and enabling cross-border activity through equivalence agreements would allow San Marino's insurers to capture niche markets, including life and pension products for EU clients seeking alternative domiciles (EIOPA 2025).

Taken together, these reforms would transform San Marino from a rule-taker into an active participant in the European financial ecosystem. The ultimate goal is not merely to comply with European rules, but to leverage them as a springboard for growth, competitiveness, and innovation. By simultaneously enhancing regulatory credibility and securing meaningful market access, San Marino can foster a diversified, resilient, and internationally integrated financial sector capable of supporting sustainable economic development while preserving its sovereignty (IMF 2024a).

4.5 San Marino Wealth Management

The wealth management industry, operated through asset management companies (AMCs), appears to be a promising opportunity for San Marino to diversify its

financial sector. Services such as mutual funds, collective investment undertakings, insurance funds, and pension schemes are increasingly crucial in global banking as sources of alternative revenues. Banks are continuing to pivot towards private banking for high-net-worth individuals (HNWIs) to offset margin pressures and generate new income, an approach often characterized as the “hunt for yield” (OECD 2021).

Globally, growth in the HNWI segment remains robust: in 2024, global HNWI wealth rose by approximately 4.2%, while the HNWI population increased by about 2.6%. The generational transfer of wealth is also notable, an estimated \$83.5 trillion is projected to pass to younger inheritors (Gen X through Gen Z) by 2048 (Capgemini 2025). In 2023, the global number of HNWIs reached approximately 22.8 million (Funds-Europe 2024).

In Europe, HNWIs constitute approximately 58.9% of the wealth management market, and alternative investment products are expected to be among the fastest-growing segments through 2030 (Mordor Intelligence 2025). Meanwhile, global Assets under Management (AuM) are projected to reach about \$171 trillion by 2028, reflecting a compound annual growth rate (CAGR) of approximately 5.9% (PwC 2024).

In San Marino, current data on the San Marino Central Bank (CBSM) public register identify three management companies authorized among the broader constellation of financial intermediaries (Camera di Commercio di San Marino 2025). The country is also engaged in negotiations to align its financial services regulatory framework with European Union standards through the Association Agreement (IMF 2024b). However, detailed figures for San Marino’s wealth management sector, such as total AuM or the share of HNWI assets under professional management, are not publicly available. The harmonization of regulatory standards with Europe, coupled with competitive legal and tax measures, would likely enable San Marino to position itself as a more attractive destination for wealth management activities, expand foreign investment inflows, and strengthen its financial sector competitiveness.

4.5.1 *San Marino and European Legislation*

The financial sector of the Republic of San Marino is regulated by Law 165/2005 et seq., complemented by a series of ad hoc regulations issued by the San Marino Central Bank: Regulation 03/2006 (Collective Investment Services Regulations), Regulation 05/2007 (Preparation of Financial Statements for Management Companies of Mutual Investment Funds), Regulation 06/2007 (Preparation of Financial Statements for Mutual Investment Funds), and Regulation 08/2007 (Supervisory Reporting for Mutual Investment Funds and Their Management Companies). Regulation 03/2006 defines UCITS III-type funds in terms comparable to the EU’s UCITS framework (Directive 85/611/EEC and its amendments), provided the management rules conform.

At the European level, regulatory reform remains dynamic. Additional initiatives include the Alternative Investment Fund Managers Directive (AIFMD II) which were adopted in 2024, and introduces stricter rules on delegation, liquidity risk management, supervisory reporting, and loan origination. EU Member States must

transpose it into national law by 16 April 2026 (Proskauer Rose LLP. 2025). Then, the Money Market Funds Regulation (EU 2017/1131) was released by ESMA by updating stress-test guidelines in February 2025, refining parameters such as credit spread shocks and liquidity stress scenarios. Money Market Fund (MMF) managers must apply these guidelines from 30 June 2025 (AMF 2025). Finally, San Marino-EU Association Agreement, considering that in April 2024, the European Commission adopted proposals for the signing and provisional application of this agreement, which covers Financial Services among other policy areas. The agreement will gradually align San Marino's financial sector regulation and supervision with EU standards (Segreteria di Stato per gli Affari Esteri 2024).

Other relevant European legislation includes the Market Abuse Regulation (MAR), the Market Abuse Directive (MAD II), the European Long-Term Investment Funds (ELTIF) Regulation, and the enhanced EU Anti-Money Laundering framework (including the new AMLA supervisory authority).

4.5.2 *Opportunity-costs for the European Integration*

To fully realize the integration benefits, San Marino must ensure that its regulatory framework evolves in parallel with European standards. This process will require a systematic review of existing legislation under Law 165/2005 and related regulations to identify pending gaps relative to EU requirements such as UCITS V, the revised Alternative Investment Fund Managers Directive (AIFMD II), and the Money Market Funds Regulation (MMFR). Early alignment with these directives would strengthen investor protection, enhance supervisory quality, and send a clear signal to the EU and international investors that San Marino is committed to regulatory convergence (Proskauer Rose LLP. 2025). A complementary priority will be the continued reinforcement of the country's anti-money laundering and counter-terrorist financing framework, in line with EU directives and the Financial Action Task Force (FATF) standards. In the medium term, the adoption of a harmonized and internationally credible regulatory environment would allow Sammarinese financial intermediaries to establish and distribute UCITS-compliant funds throughout the EU, thereby significantly expanding their potential client base.

4.6 **San Marino Insurance Sector**

As said, San Marino's financial sector remains anchored in international commitments, namely the RSM-EU Monetary Agreement, the RSM-Italy Economic Cooperation Agreement, and the RSM-Italy Financial Collaboration Agreement, and a domestic framework covering banking supervision, payment systems, and AML/CFT. The insurance segment, however, appears to be underdeveloped and could represent an underexploited channel for foreign direct investment (FDI) and diversification for local intermediaries. In light of the EU Association Agreement process, the sector should plan concurrently for alignment with the relevant EU *acquis* and a legal pathway to perform cross-border business, ensuring that the costs of implementing EU rules are matched by meaningful market-access benefits.

4.6.1 *San Marino and European Legislation*

At the European level, the prudential regime for insurers and reinsurers is set by Solvency II (Directive 2009/138/EC), which has been in force since January 2016 (EIOPA 2024). In late 2024, the Council approved, and on 8 January 2025 the Official Journal published, the amending directive to Solvency II, which must be transposed by Member States within two years, with application starting no later than 30 January 2027 (Council of the European Union 2024). In parallel, the EU adopted the Insurance Recovery and Resolution Directive (IRRDR), Directive (EU) 2025/1, giving Member States 24 months to implement a recovery and resolution framework for insurers. EIOPA followed up in July 2025 with the first bundle of related draft technical standards and revised guidelines, which enhance cooperation between home and host supervisors and set criteria for significant cross-border activities (EIOPA 2025). On the distribution side, the governing EU instrument is the Insurance Distribution Directive (IDD), Directive (EU) 2016/97, which replaced the Insurance Mediation Directive (IMD) 2002/92/EC and harmonizes conduct-of-business, conflict-of-interest, and product oversight rules across the EEA (EUR-Lex 2024a).

Domestically, San Marino's framework is built on Law No. 165/2005 and sectoral regulations issued by the Central Bank of San Marino. Notably, in July 2024 CBSM introduced Regulation No. 2024-02, Regulations on Insurance and Reinsurance Distribution, which was updated with a consolidated text effective 28 January 2025, bringing San Marino's distribution regime closer to IDD standards. Life-insurance-specific rules (financial statements, reporting, and product provisions) remain in force via earlier regulations and circulars (CBSM 2025). Finally, the Financial Conglomerates Directive (FICOD) that San Marino committed to via the Monetary Agreement is Directive 2002/87/EC. The EU amended the Monetary Agreement annex in 2016, 2017, and 2018, setting implementation timetables for listed EU legal acts relevant to San Marino's financial sector (EUR-Lex 2024c).

4.6.2 *Supervisory Regime and Cross-Border Activity*

The 2025 Solvency II review and the IRRDR both strengthen group supervision, crisis planning, and home/host cooperation, particularly for undertakings with significant cross-border business (Council of the European Union 2024). For non-EEA jurisdictions, operations are governed by the host country's law unless bilateral or multilateral agreements establish mutual recognition or supervisory cooperation. For San Marino, the EU Association Agreement represents the main instrument that will eventually allow dynamic alignment with the EU *acquis* and provide structured market-access modalities for financial services (Segreteria di Stato per gli Affari Esteri 2024). Currently, San Marino has two MoUs in place with the Luxembourg Pension and Insurance Authority (2024) and the Portuguese Commissariat aux Assurances—CAA (2025).

4.6.3 *Opportunity-costs for the European Integration*

San Marino could leverage the Association Agreement by sequencing reforms so that market access and *acquis* alignment advance in parallel. Specifically, it should phase in the Solvency II amendments and the IRRD over a multi-year timetable, applying the proportionality principle to small and non-complex undertakings, and enhancing supervisory resources to manage cross-border cooperation, recovery planning, and group oversight.

With CBSM Regulation 2024-02 already modernizing insurance distribution, the next step is to finalize a coherent prudential playbook based on Solvency II (as amended), align reporting and governance standards with the EU framework, and explicitly provide for cross-border activity under rights equivalent to the EU's Right of Establishment and Freedom to Provide Services once the Agreement's financial-services annex is operational. Combining compliance and access in this way would minimize stranded implementation costs, enhance investor confidence, and position San Marino's insurance sector as a credible niche player within the European market (Segreteria di Stato per gli Affari Esteri 2024).

5 Quantitative Section: The Indicator-based Cost-benefit Analysis

5.1 Rationale for an Indicator-based Approach in Microstates

Standard cost-benefit and econometric approaches are often ill-suited to the analysis of regulatory integration in microstates. Full monetized cost-benefit analyses typically require detailed firm-level data, long time series, and well-defined counterfactuals, conditions that are rarely met in very small jurisdictions. Similarly, conventional econometric strategies aimed at identifying causal effects depend on sufficiently large samples, comparable control units, and post-event observations (Imbens and Wooldridge 2009). In the context of San Marino's prospective Association Agreement with the EU, these requirements do not seem to be satisfied *ex ante*.

As detailed in the qualitative analysis section, microstates, such as San Marino, face a specific integration trade-off that further limits the applicability of standard approaches. Regulatory compliance entails largely fixed costs, stemming from supervisory capacity, legal transposition, and institutional reorganization, that do not scale proportionally with market size. As a result, balance-sheet adjustments and de-risking measures can have first-order effects on the structure and viability of the financial system. At the same time, the benefits of integration are highly contingent on effective market access and may materialize only gradually, if at all. These structural characteristics imply that the key analytical challenge is not precise causal identification, but the measurement of relative magnitudes and timing of costs and potential benefits under conditions of uncertainty and limited data availability (Forcellini and Vivoli 2016).

Against this background, an indicator-based quantitative framework offers several advantages. First, it ensures transparency by relying on observable, system-level

variables drawn directly from financial statements and supervisory statistics. Second, it enhances replicability, as the construction of indicators and composite indices can be easily updated as new data become available, without altering the underlying analytical structure. Third, the framework is compatible with both ex-ante and ex-post analysis: it allows for a prospective assessment of integration sustainability prior to the entry into force of the Association Agreement, while defining metrics that can be used for formal evaluation once post-association observations are available.

From a theoretical perspective, the indicator-based approach is consistent with applied political economy and Europeanization research that emphasizes institutional adaptation, proportionality, and differentiated integration. Rather than modeling integration as a binary outcome, the framework captures integration as a continuous process in which regulatory credibility, economic viability, and market access evolve at different speeds. By focusing on measurable balance-sheet outcomes, the approach bridges qualitative institutional analysis with quantitative assessment, providing an analytically disciplined yet context-appropriate tool for studying how microstates navigate the trade-off between regulatory convergence and economic sustainability (Dimitrova and Kortenska 2017).

5.2 Data

In order to implement the indicator-based approach, the analysis relies on quarterly, system-level data published by the Central Bank of the Republic of San Marino (BCSM). The dataset is specifically selected to support the indicator-based quantitative framework developed in this paper, which links regulatory compliance costs to potential integration benefits. In this context, system-level balance-sheet data provide the most appropriate empirical basis for capturing the structural adjustment of the financial system induced by regulatory convergence and for assessing the scope for market-access-related expansion in a microstate setting.

The core variables include total funding and its decomposition into direct and indirect funding, total assets of the financial system, and indicators of asset quality. Total assets capture scale effects and balance-sheet adjustment associated with regulatory compliance, while the gross non-performing loans (NPL) ratio proxies the intensity of balance-sheet clean-up and de-risking required by alignment with EU prudential standards. Together, these indicators form the basis of the Regulatory Compliance Index (RCI). On the benefits side, indirect funding plays a central role in the empirical framework. It is used as a proxy for financial activities linked to wealth management, asset servicing, and other cross-border-oriented services that are expected to benefit most directly from enhanced access to the EU Single Market. To capture both absolute expansion and structural reorientation, the analysis uses the level and growth of indirect funding as well as its share in total funding. These variables constitute the core components of the Market Benefit Index (MBI).

All variables are observed at quarterly frequency and are treated as stocks or ratios from September 30, 2017 to June 30, 2025. To focus on adjustment dynamics rather than size effects, growth rates are computed as quarter-on-quarter log differences, while selected ratios are used in levels to reflect persistent structural characteristics of the financial system. Prior to aggregation, variables are normalized relative to a pre-

Table 2 Variables Used in the Indicator-based Framework

Variable	Definition	Source	Role in Framework
Direct Funding	Direct funding collected by the banking system	BCSM	Structural control
Indirect Funding	Indirect funding linked to asset servicing and wealth management	BCSM	Market-access benefit proxy
Total Funding	Direct Funding + Indirect Funding	BCSM	Normalization base
Share of Indirect Funding	Indirect Funding/Total Funding	Authors' calculations	Structural reorientation indicator
Total Assets	Total assets of the financial system	BCSM	Scale and adjustment proxy
NPL Ratio (gross)	Non-performing loans at gross value/total loans	BCSM	Compliance and de-risking proxy

Table 2 reports the system-level variables used to construct the compliance and market-benefit indices underlying the quantitative framework.

alignment baseline period, ensuring comparability across indicators and consistency with the ex-ante nature of the analysis.

Table 2 shows the variables used to implement the quantitative model.

Overall, the dataset appears to provide a coherent empirical foundation for implementing the indicator-based quantitative framework developed in this paper. In this regard, it allows for a transparent ex-ante assessment of regulatory compliance costs already internalized by the financial system and for scenario-based evaluation of potential market-access benefits. At the same time, the structure of the data and the indices ensures full compatibility with future ex-post analyses once post-association observations become available.

5.3 Empirical Framework

The empirical framework links regulatory compliance costs to potential market-access benefits, adopting an ex-ante quantitative approach that is transparent and directly testable once post-association data become available (Boardman et al. 2018). The framework is tailored to the structural characteristics of microstates, where fixed regulatory costs are large relative to market size and the economic returns to integration depend critically on access to external markets (Alesina and Spolaore 2003). By distinguishing between compliance costs and integration benefits and operationalizing them through composite indicators, the approach is consistent with the literature on Europeanization and differentiated integration (Dimitrova and Kortenska 2017).

The framework distinguishes between two dimensions of integration. The first captures regulatory compliance costs, which are proxied by observable balance-sheet adjustments associated with prudential strengthening and de-risking. These include indicators of asset quality and structural changes in the size and composition of the financial system. The second dimension captures potential integration benefits, which are proxied by the evolution of financial activities that are intrinsically linked to cross-border market access, such as indirect funding and related asset-servicing activities. These indicators are expected to respond positively only if regulatory convergence is accompanied by effective access to the EU Single Market.

Table 3 IGI Economic Interpretation

IGI Range	Economic Interpretation	Policy Implication
$IGI > 0$	Compliance costs dominate	Market access insufficient
$IGI \approx 0$	Proportional integration	Economically sustainable
$IGI < 0$	Benefits dominate	Positive economic returns

Table 3 provides a synthetic interpretation of IGI values, linking quantitative outcomes to policy-relevant integration regimes.

To operationalize this trade-off, the analysis constructs two composite indicators. A Regulatory Compliance Index (RCI) aggregates normalized measures of balance-sheet adjustment and risk reduction, reflecting the costs already internalized by the financial system. A Market Benefit Index (MBI) aggregates normalized measures of funding composition and scale that are expected to benefit from cross-border integration. Normalization is performed using changes relative to a pre-alignment baseline, allowing the indicators to be interpreted in terms of structural adjustment rather than absolute levels. The difference between these two indices defines an Integration Gap Index (IGI), which summarizes the extent to which compliance costs exceed, match, or are outweighed by integration benefits.

The Integration Gap Index (IGI) is defined as the difference between regulatory compliance costs (RCI) and market-access benefits (MBI), and provides a synthetic measure of the economic sustainability of regulatory convergence. In line with a standard cost-benefit framework, its interpretation is provided in Table 3.

Because the Association Agreement has not yet entered into force, the empirical framework does not estimate realized causal effects. Instead, it is used to conduct scenario-based projections that identify the conditions under which the IGI would converge toward its optimal range following the activation of the agreement. At the same time, the framework defines a clear empirical strategy for ex-post evaluation, based on interrupted time-series and event-study designs, which can be implemented once sufficient post-association observations are available.

Overall, the empirical framework provides a parsimonious yet rigorous structure for assessing the economic sustainability of regulatory convergence in a microstate context, building directly on the legal and institutional analysis developed in the preceding sections. By embedding qualitative institutional analysis within a transparent quantitative structure, it bridges the gap between legal-institutional Europeanization studies and applied political economy, offering a replicable approach to evaluating differentiated integration arrangements in small, highly open economies.

5.4 Identification of Compliance Costs: Regulatory Adjustment Indicators

In the context of EU regulatory convergence, compliance costs are not limited to direct administrative or legislative expenses. For microstates, regulatory compliance costs are primarily economic in nature and materialize through balance-sheet adjustments induced by the adoption of prudential, supervisory, and governance standards designed for much larger financial systems. These costs reflect the internalization of risk-reduction requirements, enhanced capital and provisioning standards, and stricter supervisory practices, which can alter both the composition and the scale

of financial intermediation. Conceptually, regulatory compliance costs can therefore be defined as the economic adjustments borne by the financial system to achieve regulatory credibility and alignment with EU norms, independent of whether full market access is granted (Forcellini and Vivoli 2016).

Regulatory convergence manifests itself in observable balance-sheet outcomes. As supervisory standards tighten, financial institutions are required to recognize legacy asset-quality problems, increase provisioning, and reduce exposures deemed incompatible with EU prudential frameworks. In small financial systems, these adjustments tend to be system-wide and highly visible, as the scope for diversification and internal risk pooling is limited. Consequently, in accordance with the available literature, balance-sheet indicators provide a direct and parsimonious way to capture the economic footprint of regulatory compliance in microstate contexts.

The empirical framework focuses on two core indicators to proxy compliance costs. The first is asset quality, measured by the ratio of non-performing loans (NPLs) at gross value. A declining NPL ratio signals progress in balance-sheet clean-up and alignment with EU supervisory expectations, but it also reflects the absorption of losses and the restructuring or exit of weaker institutions. The second indicator captures balance-sheet adjustment and scale effects through the evolution of total assets of the financial system. Changes in total assets reflect the combined impact of de-risking, portfolio reallocation, and potential retrenchment from certain lines of business as regulatory requirements become more stringent. Regarding this, Fig. 1 shows the trend of both NPLs at gross value (Fig. 1a) and total asset (Fig. 1b) of the database used to perform the quantitative analysis of San Marino.

In the case of San Marino, the interpretation of the selected indicators requires a clear distinction between de-risking and contraction. While a reduction in non-performing loans (NPLs) is typically interpreted as an improvement in asset quality, in the specific context of post-crisis adjustment and regulatory convergence it also reflects the intensity of the de-risking process, which is associated with non-negligible transitional costs. In microstate financial systems, the rapid decline in NPL ratios is generally achieved through a combination of write-downs, asset disposals, recapitalizations, and balance-sheet contraction. These processes entail short-term economic costs, including losses in asset values, reduced intermediation capacity, and pressures on profitability (IMF 2024b). Due to data constraints, consistent system-level information on realized write-downs and loss recognition is not available for the entire sample period. For this reason, the decline in NPLs is used as a proxy for the adjustment effort required to restore asset quality, rather than as a direct measure of financial performance. Importantly, this interpretation is time-bound and limited to the restructuring phase, during which improvements in asset quality are achieved through costly balance-sheet adjustments. In this framework, the NPL reduction captures the transitional cost of regulatory convergence, rather than its long-term benefits.

In such a way, de-risking corresponds to qualitative improvements in balance-sheet soundness (most notably the reduction of non-performing loan ratios) captured in the Regulatory Compliance Index (RCI). These developments reflect the successful internalization of EU-aligned prudential standards and the strengthening of supervisory credibility.

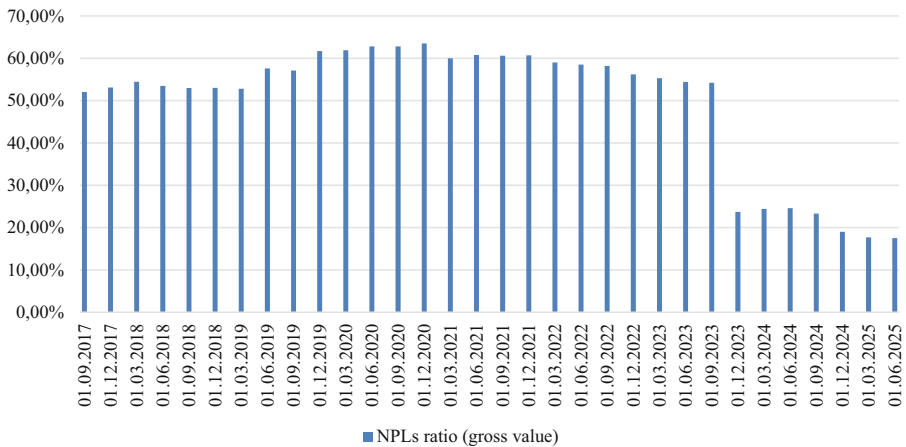
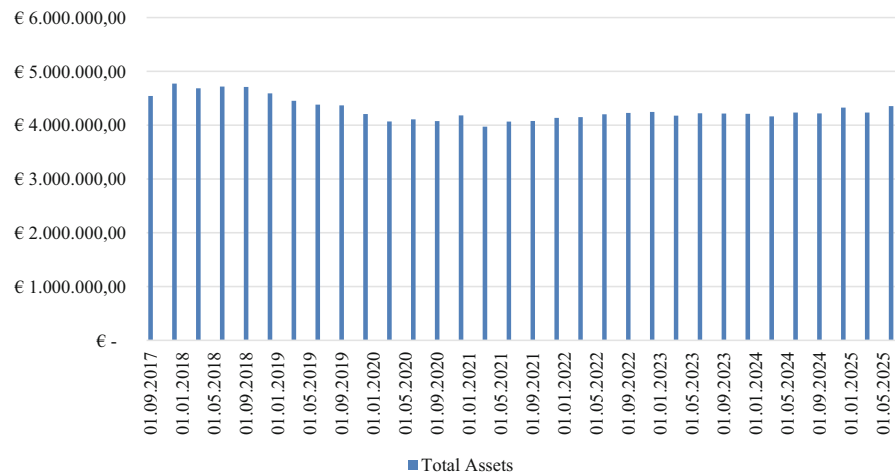
a NPLs Ratio (Gross Value)**b** Total Assets

Fig. 1 NPLs and Total Assets Trend in San Marino. Fig. 1 presents the evolution of the gross NPL ratio and total assets in San Marino. Panel A shows the substantial reduction in non-performing loans, reflecting balance-sheet clean-up and de-risking associated with regulatory convergence, while Panel B documents the parallel contraction in total assets, highlighting the scale adjustment of the financial system over time

At the same time, these gains have coincided with a contraction in the scale of financial intermediation, reflected in the evolution of total assets and traditional banking activities, which also enter the RCI as adjustment costs. In a microstate such as San Marino, where minimum efficient scale constraints are binding, balance-sheet contraction may undermine long-term viability unless it is offset by the expansion of less capital-intensive, service-based activities.

This distinction highlights the trade-off between short-term stability and long-term sustainability. Regulatory convergence can rapidly improve stability indicators embedded in the RCI, but these improvements may come at the cost of reduced intermediation capacity and profitability if not accompanied by market-access-driven growth. Such effects represent genuine economic compliance costs, even when they are consistent with supervisory objectives (Borio 2014). The timing of these dynamics is central to the empirical framework. In San Marino, regulatory compliance costs have been largely front-loaded, as balance-sheet clean-up and institutional reforms preceded the prospective entry into force of the Association Agreement. By contrast, integration benefits, captured by the Market Benefit Index (MBI) through indirect funding and funding composition, are delayed and contingent on effective access to EU markets. The indicator-based framework explicitly incorporates this temporal asymmetry, allowing the analysis to assess whether and under what conditions the evolution of the MBI can plausibly compensate for the costs already internalized in the RCI.

5.5 Identification of Integration Benefits: Market-Access Proxies

In the absence of full and immediate access to the EU Single Market, the benefits of integration cannot be directly observed through conventional trade or investment flows. For microstates, integration benefits are therefore defined in a functional rather than legal sense: they refer to the expansion and diversification of financial activities that become economically viable only when regulatory credibility is combined with effective cross-border market access. These benefits are expected to materialize primarily in segments of the financial system that are less constrained by domestic demand and more dependent on scale, reputation, and access to external clients.

Indirect funding provides a particularly suitable proxy for such integration benefits. Unlike direct funding, which is closely tied to domestic deposit bases and local economic activity, indirect funding is associated with wealth management, asset servicing, and fiduciary activities that typically serve non-resident clients. These activities rely less on balance-sheet-intensive intermediation and more on regulatory recognition, passporting rights, and cross-border operational access. As a result, indirect funding is inherently sensitive to changes in the institutional environment governing market access and is expected to respond more strongly than traditional deposit-taking to integration with the EU financial framework.

The empirical framework therefore focuses on two complementary indicators. The first is the level and growth rate of indirect funding, which capture the absolute expansion of cross-border-oriented financial activity. Growth in indirect funding reflects the ability of the financial system to attract and retain non-domestic assets and clients, an outcome that is unlikely to occur in the absence of credible regulatory alignment and effective market access. The second indicator is the share of indirect funding in total funding. This ratio provides a normalized measure of structural change, capturing shifts in the composition of the financial system toward activities that are more scalable and less constrained by the size of the domestic economy. Regarding this, Fig. 2 shows the trend of both growth rate of indirect funding

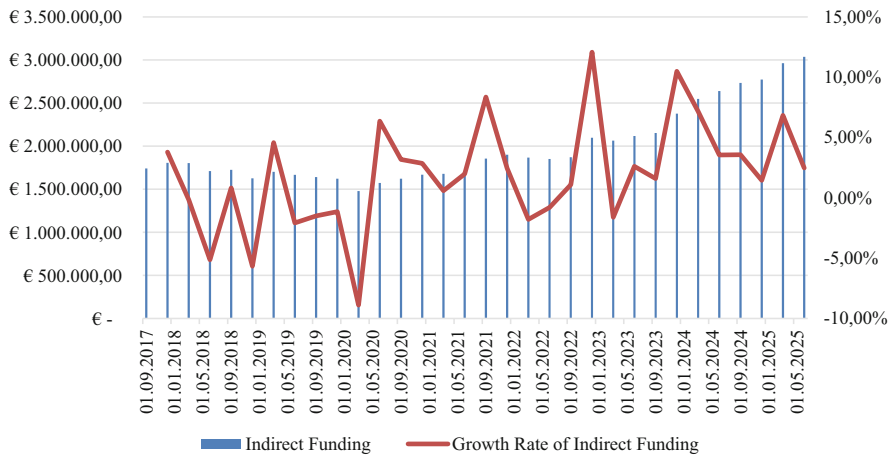
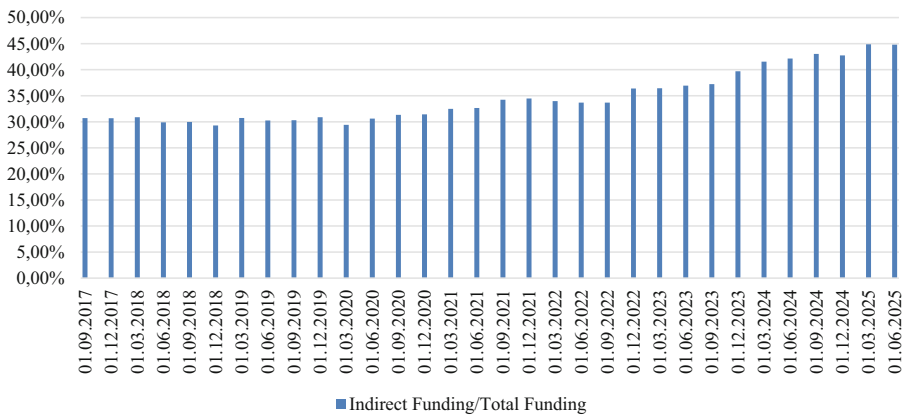
a Indirect Funding**b Share of Indirect Funding in Total Funding**

Fig. 2 Indirect Funding and share of indirect funding in total funding Trend in San Marino. Fig. 2 illustrates the evolution of indirect funding and its share in total funding in San Marino. Panel A documents the expansion of indirect funding over time, while Panel B shows the corresponding increase in its share of total funding, indicating a gradual structural shift of the financial system toward service-based and externally oriented activities

(Fig. 2a) and share of indirect funding in total funding (Fig. 2b) of the database used to perform the quantitative analysis of San Marino.

In the case of San Marino, distinguishing between domestic funding growth and integration-driven expansion is central to the interpretation of the Market Benefit Index (MBI). An increase in Total Funding driven mainly by Direct Funding reflects domestic saving behavior or cyclical factors and does not, by itself, indicate successful economic integration. Given the limited size of the domestic market, such dynamics are largely unrelated to the objectives of the Association Agreement.

By contrast, an increase in Indirect Funding (and in its Share of Indirect Funding in Total Funding) signals a structural reorientation of the financial system toward externally oriented, service-based activities such as wealth management and asset servicing. In the San Marino context, these activities represent the primary channel through which regulatory convergence can translate into economically meaningful access to EU markets. Accordingly, the MBI emphasizes compositional changes in funding rather than aggregate growth alone. This compositional perspective is particularly important in a microstate, where aggregate balance-sheet indicators can be volatile and sensitive to idiosyncratic shocks, potentially obscuring underlying structural dynamics. Focusing on Indirect Funding and its share allows the analysis to distinguish integration-driven developments from purely domestic fluctuations (Furceri and Karras 2007).

Under effective EU market access, the expected response of these indicators is gradual rather than immediate. For San Marino, Indirect Funding is likely to increase over time as financial institutions develop cross-border client relationships, adapt business models, and benefit from reputational gains associated with EU-aligned regulation. The indicator-based framework is therefore designed to capture medium-term dynamics by assessing whether the evolution of the MBI relative to the Regulatory Compliance Index (RCI) is sufficient to offset the compliance costs already internalized by the financial system.

5.6 Construction of Composite Indices

To evaluate the trade-off between regulatory compliance costs and integration benefits in a coherent and quantitatively transparent manner, the empirical framework aggregates individual indicators into composite indices. The motivation for aggregation is twofold. First, regulatory convergence and economic integration are multidimensional processes that cannot be adequately captured by a single variable. Second, composite indices allow heterogeneous indicators (expressed in different units and scales) to be summarized in a parsimonious metric that facilitates intertemporal comparison and scenario analysis. This approach is particularly suitable in a microstate context, where the objective is to assess relative magnitudes and structural dynamics rather than to estimate precise causal coefficients. Based on this, the aggregation rule can be defined as follows:

$$RCI_t = \frac{1}{2} \sum \dot{C}_{i,t} \quad (1)$$

$$MBI_t = \frac{1}{2} \sum \dot{B}_{i,t} \quad (2)$$

As shown in formulas (1) and (2), both indices employ equal weights across components due to the absence of a clear theoretical or empirical basis for assigning differential importance to individual indicators in a microstate context, as well as by the desire to maintain transparency and replicability. In this regard, equal weighting

Table 4 Construction of Composite Indices

Index	Component	Transformation	Economic Interpretation
Regulatory Compliance Index (RCI)	NPL ratio (gross)	Relative change from base-line, sign-adjusted	Balance-sheet clean-up costs
	Total assets	Relative change from base-line, sign-adjusted	Scale contraction/adjustment
Market Benefit Index (MBI)	Indirect funding (log level)	Relative change from baseline	Expansion of cross-border activity
	Share of indirect funding	Relative change from baseline	Structural shift toward scalable services

Table 4 summarizes the construction of the composite indices used in the quantitative framework. In particular, the Regulatory Compliance Index captures balance-sheet adjustment and de-risking costs, while the Market Benefit Index captures integration-related expansion through cross-border and service-based financial activities.

avoids embedding implicit value judgments into the index construction and ensures that no single indicator dominates the composite measure by construction.

The components of the aggregation rule are shown in Table 4.

However, prior to aggregation, all indicators are normalized to ensure comparability across dimensions and over time. Normalization is performed relative to a pre-alignment baseline period, defined as the interval preceding the main phase of regulatory convergence toward the EU acquis. This baseline serves as a reference point against which subsequent adjustments are measured. Formally, for each indicator X_t , normalization is based on changes rather than absolute levels, reflecting the focus on adjustment dynamics:

$$\dot{X}_t = \frac{X_t - \dot{X}_{baseline}}{\sigma_{baseline}} \quad (3)$$

where $\dot{X}_{baseline}$ and $\sigma_{baseline}$ denote the mean and standard deviation of the indicator during the baseline period. For stock variables with strong trends, growth rates or log-differences are used prior to normalization. This change-based approach ensures that the indices capture structural shifts associated with regulatory adjustment and integration, rather than size effects driven by initial conditions.

5.6.1 Regulatory Compliance Index (RCI)

The Regulatory Compliance Index (RCI) is constructed to summarize the economic costs associated with regulatory convergence. It aggregates normalized indicators that reflect balance-sheet clean-up and adjustment pressures borne by the financial system. In the baseline specification, the RCI includes asset-quality indicators (proxied by the gross NPL ratio) and scale-adjustment indicators (proxied by changes in total assets). Indicators are oriented such that higher values of the RCI correspond to higher compliance costs, reflecting either more intensive de-risking or stronger contraction effects.

Formally, the RCI at time t is defined as:

$$RCI_t = \frac{1}{N_R} \sum_{i=1}^{N_R} \dot{C}_{i,t} \quad (4)$$

where $\dot{C}_{i,t}$ denotes the normalized compliance-cost indicators and N_R is the number of components included in the index.

5.6.2 Market Benefit Index (MBI)

The Market Benefit Index (MBI) captures the potential economic gains from integration that are linked to cross-border market access. It aggregates normalized indicators reflecting the expansion and reorientation of financial activity toward externally oriented services. In the baseline specification, the MBI includes the level and growth of indirect funding, as well as the share of indirect funding in total funding. Indicators are oriented such that higher values of the MBI correspond to stronger integration benefits.

The MBI is defined analogously to the RCI:

$$MBI_t = \frac{1}{N_M} \sum_{j=1}^{N_M} \dot{B}_{j,t} \quad (5)$$

where $\dot{B}_{j,t}$ denotes the normalized benefit indicators and N_M is the number of components.

5.6.3 Interpretation of Index Dynamics over Time

The dynamics of the RCI and MBI provide a compact representation of the integration process. An increasing RCI indicates intensifying compliance costs, either through continued balance-sheet clean-up or sustained scale contraction. An increasing MBI indicates that integration-related activities are expanding and that regulatory credibility is being translated into economically meaningful outcomes. Interpreted jointly, the indices allow the analysis to trace the evolution of the compliance-benefit trade-off over time and to identify phases in which regulatory adjustment outpaces, matches, or is overtaken by integration benefits. This temporal perspective is essential for assessing the economic sustainability of regulatory convergence in microstates operating under differentiated integration regimes.

5.7 The Integration Gap Index (IGI)

The Integration Gap Index (IGI) provides a synthetic measure of the balance between regulatory compliance costs and integration-related benefits. It is formally defined as the difference between the Regulatory Compliance Index (RCI) and the Market Benefit Index (MBI):

$$IGI_t = RCI_t - MBI_t \quad (6)$$

where both indices are constructed from normalized, change-based indicators, as described in the previous sections. By construction, the IGI summarizes in a single metric whether the economic costs associated with regulatory convergence are being offset by emerging benefits linked to market access.

In such a way, the economic intuition underlying the IGI is straightforward. Regulatory alignment with the EU *acquis* entails substantial fixed and front-loaded costs for microstates, while the benefits of integration depend critically on effective access to external markets and typically materialize only over time. The IGI captures the resulting compliance-access mismatch by directly comparing the magnitude of adjustment pressures with the scale of integration-related gains. Rather than measuring integration as a binary outcome, the IGI treats it as a continuous process in which costs and benefits evolve at different speeds.

The interpretation of IGI levels follows directly from its construction. Positive values of the IGI indicate an integration gap, meaning that regulatory compliance costs dominate integration benefits. In this range, regulatory convergence may enhance formal credibility and stability, but remains economically unbalanced if not accompanied by reciprocal market access. A convergence of the IGI toward zero signals proportional integration, where compliance costs are broadly matched by emerging benefits. This range can be interpreted as economically sustainable, as regulatory alignment does not impose a persistent net burden on the financial system. Negative values of the IGI indicate that integration benefits exceed compliance costs.

From a microstate perspective, the IGI is directly linked to the notion of optimal integration. The optimal integration path is therefore characterized not by the maximization of market access *per se*, but by a balance in which regulatory credibility is achieved at a cost that is proportionate to the economic benefits generated. The IGI provides a tractable metric for identifying this balance and for assessing whether a given integration strategy, such as an Association Agreement with the EU, moves the financial system toward or away from an economically sustainable equilibrium.

5.8 Scenario Analysis

Because the Association Agreement between San Marino and the European Union has not yet entered into force, the empirical framework does not intend to estimate realized treatment effects. Instead, the analysis adopts a scenario-based *ex-ante* assessment that translates observed system-level dynamics into quantitative conditions under which regulatory convergence would become economically sustainable. Thus, scenario analysis appears to be appropriate in this setting because regulatory compliance costs are largely front-loaded and already observable, while integration benefits depend on future market access and therefore remain uncertain.

Three scenarios are constructed. Let $t=0$ denote the last observed quarter in the BCSM dataset. The empirical implementation uses quarterly system-level data published by the Central Bank of San Marino. Thus, the indices are constructed as described in Sections 5.6.1 and 5.6.2.

Denote by RCI_0 , MBI_0 and IGI_0 the last observed values of the Regulatory Compliance Index, Market Benefit Index, and Integration Gap Index:

$$IGI_0 = RCI_0 - MBI_0 \quad (7)$$

Following this, three scenarios appear, as follows:

1. **Conservative scenario** (MBI^C): market-access benefits grow at the lower bound of recent historical dynamics.

$$\Delta MBI^C = \Delta MBI_{t-8:t-1} \quad (8)$$

(the average quarterly change over the last eight quarters)

2. **Baseline scenario** (MBI^B): benefits grow at the central tendency of recent historical dynamics.

$$\Delta MBI^B = \Delta MBI_{t-12:t-1} \quad (9)$$

(the average quarterly change over the last twelve quarters)

3. **Optimistic scenario** (MBI^O): benefits grow faster than historical trends, reflecting strong and rapid activation of EU market access.

$$\Delta MBI^O = \Delta MBI_{t-12:t-1} + \sigma (\Delta MBI_{t-12:t-1}) \quad (10)$$

Formally, as summarized in Table 5, scenarios differ only in the assumed quarterly change of the Market Benefit Index (MBI), while the Regulatory Compliance Index (RCI) is held constant at its most recent observed value.

For each scenario $s \in \{C, B, O\}$, the post-entry path of the MBI over a horizon H quarters is given by:

$$MBI_{t+h}^s = MBI_0 + h * \Delta MBI^2 h = 1, \dots, H \quad (11)$$

The quadratic term is introduced to capture potential non-linearities in the evolution of market-access benefits, including threshold effects and increasing returns associated with financial integration.

Assuming that compliance costs stabilize after entry, the RCI is held constant:

$$RCI_{t+h} = RCI_0 \quad (12)$$

The projected Integration Gap Index is therefore:

$$IGI_{t+h}^s = RCI_0 - MBI_{t+h}^s \quad (13)$$

Table 5 scenario-based projections

Scenario	Quarterly Change in MBI	Calibration Rule	Interpretation
Conservative	$\Delta \text{MBI}_{t-8:t-1}$	Average of last 8 quarters	Slow activation of market access
Baseline	$\Delta \text{MBI}_{t-12:t-1}$	Average of last 12 quarters	Gradual, realistic integration
Optimistic	$\Delta \text{MBI}_{t-12:t-1} + \sigma(\Delta \text{MBI}_{t-12:t-1})$	Baseline plus 1 s.d.	Strong and rapid market access

Table 5 summarizes the calibration of the scenario-based projections. It reports the assumed quarterly change in the Market Benefit Index (MBI), the empirical rules used for calibration, and the corresponding economic interpretation of conservative, baseline, and optimistic integration paths.

This yields three distinct IGI trajectories, which are directly comparable to the historical IGI series constructed from BCSM data.

The scenario framework allows the derivation of a quantitative sustainability threshold. Let H denote the evaluation horizon (8 quarters). The minimum average quarterly improvement in integration benefits required to close the integration gap within H periods is:

$$\Delta \text{MBI}^{\min} = \frac{IGI_0}{H} \quad (14)$$

This condition provides a clear benchmark. If realized post-entry growth in the MBI exceeds $\Delta \text{MBI}^{\min}$, regulatory convergence becomes economically proportionate within the chosen horizon. If it falls short, compliance costs remain dominant.

5.9 The San Marino Case

Based on the proposed model, by using the system-level data for San Marino, the analysis evaluates whether the integration gap between regulatory compliance costs and market-access benefits can be closed within a medium-term horizon under alternative assumptions about the activation of EU market access.

The analysis starts from the last observed quarter in the dataset, 2025Q2. At this point, the Regulatory Compliance Index (RCI) is equal to 0.3388, while the Market Benefit Index (MBI) is equal to 0.2589. The resulting Integration Gap Index (IGI), defined as the difference between RCI and MBI, is therefore positive and equal to 0.0799. This indicates that, at entry, regulatory compliance costs still outweigh integration-related benefits. However, the size of the gap is moderate. This allows the derivation of a clear quantitative sustainability condition. Assuming an evaluation horizon of eight quarters, the minimum average quarterly increase in the MBI required to close the integration gap is about 0.00999. This threshold represents the minimum pace at which integration-related benefits must grow, on average, for the integration process to become economically proportional within two years.

After that, following the proposed developed methodology, three scenarios are calibrated directly from the observed historical dynamics of the MBI in the San Marino data. The conservative scenario assumes a quarterly increase in the MBI equal to 0.01775, corresponding to the lower bound of recent observed growth. The

Table 6 scenario-based projections Outcomes

Scenario	Δ MBI per quarter	Quarter IGI ≤ 0 (gap closes)	IGI after 8 quarters (Q2 2027)
Conservative	0.018	Q3 2026	-0.062
Baseline	0.017	Q3 2026	-0.054
Optimistic	0.035	Q1 2026	-0.199

Table 6 reports the calibration and outcomes of the scenario-based projections. It shows the assumed quarterly growth of the Market Benefit Index (Δ MBI), the timing of the closure of the integration gap (IGI ≤ 0), and the resulting IGI after eight quarters under conservative, baseline, and optimistic scenarios.

baseline scenario assumes a quarterly increase of 0.01671, reflecting the central tendency of historical dynamics. The optimistic scenario assumes a substantially faster pace, with a quarterly increase of 0.03491, corresponding to the baseline rate plus one standard deviation.

A key result emerging from Table 6 is that all three scenario-specific growth rates exceed the minimum sustainability threshold of approximately 0.01. This implies that, from a purely quantitative perspective, the integration gap can be closed within the eight-quarter horizon under each scenario, provided that integration benefits continue to materialize at least at historically observed rates.

Table 7 reports the projected quarterly paths of the MBI and the IGI over the eight-quarter horizon from 2025Q3 to 2027Q2. The projections assume that the RCI remains constant at its last observed value, reflecting the front-loaded nature of regulatory adjustment costs.

Under the conservative scenario, the MBI increases gradually from 0.277 in 2025Q3 to 0.401 in 2027Q2. The corresponding IGI declines steadily from 0.062 to -0.062. The integration gap closes (IGI ≤ 0) around 2026Q3. This scenario illustrates a slow, but orderly convergence process in which compliance costs are offset only after a prolonged period of gradual benefit realization.

Under the baseline scenario, the MBI follows a similar, but slightly flatter trajectory, increasing from 0.276 in 2025Q3 to 0.393 in 2027Q2. The IGI declines from 0.063 to -0.054 and crosses zero around 2026Q3. This outcome is particularly important from a policy perspective, as it shows that the integration gap can be closed under benefit dynamics that are fully consistent with San Marino's own recent experience, without requiring an acceleration beyond historically observed patterns.

Under the optimistic scenario, the MBI rises much more rapidly, from 0.294 in 2025Q3 to 0.538 in 2027Q2. The IGI turns negative already in 2026Q1 and reaches -0.199 by the end of the projection horizon. In this case, integration benefits clearly dominate compliance costs relatively quickly.

Taken together, the scenario-based results convey three main quantitative insights. First, the initial integration gap faced by San Marino is not structurally large. Second, the closure of this gap does not require implausibly strong growth in integration-related activities: a quarterly MBI increase of around 0.01 is sufficient, and recent observed dynamics already exceed this threshold. Third, the timing of convergence is sensitive to relatively small differences in the pace of benefit realization, highlighting the importance of effective and timely activation of EU market access.

Table 7 Indicator-Based Analysis of San Marino

Quarter	MBI_Conser- vative	IGI_Conser- vative	MBI_Base- line	IGI_Base- line	MBI_Opti- mistic	IGI_Opti- mistic
Q3 2025	0.277	0.062	0.276	0.063	0.294	0.045
Q4 2025	0.294	0.044	0.292	0.047	0.329	0.01
Q1 2026	0.312	0.027	0.309	0.03	0.364	-0.025
Q2 2026	0.33	0.009	0.326	0.013	0.399	-0.06
Q3 2026	0.348	-0.009	0.342	-0.004	0.433	-0.095
Q4 2026	0.365	-0.027	0.359	-0.02	0.468	-0.13
Q1 2027	0.383	-0.044	0.376	-0.037	0.503	-0.164
Q2 2027	0.401	-0.062	0.393	-0.054	0.538	-0.199

Table 7 reports the projected quarterly paths of the Market Benefit Index (MBI) and the Integration Gap Index (IGI) over an eight-quarter horizon under conservative, baseline, and optimistic scenarios. It illustrates the timing and speed at which integration benefits offset regulatory compliance costs across alternative assumptions on market-access activation.

From an ex-ante perspective, these findings suggest that the economic sustainability of San Marino's association with the European Union depends less on further regulatory tightening, which has largely already occurred, and more on whether the Association Agreement translates regulatory alignment into concrete market-access opportunities. The quantitative framework thus provides a clear benchmark for future ex post evaluation: once post-association data become available, the realized evolution of the MBI can be directly compared to the scenario paths reported in Table 7 to assess whether integration has proceeded along a sustainable trajectory.

6 Conclusion

This article has examined the prospective Association Agreement between San Marino and the European Union by combining a detailed institutional analysis with an indicator-based quantitative framework. The objective was twofold: to assess the economic implications of regulatory convergence already undertaken by a microstate and to evaluate, ex-ante, whether the expected benefits of EU association are likely to offset the compliance costs incurred in the absence of full market access.

From an institutional perspective, the analysis shows that San Marino has already internalized a substantial share of the EU acquis in the financial domain. Regulatory alignment has strengthened supervisory credibility and financial stability, but it has also generated significant adjustment costs that are largely fixed and front-loaded. For a microstate operating under severe scale constraints, these costs are economically meaningful and cannot be evaluated solely through qualitative assessment.

To address this issue, the paper introduced an indicator-based quantitative framework that operationalizes the trade-off between compliance costs and integration benefits. By constructing a Regulatory Compliance Index (RCI), a Market Benefit Index (MBI), and their difference, the Integration Gap Index (IGI), the framework provides a transparent and replicable way to measure whether regulatory convergence is economically proportionate. At the end of the observed sample (2025Q2),

the IGI remains positive at approximately 0.08, indicating that compliance costs still exceed integration benefits, but that the magnitude of the gap is moderate.

Scenario-based projections provide a more nuanced quantitative assessment. Assuming a medium-term horizon of eight quarters, the minimum average quarterly increase in the Market Benefit Index required to close the integration gap is approximately 0.01. Historical dynamics already exceed this threshold: the baseline and conservative scenarios imply quarterly increases in the MBI of around 0.017, while the optimistic scenario implies an increase of approximately 0.035. Under the conservative and baseline scenarios, the integration gap closes within roughly two years after entry into force of the Agreement, while under the optimistic scenario it closes within the first year.

These quantitative results suggest that the economic sustainability of San Marino's association with the EU does not require an implausible acceleration of integration-related activity. Rather, it requires that regulatory convergence be translated into effective and timely market access for those financial services in which San Marino has a comparative advantage. At the same time, the optimistic scenario highlights some specific risks: when benefits grow much faster than costs, the system may experience in increasing complexity and regulatory intensity relative to scale.

More broadly, the findings highlight a key insight for the governance of differentiated integration. For microstates, regulatory convergence is not an end in itself; its economic viability depends on proportionality between fixed compliance costs and the scale of benefits that market access can realistically deliver. The indicator-based framework developed in this article provides a practical tool to assess this proportionality *ex ante*, while remaining fully testable *ex post* once post-association data become available.

In conclusion, the San Marino case illustrates both the opportunities and the constraints of differentiated integration for microstates. A carefully calibrated Association Agreement with the European Union can be economically sustainable, but only if regulatory alignment is matched by effective market access. By combining institutional analysis with quantitative thresholds and scenario-based projections, this research contributes to ongoing debates on how integration regimes can be designed to accommodate small, highly open economies.

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- **Author Approval:** All authors have read and approved the final version of the manuscript and agree with its submission to the journal.

Data availability All data supporting the findings of this work are included in the article.

Declarations

Conflict of interest M. Forcellini, G.A. Vent and M. E. Gracikova declare that they have no competing interests.

Ethical standards For this article no studies with human participants or animals were performed by any of the authors. All studies mentioned were in accordance with the ethical standards indicated in each case.

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