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Digital Treasury Reform and Fiscal Efficiency:

Evaluating Costa Rica's SUPRES Platform Adoption

Maria Chiara Cavalleri, Ivania García-Cascante, Andualem Mengistu, Gerardo Uña, and Mona Wang

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ABSTRACT: This paper evaluates the impact of Costa Rica's adoption of SUPRES, a digital treasury platform that centralizes and automates cash transfer payments for social assistance programs. While most GovTech literature has focused on service delivery improvements, the effects of digitalization on treasury operations remain largely unexplored. Addressing this gap, we provide an empirical assessment of how GovTech reforms support treasury efficiency by improving cash management and reducing opportunity costs of borrowing for treasury. Using administrative data and survey evidence, this analysis finds that average lead times for the analyzed social cash programs fell with the adoption of SUPRES - from 9–13 days before the reform to 2-3 days after-, generating estimated opportunity cost savings for the Treasury exceeding USD 4 million, at a relatively low implementation cost, highliting the strong value-for-money of this reform. In 2020, the pre-SUPRES opportunity cost was about 1.1% of total domestic short-term interest payments, underscoring the importance of digital treasury reforms for managing liquidity. Although the savings are modest compared to GDP, they are significant for treasury operations, especially during tight cash periods. Survey responses from administrative staff indicate enhanced operational efficiency, transparency, and inter-institutional coordination following SUPRES adoption. Beyond treasury efficiency gains, the reform also strengthens targeting, expands financial inclusion, and supports the diversification and resilience of the social payments ecosystem by enabling a multi-bank payment model. Overall, the analysis shows how relatively low-cost digital treasury reforms can deliver meaningful efficiency gains in cash management while generating broader operational and financial inclusion benefits.

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Acronyms

BANHVI	Housing Mortgage Bank
BNCR	Banco Nacional de Costa Rica
CCSS	Caja Costarricense de Seguro Social
CONAPDIS	Consejo Nacional de Personas con Discapacidad
EFF	Extended Fund Facility Program
FODESAF	Fondo de Desarrollo Social y Asignaciones Familiares
IMAS	Instituto Mixto de Ayuda Social
PFM	Public Financial Management
MoF/MdH	Ministry of Finance
NT	National Treasury
PANI	Patronato Nacional de la Infancia
SINPE	National Electronic Payment System
SINIRUBE	Sistema Nacional de Información y Registro Único de Beneficiarios del Estado
SLA	Service Level Agreements
SUPRES	Sistema Unico de Pago de Recursos Sociales (Payment System for Social Programs)
TSA	Treasury Single Account

I. Introduction

GovTech initiatives, such as digitalization of fiscal operations, are reshaping public finances worldwide. Governments are increasingly adopting digital solutions to modernize core functions such as tax administration, treasury cash management, fiscal reporting, social benefit distribution, and public procurement (Uña, Allen and Botton, 2019). These innovations deliver measurable improvements. For instance, e-filing and electronic invoicing systems have visibly enhanced tax compliance and enforcement (Okunogbe and Santoro, 2023; Nose and Mengistu, 2023). In the realm of social spending, digital identification and payment systems have reduced errors in social benefit targeting and delivery (Alonso et al., 2023 and Prady et al, 2020), while reforms in India and Indonesia have demonstrated how technology can reduce program leakage and payment delays, improve targeting, and lower poverty (Banerjee et al., 2020; Muralidharan et al., 2016; Banerjee et al., 2023a and 2023b).

While research on GovTech for social programs has centered on beneficiaries, its impact on treasury cash management remains largely unexplored. Most existing studies highlight how digital solutions improve targeting, reduce leakage, and enhance public service delivery. However, far less attention has been given to how digitalization of social transfers payments could transform treasury operations by improving cash and liquidity management and lower opportunity costs of borrowing.

This paper addresses this gap by examining Costa Rica's Payment System for Social Programs (SUPRES), an innovative digital platform that centralizes cash transfer payments through the National Treasury. Implemented by Costa Rica's Ministry of Finance starting in 2022, SUPRES[2] processes and consolidates payment orders at the National Treasury from across multiple social agencies and cash transfer programs and processes the payments directly from the Treasury Single Account (TSA) to beneficiaries' bank accounts through the national payment platform of the central bank (SINPE).

Drawing on administrative data and survey evidence, this study demonstrates that digitizing and centralizing social transfer payments improves treasury operations and brings broad benefits to administrative staff and beneficiaries. Specifically, we find that SUPRES has reduced payment lead time, strengthened treasury cash management, a core function of public financial management, and generated opportunity cost savings for the National Treasury. Beyond fiscal savings, the reform generated broader gains in operational efficiency, inter-institutional coordination, and beneficiary experience, which are central to assessing its overall value. In doing so, this paper contributes new evidence on the critical, but often overlooked, role of GovTech reforms in advancing treasury efficiency and macro-fiscal management.

The remainder of the paper is organized as follows. Section II provides an overview of social transfer programs in Costa Rica, while Section III outlines the SUPRES reform process. Section IV examines the impact of SUPRES on treasury cash management and administrative efficiency and considers its implications for the financial inclusion of social transfer recipients. Finally, Section V presents the conclusions and policy considerations, highlighting lessons from Costa Rica on the impact of GovTech reforms.

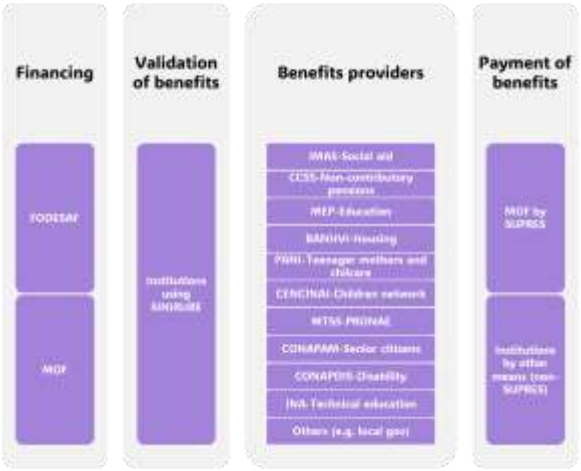
[2] Sistema Unificado de Pago de Recursos Sociales (SUPRES)

II. Overview of Costa Rica's Social Assistance System

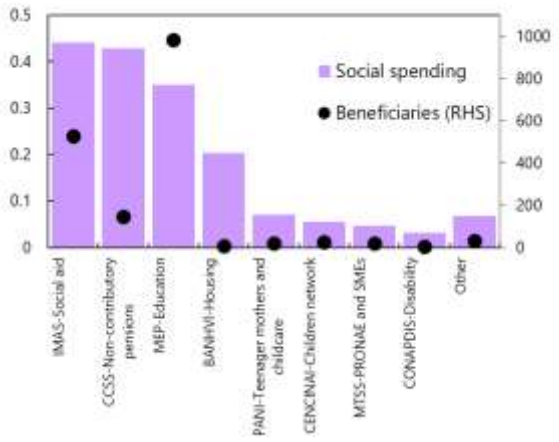
Costa Rica has a comprehensive social protection framework managed by more than 20 agencies, which presents coordination and targeting challenges for assisting vulnerable populations. The *Instituto Mixto de Ayuda Social* (IMAS) is legally mandated to design and coordinate anti-poverty policies, while 21 autonomous agencies complement its efforts by delivering social benefits. Altogether, these agencies manage 35 social programs, shaping a broad yet fragmented social protection network, with additional public bodies also contributing to social funding. For example, the *Fondo de Desarrollo Social y Asignaciones Familiares* (FODESAF) collects 5 percent of payroll taxes to finance social assistance programs. The Ministry of Finance (MoF) finances social programs through allocations in the national budget, while the *Sistema Nacional de Información y Registro Único de Beneficiarios del Estado* (SINIRUBE) maintains a centralized beneficiary registry that supports IMAS in strengthening targeting of social assistance programs (Figure 1, panel A).

Figure 1. Social spending and institutions involved

A. Agencies involved in social assistance network by process



B. Social spending and beneficiaries by institution, 2023
(Percent of GDP; thousands of people)



Source: IMAS and IMF staff estimates.

In 2023, Costa Rica devoted nearly 1.7 percent of GDP to social programs targeting vulnerable populations.[3] The largest allocations were directed to IMAS' social programs (0.44 percent of GDP) and the *Caja Costarricense de Seguro Social* (CCSS)'s non-contributory pension schemes (0.43 percent), benefitting around 526,265 and 146,905 individuals, respectively. Education-related social programs under the Ministry of Education accounted for 0.35 percent of GDP and reached nearly 981,000 beneficiaries. By contrast, housing support provided by the Housing Mortgage Bank (BANHVI) accounted for 0.20 percent of GDP while serving

[3] Although social benefits in Costa Rica are administered through at least 21 institutions, under the Structural Adjustment Facility (SAF) program, the authorities and the IMF agreed to monitor social spending based on the 10 largest institutions, which together represented about 1.7 percent of GDP in 2023.

only about 8,222 households. Other programs, such as support for teenage mothers, early childhood, small businesses, and disabilities, covered smaller, targeted needs (Figure 1, panel B).

III. SUPRES Reform Overview

A. TREASURY MANAGEMENT BEFORE SUPRES

Until 2022, the National Treasury (NT) operated a decentralized model for social program payments based on annual cash planning and budget resources allocation. At the start of each fiscal year, the 21 autonomous agencies submitted cash plans to the NT detailing expected funding needs for social assistance payments. Based on these cash plans, the NT used its Digital Treasury system – operating similarly to a core banking platform - to credit funds to the agencies' accounts on a regular basis. These allocations were recorded as accounting entries, rather than being executed as actual cash transfers.

To manage liquidity, the National Treasury conducted monthly and weekly cash programming to forecast funding needs and allocate resources to meet anticipated demands. To trigger fund transfers, agencies submitted payment requests at least a week prior to disbursement, often in non-standard formats (e.g., Excel files or email tables) detailing the amounts required for beneficiary payments. The lack of standardized, timely data hindered the NT's ability to produce reliable liquidity forecasts and complicated effective cash programming.

The approval of payment requests earmarked the funds and removed them from the Treasury's central cash pool, even if disbursements to beneficiaries did not occur immediately. Once a payment request was approved, the NT transferred the funds from the main Treasury Single Account (TSA) into the agency's sub-account in the TSA. At that point, funds were earmarked and no longer fungible within the central cash pool, even if the disbursement of beneficiaries had not yet occurred. From the NT's perspective, the resources were already considered spent. Agencies then transfer the funds from their TSA sub-accounts into their commercial bank accounts before paying beneficiaries. These steps introduced delays, created idle balances in sub-accounts at the TSA and commercial bank accounts, thus limiting the NT's visibility and control.

The pre-SUPRES model undermined the benefits of a centralized TSA by fragmenting the cash pool and limiting the NT's ability to manage liquidity. In contrast, a well-functioning TSA consolidates government cash into a single structure, reducing idle balances, lowering short-term borrowing needs, and strengthening overall cash flow management (Pattanayak and Fainboim, 2011). Such consolidation also diminishes the cost of holding excess liquidity, reinforces fiscal discipline and transparency, and - when linked to digital platforms - provides real-time visibility of cash positions to support more agile fiscal decisions

INSTITUTIONAL FRAGMENTATION IN PFM PRACTICES AND PAYMENT PROCESSES

Costa Rica's public finance management (PFM) combines centralized financial and treasury operations for line ministries with decentralized financial autonomy for autonomous agencies, reflecting a dual structure in PFM practices. The line ministries follow budget procedures supported by a centralized financial management information system and operate under the TSA. In contrast, autonomous agencies enjoy financial autonomy, with dedicated budgets, non-fungible accounts, and separate financial management information systems. While Costa Rica's treasury management framework is comparatively advanced in Latin America, including payments executed electronically through the Digital Treasury system and processed via the Central Bank's National Electronic Payment System (SINPE) platform, this dual structure has created fragmentation in cash management and social transfer delivery.

Financial decentralization has led each autonomous agency or institution to adopt its own procedures for delivering cash transfers to social programs beneficiaries. These procedures have largely been shaped by operational constraints, regional limitations, and established practices rather than by efficiency or standardization. The experience of the social assistance agency IMAS illustrates these challenges:

- **Regional offices and banking arrangements.** IMAS managed payments through 10 regional offices, each holding accounts at Banco Nacional de Costa Rica (BNCR). These offices received transfers from IMAS's central TSA sub-account into their own commercial bank accounts.
- **Delays.** Because of interbank processes and float times, regional offices typically faced a delay of three to five days before gaining access to the transferred funds.
- **Post payment traceability:** payment information was not transmitted to SINIRUBE in a timely manner to allow for the rapid recording of the payments made to each beneficiary.
- **Banking barriers.** To avoid interbank fees, IMAS required all beneficiaries to maintain accounts at BNCR. This rule created obstacles for people in remote or marginalized communities without nearby BNCR branches or the ability to open accounts.
- **Prepaid cards.** To improve access, IMAS introduced prepaid cards in 2009 for its main social programs. While these facilitated payments, they carried a 0.15 percent bank commission, made monitoring difficult, and left unclaimed balances idle for up to six months. [4] In 2019, IMAS and BNCR deactivated more than 14,000 prepaid cards and transitioned beneficiaries to bank debit cards to promote financial inclusion.
- **Internal bank accounts.** IMAS later piloted simplified "internal" bank accounts at BNCR which reduced documentation requirements and eased access for financially excluded populations. However, these accounts lacked IBAN identifiers, limiting scalability and use with the broad banking system.

Table 1. Cash Transfers Social Programs Payments Methods

Payment Method	Characteristics
Cash	Payment in cash delivered directly by the institutions
Bank teller	Payment delivered by a physical teller of a bank or financial institution.
Check	Delivery of check to the beneficiary who subsequently redeems it.
Prepaid payment card	Delivery of cards periodically funded by the entity issuer.
Internet banking	Deposit in the beneficiary's "internal" bank account, for use through a debit card.

Source: IMAS and Ministry of Finance of Costa Rica.

Overall, these arrangements reveal how institutional autonomy and fragmented practices reduced efficiency, increased costs, and created barriers to inclusion. They also highlight the limitations of the pre-SUPRES model in ensuring timely, equitable, and transparent delivery of social transfers.

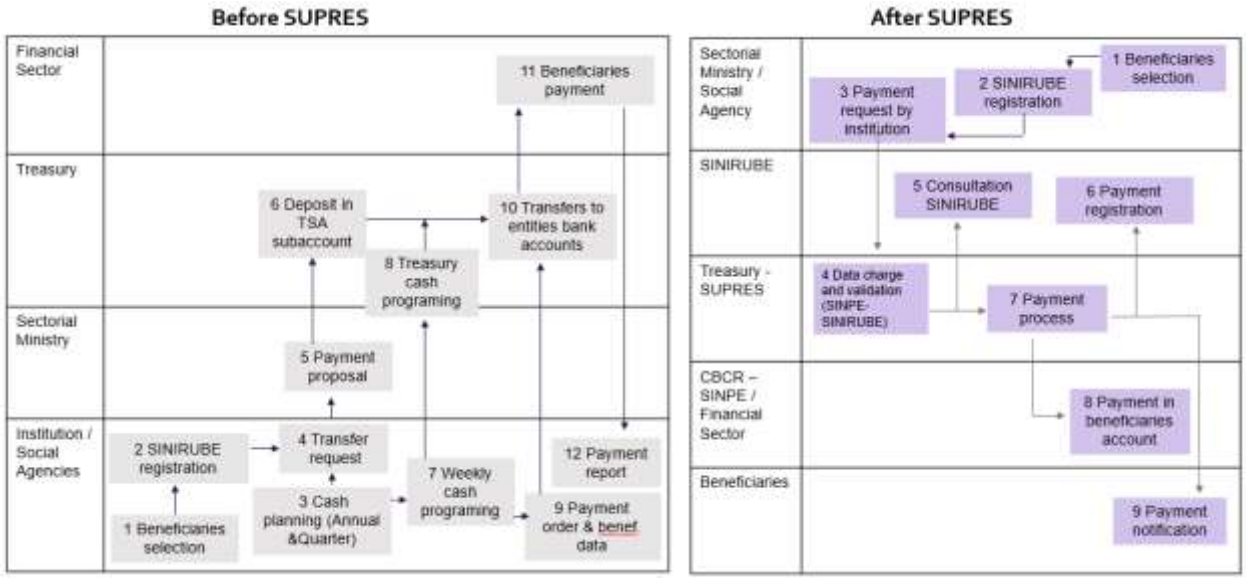
[4] For instance, in 2014, about 4 percent of active prepaid cards were pending pickup, preventively blocked, or canceled, representing around 10 percent of the total value of active prepaid cards (IBD, 2016).

B. TREASURY MANAGEMENT AFTER SUPRES ADOPTION

SUPRES reform entailed implementing a treasury's digital solution to centralize cash transfer payments, improving cash management processes and ensuring efficient delivery to final beneficiaries. The Government of Costa Rica started the development of the SUPRES platform in 2021 and implementation in 2022. From an information system perspective, SUPRES is a data consolidator, information validator, payment processor and provider of executed payment data within the Treasury Digital system. It operates through automatic interfaces with the SINIRUBE beneficiary registry (via APIs for beneficiary and account validation), and the Central Bank's SINPE payment system for execution. Its development cost was around USD 103,000 during the period 2021-2023. Additional costs related to staff training, adjustments to administrative procedures, and information system maintenance were incurred, although these remain limited relative to the scale of recurring efficiency gains. By utilizing SUPRES, cash transfer payments for social programs are disbursed directly from the TSA to beneficiaries' bank accounts without intermediaries, while simultaneously transmitting the payment confirmation to SINIRUBE. Up to 2023, SUPRES covered payments for almost 430,000 beneficiaries from different social programs (Table 2). This automated process delivers several benefits to social program cash transfers, including:

- **Streamlined cash transfer payment process from 12 to 7 steps** (Figure 2). Before SUPRES, the process involved beneficiary selection, registration in SINIRUBE, cash planning, ministerial approvals, and Treasury coordination, followed by fund transfers to financial institutions with limited post-payment traceability. Delivery methods varied widely—including cash, checks, ATMs, and prepaid cards—depending on institutional and regional practices. Under the post-SUPRES arrangement, beneficiary eligibility and program enrollment continue to be determined by the respective social agencies (such as IMAS), while SINIRUBE remains responsible for maintaining and validating the centralized beneficiary registry. SUPRES does not alter these institutional mandates; rather, it validates beneficiary and banking information through automated interfaces with SINIRUBE and executes approved payments directly from the TSA. Funds are deposited into beneficiaries' accounts the following day, accompanied by payment notifications by phone message.

Figure 2. Flow of funds pre- and post-SUPRES



Source: IMF and Ministry of Finance of Costa Rica.

- **Centralization and standardization of cash management and social transfer delivery**. While social program administration and budget management remained decentralized across autonomous agencies, SUPRES enabled digital payments directly from the TSA into beneficiaries' bank accounts through

standardized processes, reducing operational risks and eliminating unnecessary intermediaries. Under the new cash management workflows, autonomous agencies submit payments orders to NT through a digital platform, accompanied by a complementary file with beneficiary-level information such as payment amounts, contact details, and banking data. Most critically, from a treasury management perspective, this solution shortens the time between fund release and final disbursement, allowing the Treasury to manage public funds longer and apply liquidity practices that strengthen TSA operations. By shifting payments toward direct account-based transfers, SUPRES likely reduced reliance on commission-intensive payment instruments, although available data are too aggregated to isolate these savings with precision.

Table 2. Beneficiaries in SUPRES (2023)

Program/Benefit	Institution	Number of banked social beneficiaries
IMAS Social Subsidies	IMAS	421,002
People with Disabilities	CONAPDIS	4,701
National Employment Program (PRONAE)	MTSS	11,272
Adolescent Mothers	PANI	2,213
Total		**439,188**

Source: Ministry of Finance of Costa Rica.

- **Automatic updating of SINIRUBE beneficiary records.** The integration of SUPRES with SINIRUBE improves the analysis of beneficiaries' experiences, enables the identification of individuals receiving support from multiple social programs, and provides a more comprehensive view of vulnerabilities and social needs. In turn, this comprehensive data can support more accurate, evidence-based decision-making for targeting social benefits and fostering sustainable and effective social assistance policies.
- **Reduction of errors in payment processes**. Through SUPRES's integration with SINPE, it is possible to directly monitor the deposit of social benefits into the accounts of qualifying beneficiaries. Rejected transfers are detected and reported to IMAS, avoiding an erroneous transfer, and enabling the identification of an alternative bank account to ensure payments are completed without disruptions. These improvements primarily reflect stronger ex-ante validation of beneficiary banking information, faster identification of rejected transfers, and enhanced traceability, which also contribute to mitigating operational and fraud-related risks.
- **Promotion of financial inclusion among cash transfer beneficiaries.** The two main initiatives linked to the adoption of SUPRES for promoting financial inclusion are the opening of simplified bank accounts and the use of SINPE Móvil. The simplified bank accounts, which replace the internal accounts previously assigned by BNCR to beneficiaries, have the same status as regular bank accounts, including IBAN identification. This enables the use of SINPE Móvil - an e-wallet regulated by the Central Bank's national payment platform - providing beneficiaries with immediate access to funds for P2P transactions. In addition, since almost 63 per cent of the cash transfer social programs beneficiaries in Costa Rica are women, the incentive of opening simplified bank accounts with access to an e-wallet can contribute to reduce the gender gap in financial inclusion. According to the World Bank Gender Data Portal, in 2021, only 61.1 percent of women in Costa Rica had bank accounts, compared to 76.3 percent of men.

As a result of these effects, the SUPRES reform reduced manual handling and operational fragmentation for payment processing, improved speed and accuracy, enabled eligibility checks, and enhanced transparency and control by consolidating steps within a centralized, automated framework.[5] As of 2024, around two-thirds of IMAS's transfers were delivered through SUPRES, along with scholarships for teenage mothers (PANI), conditional transfers programs for employment (MTSS) and subsidies for disabled population (CONAPDIS).

[5] The impact of the reform is assessed in Section IV.

PRIOR INSTITUTIONAL AND DIGITALIZATION EFFORTS AS KEY ENABLERS

Costa Rica's earlier initiatives in treasury management and social databases laid the groundwork for the successful implementation of SUPRES. In particular, the social registry SINIRUBE, established in 2013, improved targeting of social assistance beneficiaries. The SINIRUBE Directive (Directive N° 060-MTSS-MDHIS, October 15, 2019) then designated this system as the official socioeconomic database for all social sector institutions, requiring its use for managing social programs and prioritizing beneficiaries based on poverty and multidimensional poverty measures.

With beneficiary data consolidated in SINIRUBE, efforts to promote financial inclusion sought to expand access to formal banking services for recipients of state transfers. Since the *Financial Inclusion Directive* (Directive 16, July 2018) a shift started to transition social assistance payments from cash, prepaid cards, and checks to using electronic transfers into bank accounts. This transition leveraged tools such as the Central Bank's SINPE platform for secure and efficient electronic transfers, alongside simplified account-opening procedures. Public banks have been required, and other financial institutions encouraged, to support this shift. The SINPE platform is capable of processing large transaction volumes instantly, particularly through the real-time debit model (*Debito en Tiempo Real -DTR*) via inter-banking connections.

Parallel reforms focused on cash consolidation and liquidity management. The Comptroller Office noted that the implementation of the TSA generated estimated savings of about 0.8 percent of GDP between January 2019 to September 2020.[6] In addition, the 2020 mandating decree instructing autonomous institutions to transfer their funds to the TSA was an important step toward the centralization of liquidity management. These treasury reforms complemented financial inclusion efforts by providing the infrastructure needed for efficient and secure government payments.

The adoption of SUPRES was further supported by a robust legal framework to enhance its institutionalization. A Presidential Decree established SUPRES' governance structure and formalized the relationship between the NT and the public agencies responsible for cash transfer social programs. Service Level Agreements (SLA) were explicitly defined to assure timely payments, generating trust and a clear definition of the responsibilities between the NT and the public agencies involved. This framework also clarifies institutional roles and responsibilities for data validation, payment execution, and system oversight, supporting interoperability while preserving the functional autonomy of participating agencies. Nevertheless, Costa Rica needs to continue improving this legal framework to enable the extension of SUPRES to cover additional social programs. Remaining constraints relate mainly to legal mandates, institutional autonomy of large social programs, and differences in IT readiness across agencies.

[6] For more details see COVID-19 | Transparencia en la emergencia - Cuenta Única del Tesoro: prioridades finanzas integradas

Figure 3. Key reforms that improved social program management, financial inclusion, public fund administration, and targeted social assistance

C. IMF SUPPORT FOR SUPRES DESIGN AND IMPLEMENTATION

The IMF has played a catalytic role in supporting Costa Rica's efforts to modernize its social program cash transfers management through the adoption of SUPRES. Recognizing the need for a gradual and strategic approach, Costa Rica's National Treasury initiated the general design of SUPRES in 2017. In 2019, the Ministry of Finance, in collaboration with the IMF's Fiscal Affairs Department (FAD), organized a hackathon focused on improving cash transfer payments. Hackathons are short, intensive design thinking events that bring experts from diverse fields to develop innovative digital solutions to specific challenges within 24 to 48 hours. FAD has organized six public finance-focused hackathons with support from the Gates Foundation during the period 2016-2023.

Costa Rica's hackathon was the IMF's first event of its kind focused specifically on public financial management issues. This innovation event was aimed at enhancing the efficiency, transparency, and traceability of social programs payments while promoting financial inclusion of beneficiaries adopting an innovative approach to provide technical assistance by the IMF. Six operational prototypes utilizing open-source technologies and advanced digital tools such as cloud architecture, microservices, and artificial intelligence were developed.[7] These prototypes provided valuable inputs to the National Treasury, Central Bank and IMAS and helped incorporate innovative technological elements into the SUPRES project. Building on the momentum generated by the hackathon, the IMF provided targeted technical assistance during 2019 and 2021 to support the definition of functional and technological requirements and the development of an implementation roadmap.

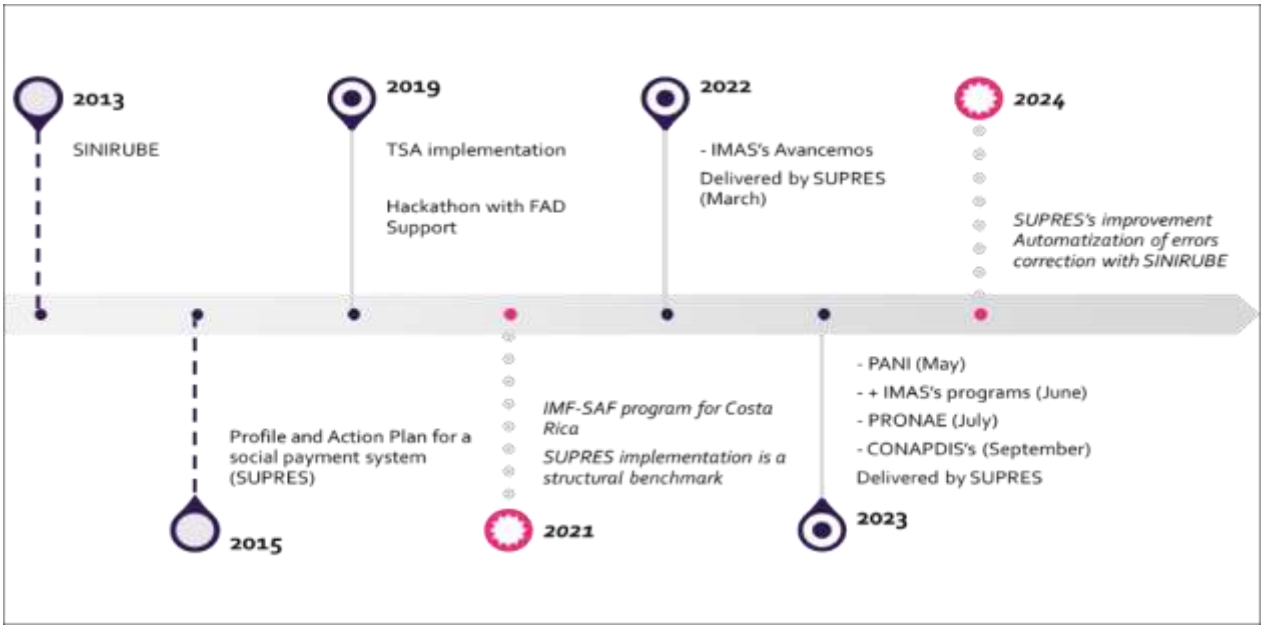
The inclusion of SUPRES as a structural benchmark under Costa Rica's Extended Fund Facility (EFF) program in early 2021 underscored the government's commitment to the initiative. In addition, including SUPRES as a benchmark of the EFF program with the IMF enabled the NT to prioritize resources for its development. Throughout 2021, the NT undertook key activities including the definition of business flows, system coding, and functional testing, including interoperability with SINIRUBE. The development process also faced typical implementation challenges related to system integration, testing, and user adaptation, which were addressed through iterative development and close coordination among the National Treasury, IMAS, and Central Bank. These efforts were carried out in-house over a nine-month period at a cost of approximately USD

[7] See more details at PFM Hackathon: Streamlining the Payment System for Social Programs in Costa Rica.

103,000. However, this amount does not reflect the total cost associated with the initiative, since it does not include the expenses associated with staff training, changes in the administrative procedures and adjustments needed in the hardware platform. A general estimation of this type of expense could potentially add USD 100,000. In addition, the IMF's capacity development support cost could be estimated on the order of USD 400,000. When accounting for direct and indirect implementation costs and IMF capacity development support, total upfront costs, approximately USD 600,000.

The IMF's support has been instrumental in advancing Costa Rica's public financial management agenda, particularly in treasury modernization and social program delivery. Following the successful completion of the structural benchmark, the migration of cash transfers payments to SUPRES began in August 2022 with the *Avancemos* program, followed by *Prestación Alimentaria* and *Atención a Familias* in July 2023 from IMAS. Additional programs from CONAPDIS, PANI, and MTSS were integrated into SUPRES during the same year. The Fund's engagement, including Western Hemisphere Department staff collaboration during the execution of the EFF program and FAD technical assistance missions as a continued collaboration with the Ministry of Finance, has helped Costa Rica strengthen its institutional capacity, improve cash management, and promote digital financial inclusion for vulnerable populations.

Figure 4. Costa Rica's roadmap to increase social assistance efficiency



IV. Assessment of the SUPRES Reform

A. EVALUATION OF TREASURY'S CASH MANAGEMENT EFFICIENCY IMPROVEMENTS

The SUPRES reform represents a significant advancement in Costa Rica's treasury operations, particularly in the management of cash transfers for social programs. To empirically assess cash management efficiency gains, we focus on the following three major cash transfer programs managed by IMAS, which represent over 75% of IMAS spending and cover over 80% of IMAS beneficiaries:

- *Avancemos* is a scholarship program offering fixed monthly financial support[8] to primary and secondary students from disadvantaged families conditional on their school enrollment.
- *Atencion a familias* provides lump-sum financial assistance to households living in poverty to help meet basic needs.
- *Prestacion alimentaria* provides monthly financial assistance to support the basic nutritional needs of individuals in vulnerable conditions.

For the purpose of this analysis, *Prestacion alimentaria* and *Atencion a familias* are considered jointly (DESAF).[9]

EMPIRICAL APPROACH

We assess efficiency gains in treasury cash management by estimating the reduction in lead time. The lead time is defined as the number of days that resources remain idle in financial institutions between the cash outflow from the TSA and the inflow into beneficiaries' accounts. During this period the resources are not available for the Treasury and have not reached the beneficiaries. To estimate the lead time for each of the three programs, we use two complementary administrative data sources:

- **Outflow dates from TSA Sub-accounts.** We analyze detailed administrative data from IMAS sub-account statements at the TSA, covering the period from 2018 to 2024. These statements include transaction-level information such as the date, amount, and description of each transaction. We exclude non-transfer-related expenditures (e.g., payroll) to focus exclusively on social transfer payments.
- **Inflow dates to Beneficiary Accounts:**
  - **Pre-SUPRES period:** Once funds were transferred to IMAS' regional offices commercial bank accounts outside the TSA, the NT and IMAS lost visibility over the exact disbursement timing.

[8] The cash transfer amount for Avancemos varies by the grade: lower schools students receive ₡ 18,000, while higher secondary students receive ₡ 40,000.

[9] Due to shared funding sources and administration through a single TSA sub-account, it is not possible to distinguish payments for each program in the available data. Therefore, lead time estimates reflect the combined performance of the two programs. However, given that the program size (in total amount and in number of beneficiary) of *Atencion a familias* is much larger than *Prestacion alimentaria,* the results from analyzing this joint data can be considered driven primarily by *Atencion a familias.*

Therefore, we use the official payment calendar as a proxy for receipt dates. This legally mandated schedule, published annually, specifies the deadline each month by which transfers must be completed. While some beneficiaries-particularly those in early batches- may have received payments ahead of schedule, IMAS staff consistently reported tight deadlines and limited flexibility, reinforcing the reliability of this proxy.

- **Post-SUPRES period:** The SUPRES platform provides transaction logs with precise timestamps for each payment made from the TSA subaccounts from each IMAS regional office. These logs capture information such as the payment date, recipients' bank account, region, and amount, allowing them to accurately identify when each transfer reached its beneficiary.

The lead time is calculated as the number of days between the cash outflow from the TSA and the receipt of funds by the beneficiary[10]. When a single TSA outflow was covering multiple transfers (batch processing), we proportionally allocated the outflow amount based on SUPRES records. To summarize the trend over time, we averaged the lead time to monthly level.

METHODOLOGY

Since each social program operated under distinct administrative processes before SUPRES, no natural comparator groups are available. As a result, quasi-experimental methods - such as difference-in-differences or matching techniques - cannot be applied to derive a causal estimate of SUPRES's impact on cash management efficiency. Instead, we present two complementary pieces of evidence that suggest potential efficiency gains associated with the adoption of SUPRES.

1. Interrupted Time Series Analysis
First, we examine the trend in the lead time before and after the introduction of SUPRES to assess whether the implementation of SUPRES coincided with a structural break or a significant shift in the trajectory of the lead time. To do so, we apply an interrupted time series (ITS) regression with the following specification:

$$Y_t = \beta_0 + \beta_1 Time_t + \beta_2 Treatment_t + \beta_3 Post_t + \varepsilon_t$$

Where Y_t denotes the monthly average lead time, $Time_t$ is a time trend, $Treatment_t$ is a binary variable that equals 1 after the adoption of SUPRES and 0 otherwise, $Post_t$ takes the value of 0 before SUPRES and counts the number of months since its implementation. In this framework, β_1 captures the pre-SUPRES time trend; β_2 estimates the immediate change in level following the adoption of SUPRES, while β_3 reflects the change in trend between the pre-and post-SUPRES periods.

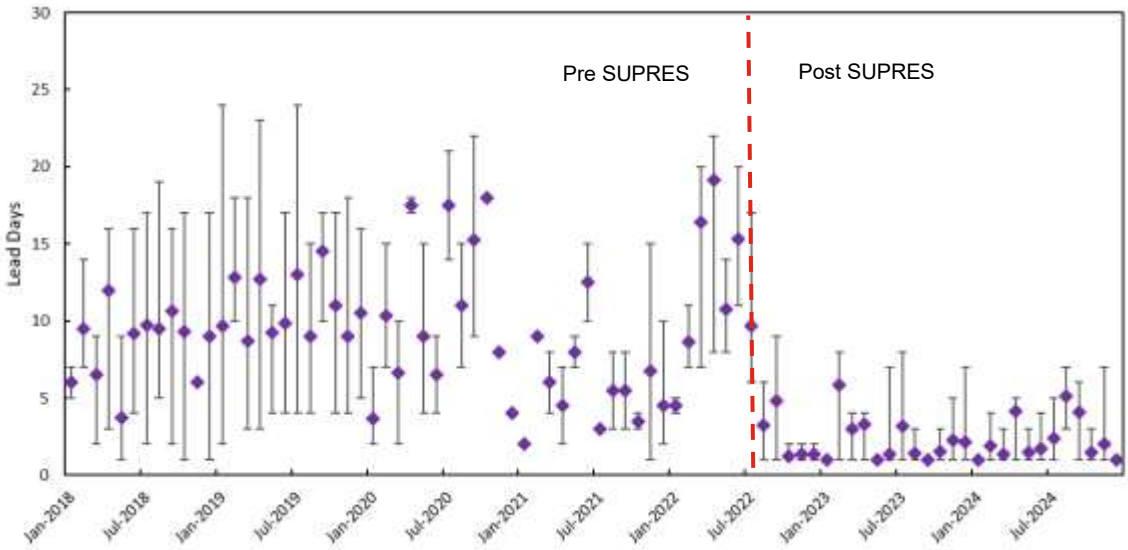
2. Differential Trend Analysis Across Programs
Second, we analyze trend differentials across programs that adopted SUPRES at different times. Specifically, we compare *Avancemos,* which adopted SUPRES in August 2022, with *Prestacion alimentaria / Atencion a familias* (DESAF), incorporated in July 2023. The staggered timing of SUPRES adoption across these programs allows us to observe whether breaks in lead time trend align with their respective adoption dates. This strengthens the interpretation that observed reduction in payment lead times are attributable to SUPRES rather than external confounding factors.

While this combined approach does not yield a causal estimate, it provides compelling evidence that SUPRES contributed to enhanced timeliness and predictability in government cash transfers.

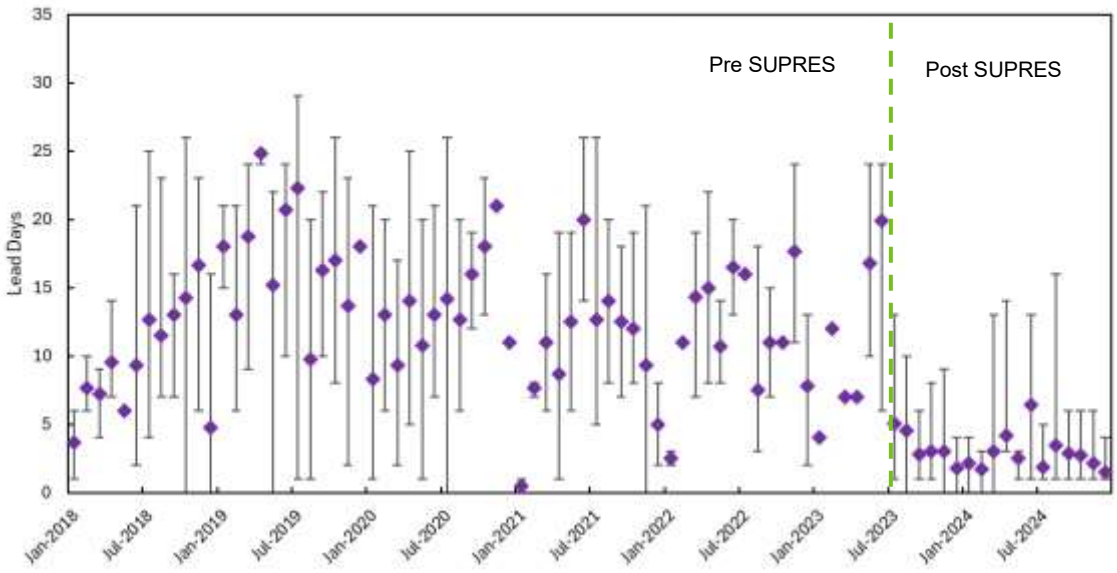
[10] Cases where lead days are negative are excluded. This could happen when the resources from the TSA were disbursed late and IMAS used their own resources to pay for the benefits.

Figure 5. Lead Time between TSA Cash Release and Receipt

A. Avancemos



B. Atención a familias / Prestación Alimentaria (DESAF)



Source: IMF staff estimates based on the account data provided by IMAS.
Note: The purple dot shows the monthly average lead time (in days). The vertical bars indicate the range of lead times within each month, with the upper bar showing the maximum and the lower bar showing the minimum.

The average lead time and its variability have significantly declined after the adoption of SUPRES. In the case of *Avancemos*, the lead time decreased from approximately 9.3 days to just over 2 days, while for *Prestacion alimentaria / Atencion a familias (DESAF),* it fell from around 13 days to under 3 days on average. The evolution of lead time is presented in Figure 5, highlighting the adoption date of SUPRES for *Avancemos* (August 2022), and for *Prestacion alimentaria / Atencion a familias (DESAF)* (July 2023)[11]. The purple dots represent the monthly average lead time, and the error bars denote the minimum and maximum lead times observed each month. The reduced range between minimum and maximum lead times within each month suggests improved predictability in disbursement timing as a result of improved cash management practices. From a public financial management perspective, greater predictability in payment execution facilitates more accurate cash forecasting and reduces the need for precautionary liquidity buffers.

Regression results confirm that the adoption of SUPRES led to a statistically significant reduction in the lead time for both programs. (Table 3 and Figure 6).

- ***Avancemos****:* No significant trend is observed in lead time before or after the adoption of SUPRES, suggesting that the 7-day reduction from the pre-SUPRES average of 9.3 days occurred as a one-time shift rather than a gradual improvement. This situation could reflect the “big bang” implementation approach used for *Avancemos*, in which all beneficiaries were migrated onto SUPRES at a single point of time.

- ***Atención a familias / Prestación alimentaria*** **(DESAF):** The ITS model estimates an immediate reduction of 8.25 days in lead times right after SUPRES was adopted. The post-adoption time trend is significantly negative, suggesting that the lead time has continued to shorten over post-SUPRES period. This implies that beyond the initial drop, lead times continued to decline gradually in the months following the transition to SUPRES, producing a total realized improvement of approximately 9 days. This ongoing improvement likely reflects efficiency gains stemming from the program’s more dynamic operation, characterized by a higher turnover of beneficiaries receiving payments and greater variety in transfer amounts.

[11] A temporary increase in lead time for *Prestacion alimentaria / Atencion a familias (DESAF)* was observed immediately before its integration into SUPRES in July 2023. This uptick was primarily driven by processing delays at Banco Nacional de Costa Rica (BNCR) caused by a surge in transaction volume that exceeded the bank’s processing capacity. The issue was subsequently resolved, highlighting the importance of effective institutional coordination and adequate system readiness in enabling the successful implementation of such reforms.

Box 1. Why payment lead times varied before SUPRES: the case of *Avancemos*.

Before SUPRES, cash transfer payments of *Avancemos* scholarships followed a multi-step chain. IMAS first determined the list of eligible beneficiaries and their monthly benefits, which were recorded and validated in SINIRUBE at later stages. Based on this, IMAS requested funding from the sectoral ministry, which then submitted a payment proposal to the Treasury. Once approved, the National Treasury transferred funds from the TSA amin account to IMAS sub-account who later transfer the funds to IMAS regional offices commercial bank accounts, typically in several installments spread throughout the month. The reason was practical: IMAS did not pay all *Avancemos* beneficiaries on the same day. Payments were executed over time and through different channels (bank accounts, prepaid cards, sometimes in cash via regional offices). If the Treasury had transferred the full monthly amount of the benefit at the start of the month, a share of the funds would have remained idle in IMAS TSA subaccounts or bank accounts until disbursed, and any failed payments would not automatically return to the Treasury. To maintain visibility and control over large sums, the Treasury released money in stages, timed to expected payment waves rather than to individual student payments. In addition, the timing and size of Treasury releases often depended on the availability of funds. When transfers from funding sources were delayed, the Treasury had to compress payment schedules and potentially rely on issuing T-Bills to cover short time cash shortages. Consequently, short lead times before SUPRES sometimes reflected tight funding conditions faced by the Treasury rather than efficient cash management and faster administrative execution.

How SUPRES improved this for *Avancemos*.

With SUPRES, uncertainty in the *Avancemos* payments flow was effectively addressed. IMAS still defines eligibility and benefit amounts, but the payment file, including the beneficiary bank data, are now validated directly in SUPRES. Payments are executed directly from the TSA to the beneficiary' accounts through the national payment system, without intermediate transfer to IMAS or to commercial banks. If a payment fails - for example because the account is inactive -the funds remain in the Treasury account. As a result, the National Treasury no longer needs to anticipate the timing of *Avancemos* payments or release funds in precautionary batches. Outflows from the National Treasury now occur almost in real time, aligned with actual payments to beneficiaries, making the process more transparent and efficient.

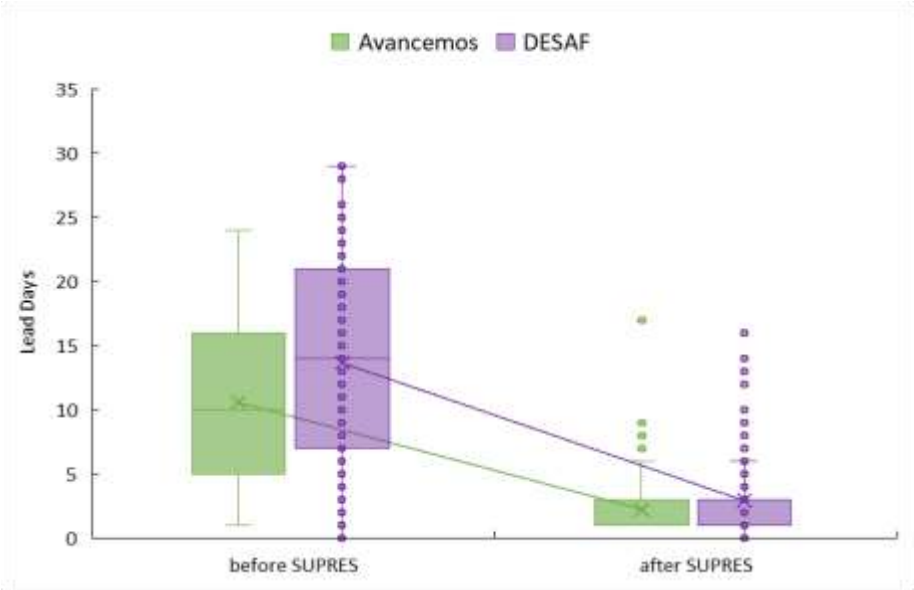
Table 3. Lead Time in Cash Movements

	Dependent variable = Lead time (in days)	
	Avancemos	Atención a Familias / Prestación Alimentaria (DESAF)
Time	0.002	-0.015
	(0.035)	(0.034)
Treatment	-6.921***	-8.246***
	(1.455)	(1.342)
Post	-0.013	-0.056**
	(0.048)	(0.056)
Constant	9.294***	12.912***
	(0.844)	(1.369)
Observations	84	84
R-squared	0.495	0.431

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Figure 6. Lead Time between Cash Release and Receipt



Note: The boxes in the chart represent the interquartile range of the lead time, where the lines and the crosses inside the box indicate the median and average respectively.

Source: IMF staff estimates based on the account data provided by IMAS and Ministry of Finance of Costa Rica.

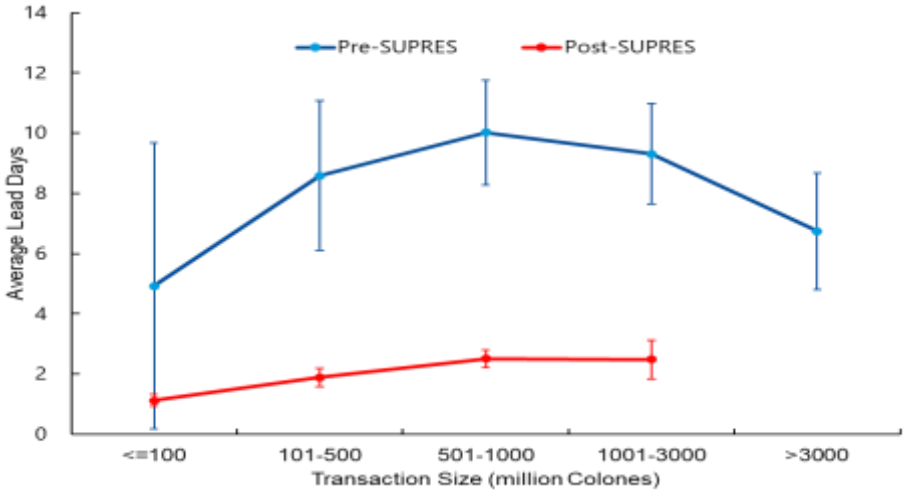
To better understand the drivers behind these efficiency gains, we disaggregate the evolution of lead times by transaction size and program. While the previous analysis documented a marked decline in average lead times across the programs assessed, aggregate indicators alone cannot reveal whether these efficiency gains reflect either cash management process improvements or compositional changes in transaction size. By examining the relationship between transaction value and processing time, it becomes possible to distinguish between *within-bin efficiency gains* - that is, faster execution of payments of similar size - and *composition effects* arising from the shift toward smaller, more frequent transactions following SUPRES.

The SUPRES reform significantly changed payment composition, with average transaction sizes falling and transaction numbers rising. Prior to SUPRES (Figure 7) payment processing times exhibited a distinct **reverse U-shaped relationship** with transaction size. Mid-range payments (around ₡500–₡2,000) were subject to longer lead times, whereas very small and very large transfers were typically cleared more quickly.

After the introduction of SUPRES, this pattern changed fundamentally. Automation and direct integration with the Treasury's payment systems standardized workflows, producing near-real-time settlement for most transfers. Lead times across all transaction-size bins converged to approximately two to three days, and the pre-existing curvature of the size–time relationship flattened markedly. This convergence underscores that the gains observed in the aggregate data stem from **structural process improvements** rather than shifts in the distribution of transaction sizes. The results also highlight how SUPRES enhanced both **efficiency**—through faster disbursements—and **equity**—by ensuring consistent processing speed across all beneficiaries, regardless of transaction size.[12]

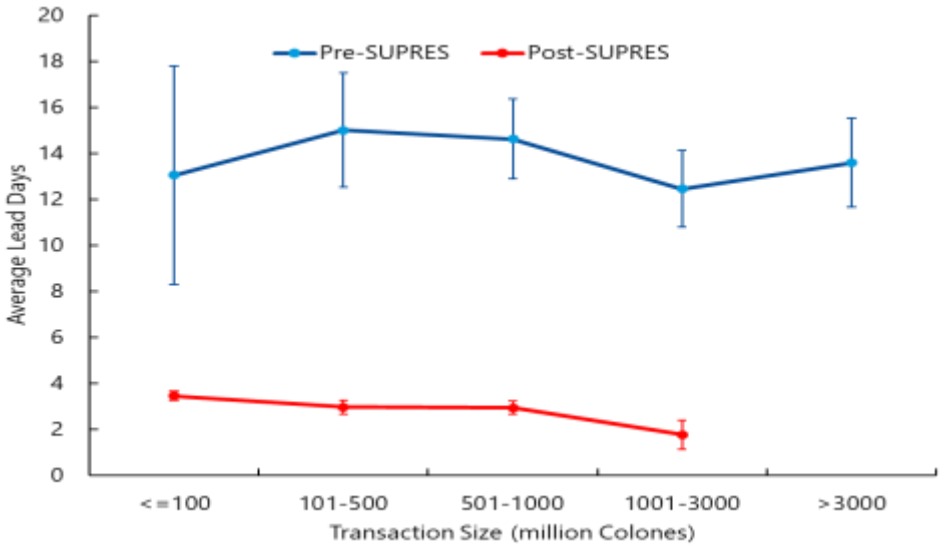
Figure 7. Average Lead Time by Transaction Size Before and After SUPRES

A. Avancemos



[12] Although reforms to strengthen SINIRUBE were introduced during the same period as the SUPRES, SINIRUBE's focus on beneficiary identification, recording, and data management differs fundamentally from SUPRES's focus on payment processing. The two reforms are designed to be complementary, but SINIRUBE has not yet achieved fully interoperability with SUPRES. Thus, the observed reductions in lead time can be confidently attributed to SUPRES reform rather than reflecting SINIRUBE-related effects.

B. Atención a familias / Prestación Alimentaria (DESAF)

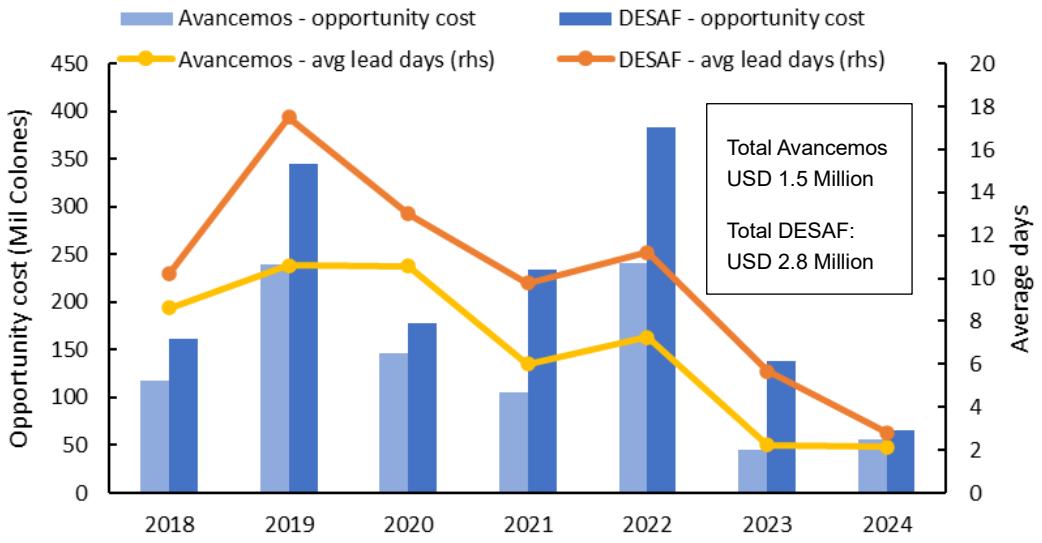


Source: IMF staff estimates based on the account data provided by IMAS.
Note: Each dot shows the average lead time (in days) for all transactions whose amounts falls within the transaction-size bin. Vertical lines denote **95 percent confidence intervals** around the mean estimates. The horizontal axis displays transaction-size categories (in Costa Rican colones), and the vertical axis reports the associated average number of days between Treasury fund release and receipt by beneficiaries.

FISCAL IMPLICATIONS: MONETIZING THE CASH MANAGEMENT EFFICIENCY IMPROVEMENTS

Enhancements in treasury cash management practices brought by SUPRES reform have resulted in significant reductions in lead time, yielding important fiscal benefits. By shortening the time between fund earmarking at the TSA subaccounts and final disbursement, SUPRES effectively extends the period during which the National Treasury retains control over cash balances. Holding funds in the treasury's central cash pool for longer enables NT to optimize liquidity, potentially reducing the need for short-term borrowing, thereby lowering interest costs. From the public financial management perspective, these enhanced cash management processes help avoid idle resources outside the TSA, a particularly critical benefit in contexts of persistent fiscal deficits, such as Costa Rica's situation during 2018-2022, when the government must regularly issue short-term debt to cover funding gaps (see Box 2 for more details).

Figure 8. SUPRES Fiscal Implications: Opportunity Cost Estimation



Source: IMAS, Ministry of Finance of Costa Rica and IMF staff estimates.

Enhancing the operational efficiency of treasury cash management, particularly in cash transfer payments, can yield measurable fiscal impacts and potentially contribute to stronger macro-fiscal outcomes. To quantify this impact, we estimate the average daily balance of "freed" liquidity resulting from reduced lead times and apply the weighted average interest rate on Costa Rica's outstanding public debt for each relevant period[13]. The cumulative opportunity cost of idle cash – defined as the cost to the NT of not being able to utilize funds during the lead time - is estimated at ₡ 828 million (approximately USD 1.5 million) for *Avancemos* between January 2018 and August 2022, and ₡ 1,410 million (approximately UDS 2.8 million) for *Atención a Familias* and *Prestación Alimentaria* from January 2018 to July 2023 bringing the total to approximately USD 4.3 million (Figure 8). Even under conservative assumptions regarding total implementation costs, which totalize approximately USD 600,000, the reform exhibits strong value for money from a cash-management perspective, with annual benefits exceeding estimated one-off and transitional costs. These findings highlight the fiscal dividends associated with improved operational efficiency in cash management.[14] Although these savings are small in macroeconomic terms, they are non-negligible for day-to-day treasury operations and contribute to easing short-term liquidity pressures faced by the National Treasury.

Additionally, SUPRES helped improve liquidity management within the National Treasury, enhancing the operational effectiveness of the TSA and promoting fiscal transparency. Following the adoption of SUPRES, the average monthly transaction amount of each social program decreased by one-third (Figure 9), while the number of monthly transactions increased by 300%, indicating improved accuracy in cash management. The adoption of SUPRES has also enhanced cash management practices by enabling faster

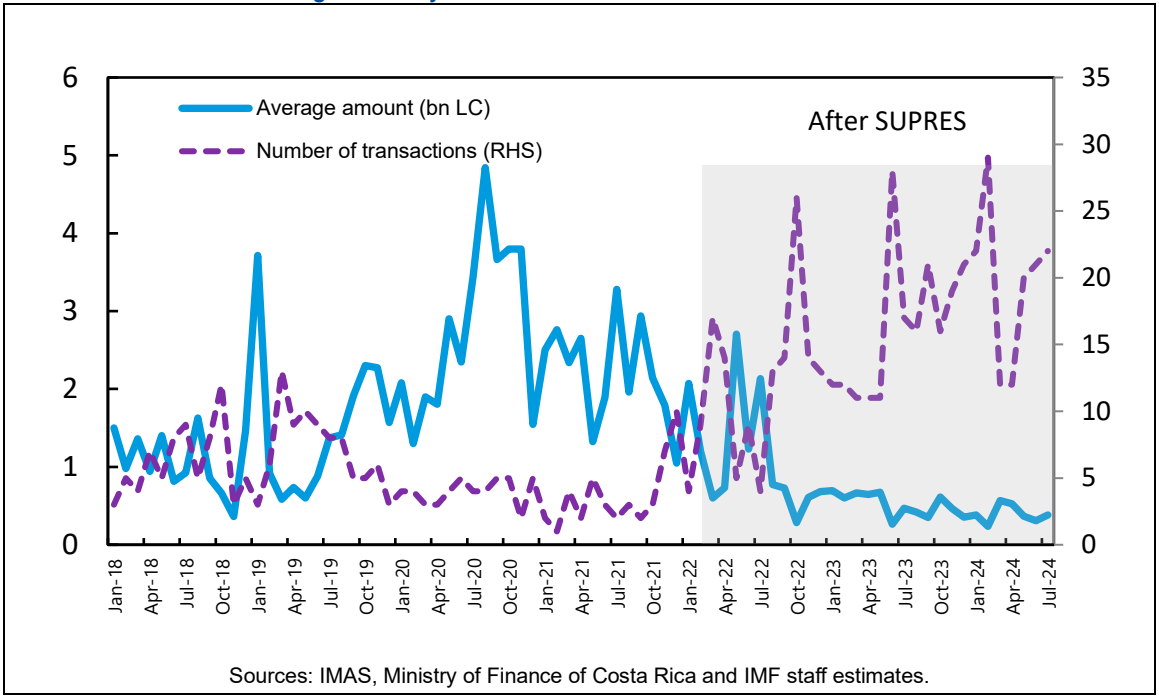
[13] In each month, the opportunity cost is estimated using the formula $\sum_{i=1}^{N}(lead\ days_{it} * Volume_{it}) * interest_t$. $lead\ days_{it}$ denotes the number of lead days of transaction i in month t. $Volume_{it}$ represents the volume of transaction i in month t, measured in Colones. $interest_t$ is the weighted average interest rate on Costa Rica's outstanding public debt in month t.

[14] While indicative, these estimates may overstate the efficiency gains, as they do not account for Treasury's real-time borrowing needs. The calculations in Figure 8 exclude actual government borrowing and debt issuance activities and therefore may overestimate the savings resulting from improved cash management by the Treasury. A more conservative estimate, adjusted for the fiscal balance and debt issuance, is provided in Annex I, which nevertheless confirms the materiality of the savings.

recovery of erroneous or reversed payments and promoting greater fiscal transparency. An open data portal, presenting detailed information on social programs payments, has been developed at the Ministry of Finance based on data processed automatically by the SUPRES platform.

Figure 9. Avancemos and other IMAS Programs in TSA

Average Monthly Transaction Value and Number of Transactions



Sources: IMAS, Ministry of Finance of Costa Rica and IMF staff estimates.

From the perspective of SUPRES treasury management efficiency, illustrative gains for social program benefits can also be identified. Although *Avancemos* is a large program, managed by IMAS, reaching approximately 421,000 beneficiaries per year, of which an estimated 80 percent are upper-secondary students, the equivalent number of additional beneficiaries that could have been financed annually through SUPRES-type savings remains policy-relevant. Based only on the estimated of ₡ 828 million in opportunity-cost savings for *Avancemos* between 2018 and August 2022, not considering savings in bank commission fees, the equivalent annual savings amount to roughly ₡ 177 million per full year. When mapped to program benefit levels (₡40,000 per month for upper secondary student, ₡18,000 per month for lower school student), these savings correspond to approximately 370–820 additional full-year beneficiaries each year during the period 2018–2021.

While these beneficiary increments represent a small fraction of the total *Avancemos* caseload, they remain meaningful for several reasons. First, the marginal impact of supporting an additional 300–800 students per year is substantial when considering that upper-secondary students, who represent around 80 percent of program participants, face some of the highest dropout risks and receive the highest monthly stipend. Second, at the margin, these additional resources could support entire cohorts in rural or high-poverty areas where schooling continuation is most fragile. Third, the exercise illustrates the real social value of treasury efficiency gains, demonstrating how even when reforms are targeted at back-office cash management rather than program budgets per se, can generate concrete fiscal space with measurable welfare implications.

Box 2. Costa Rica Fiscal Context and the Relevance of SUPRES Treasury Efficiency Gains

Costa Rica's fiscal conditions during 2018–2023 highlight why SUPRES-related opportunity cost carry macro-fiscal significance. Over 2018-2020 the country recorded persistent overall fiscal deficits ranging from 5.6 to 8.3 percent of GDP, with gross public debt rising from 52 to 66 percent of GDP before stabilizing at 60 percent by 2023. These deficits were partly financed through short-term domestic debt instruments, including zero-coupon bonds and Treasury bills, whose combined interest payments amounted to ₡70.9 billion in 2018, ₡61.5 billion in 2019, and ₡29.7 billion in 2020.

The pre-SUPRES opportunity cost associated with payment lead times reached approximately ₡280 million in 2018, ₡585 million in 2019, and ₡324 in 2020. When benchmarked against the updated domestic short-term interest data (zero-coupon + T-bills), these values represent approximately 0.4 percent in 2018, 0.9 percent in 2019, and 1.1 percent in 2020. Although modest relative to the broader short-term interest bill, these liquidity losses matter in an environment where the Treasury relies heavily on short-term issuance to manage cash-flow pressures.

This illustrative example shows how digital treasury reforms can generate fiscal gains that are macro-relevant, especially in contexts of structurally tight fiscal space.

The opportunity cost estimates should be interpreted with considering the following aspects. First, the estimated savings apply only to social transfer payments and exclude broader public spending. Consequently, the potential savings are limited, as total social spending amounts 1.7% of GDP, compared with overall government expenditure of approximately 19% of GDP. Second, the estimates are based on programs covering only 80% of IMAS expenditure, while total IMAS spending represents 0.44% of GDP (approximately 0.33% of GDP for the programs analyzed). As a result, the analysis excludes social spending equivalent to roughly 1.4% of GDP showing room for more efficiency gains once major social programs are included in the platform.

Year	SUPRES Total Opportunity Cost (₡ mn)	Zero Coupon Bonds & T-bill Interest - Domestic (₡ mn)	Overall Fiscal Balance (% of GDP)	Gross Public Debt (% of GDP)
2018	279.5	70,879.0	-5.6	52%
2019	584.8	61,479.4	-6.6	56%
2020	323.6	29,721.8	-8.3	66%
2021	339.7	15,538.0	-5	67%
2022	623.7	18,516.4	-2.7	61%
2023	184.4	25,055.7	-3.2	60%

Source: Ministry of Finance of Costa Rica and IMF staff estimates.

Despite these achievements, the magnitude of these effects should be interpreted as a lower-bound illustration of the broader potential of SUPRES, since it covers only a subset of Costa Rica's social spending. In 2023, the platform handled payments for approximately 439,188 beneficiaries, mainly from IMAS, CONAPDIS, MTSS, and PANI programs, including about 421,002 IMAS beneficiaries, or roughly 80 percent of IMAS's beneficiaries. Given that IMAS social programs account for 0.44 percent of GDP, of which about two-thirds of transfers are now executed through SUPRES, the observed fiscal efficiency gains reflect only part of the potential system-wide impact. In contrast, major components of social spending remain outside SUPRES, including CCSS non-contributory pensions (0.43 percent of GDP; 146,905 beneficiaries), Ministry of Education social programs (0.35 percent of GDP; ~981,000 beneficiaries), and BANHVI housing subsidies (0.20 percent of GDP). Combined, these programs represent nearly 1 percent of GDP in social expenditures not yet benefiting from treasury-level efficiencies associated with SUPRES. Expanding SUPRES to encompass these large non-migrated programs would significantly amplify fiscal and treasury operational gains.

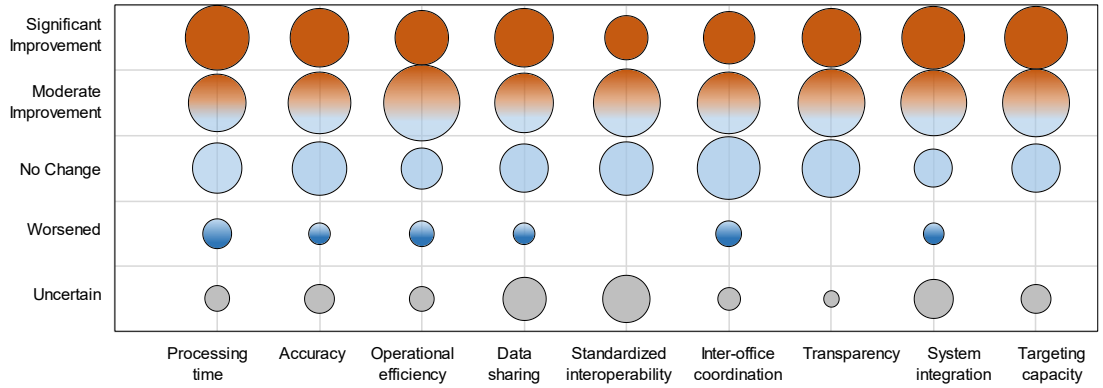
B. IMPROVEMENTS IN ADMINISTRATION AND OPERATION EFFICIENCY: RESULTS FROM A SURVEY

To assess the perceived impact of SUPRES on administrative processes and inter-institutional coordination, this study conducted a survey[15] among frontline administrative staff. The aim was to understand how SUPRES has changed the cash management workflows, information exchange, and administrative efficiency from the perspective of its primary users. A total of 56 individuals responded, representing each of the key departments and most IMAS regional offices involved in the implementation of SUPRES (Annex III). Most respondents had used SUPRES for more than one year.

Users generally reported a positive impact of SUPRES on various dimensions of their work, including the reduction of the time required to process social benefit payments (65%). Figure 10 shows how users responded to survey questions evaluating perceived improvements in their experience and daily workflows, in addition to the fiscal gains previously mentioned. For many processes, SUPRES led to a reduction in processing time due to the automation of steps and the adoption of standardized data entry. However, SUPRES has also increased the time needed to complete certain processes. Specifically, the system's overnight validation requirement for moving between treasury steps means that processes that previously could be completed within a day, now could take up to two days. While this lag may enhance auditability, it highlights a trade-off between control and operational flexibility, as well as the need to manage risks associated with increased system centralization, including resilience, cybersecurity, and potential single points of failure.

[15] The survey was administered online between February and March 2025 to staff working in departments responsible for processing social assistance payments using SUPRES. The questionnaire included 25 items, with both closed and open-ended questions. It covered user experience, efficiency, interoperability, transparency, and collected suggestions for improvements.

Figure 10. Impact of SUPRES on administrative staff: distribution of survey responses



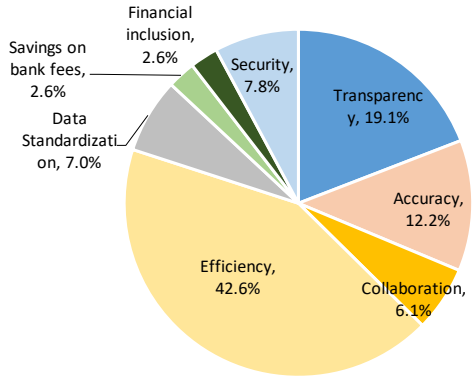
Note: the chart displays the distribution of response options (y-axis) across nine survey questions assessing the perceived contribution of SUPRES to key dimensions of workflow operations (x-axis). Bubble size indicates the proportion of responses for each question. The size of the largest bubble ("Moderate improvements in Operational efficiency") corresponds to 50% of responses.
Source: IMF computations based on an IMF-led survey

Respondents found that SUPRES improved the overall operational efficiency of their offices and facilitated smoother information exchange and coordination between administrative units. Most staff (75%) responded positively regarding the contribution of SUPRES to their efficiency at work by automating the payment processes. A large majority of respondents also reported that SUPRES had reduced administrative errors and improved accuracy in data (64%). Most respondents (70%) agreed that SUPRES had enhanced transparency and traceability in payment processing while reducing system fragmentation. Some reported that SUPRES added a layer of technical complexity, with slow and inefficient support available facing technical issues. Among the small group who disagreed, concerns centered on opacity or limited information available on current operations. For example, information related to contingency claims appears difficult to interpret due to being spread across multiple files that are still not fully reconciled.

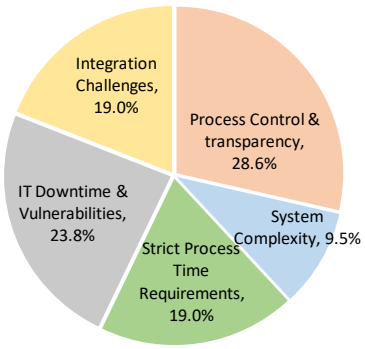
Regarding SUPRES's potential to improve the targeting of social programs, most respondents (73%) believed that it had already contributed positively. An even large share (77%) of respondents is confident that SUPRES has the potential to continue to drive improvements. Beyond enhancing system interoperability, a majority of respondents emphasized the importance of including all social benefits in SUPRES and stepping up system capabilities to collect and manage large amounts of data. There was also a strong consensus on the need to introduce immediate transfer functionalities, which could be critical in emergencies, such as natural disasters or public health crises, when rapid scaling-up of social transfers and timely delivery of support to affected households are essential. Suggestions for strengthening the platform's IT stability and promoting beneficiaries' participation were also commonly noted.

Figure 11. Perceived greatest benefits and challenges of SUPRES

A. Major benefits received



B. Major challenges encountered



Source: IMF computations based on an IMF-led survey

C. FURTHER BENEFITS OF SUPRES REGARDING FINANCIAL INCLUSION

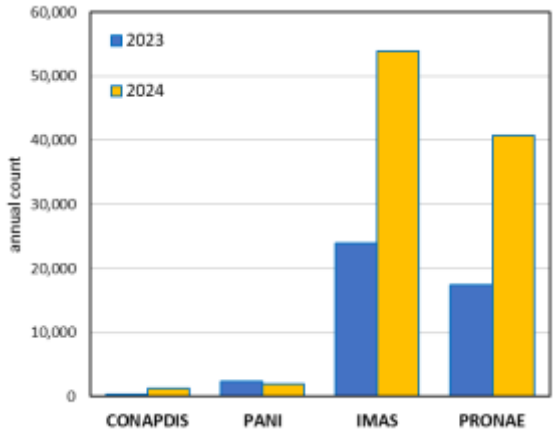
While Costa Rica had already made significant progress in providing banking services to vulnerable populations, SUPRES has further advanced financial autonomy and inclusion. Prior to SUPRES, IMAS opened simplified bank accounts for beneficiaries at a single state-owned bank - Banco Nacional de Costa Rica (BNCR) - to minimize commission costs. While this approach expanded access to banking for social benefits recipients, it restricted beneficiaries' freedom to select their bank for receiving transfers, as strong incentives existed to use the BNCR account. As a result, some beneficiaries found themselves needing to later transfer funds to their other preferred bank accounts in other financial institutions, generating transaction costs and inefficiencies for them. With the adoption of SUPRES, and by utilizing the central bank's SINPE platform, the recipients can directly receive social transfers at any financial institution they prefer. This shift enhances financial empowerment, expands access and freedom in financial services, and contributes to the financial inclusion of vulnerable populations.

The change introduced by SUPRES has already resulted in a notable diversification in the use of financial institutions by beneficiaries (Figure 12). While the total number of social benefit transactions increased modestly by 3% between 2023 and 2024, the number of transactions directed to bank accounts outside BNCR rose by 122%. Although BNCR continues to process most payments - particularly in the case of IMAS, which has a long-standing institutional relationship with the BNCR - recent trends indicate a move toward a more balanced distribution across banks. Notably, for the PRONAE program, most payments in 2024 were made to accounts held at banks other than BNCR, marking a significant shift from the historical concentration of transactions within a single financial institution. Beyond expanding financial inclusion, this diversification also has systemic implications by fostering greater competition among financial institutions, reducing beneficiaries' dependence on a single state-owned bank, and mitigating concentration and operational risks in the government payment ecosystem. By enabling a multi-bank payment model, SUPRES strengthens the resilience of social transfer delivery.

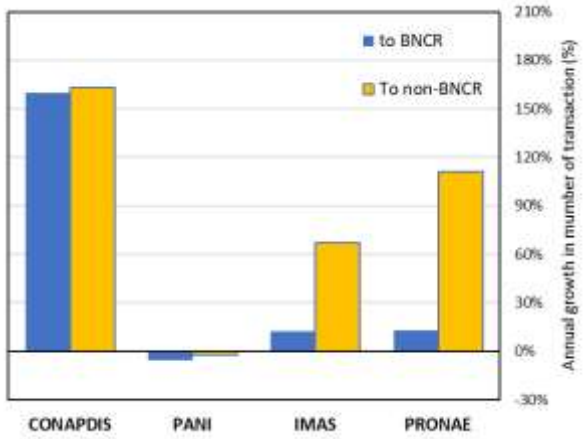
SUPRES's adoption of a multi-bank payment model carries significant policy implications setting the stage for more inclusive, equitable, and efficient financial access for beneficiaries. First, the diversification in the banking channels to be used by beneficiaries improves outreach and convenience, particularly for those in underserved or remote areas where it can be challenging to access a specific bank or just a few branches serve a large pool of clients. By enabling payments to any bank account, SUPRES reduces friction in the delivery of public transfers, enhances beneficiaries' autonomy in choosing their financial service providers, and helps promote financial inclusion by encouraging the use of formal financial accounts that best suits the beneficiary's needs and preferences. From a policy perspective, this reform supports greater equity by removing institutional barriers that could disproportionately affect marginalized groups. It also fosters competition in the banking sector, potentially leading to improved services and reduced transaction costs over time. The transition to a multi-bank payment model mitigates concentration risk, strengthens the resilience of the government's payment infrastructure, and aligns with international best practices for digital public finance. Moreover, by facilitating account-based transfers, SUPRES lays the groundwork for further innovations, such as linking payments to complementary financial services (e.g., digital savings, insurance, mobile money solutions, e-tax and digital public services), enhancing transparency, traceability, and ultimately, the effectiveness of social protection programs.

Figure 12. Number and growth of social transfer payments by social institution and destination bank (2023–2024)

Number of social benefit transfers to other banks (non-BNCR)



Growth in the number of social benefit transfers by destination bank (2023-2024)



Note: Values refer to the number of payment transactions executed, not the number of beneficiaries or the monetary value of transfers. Individual beneficiaries may receive multiple payments over the year. Source: IMF computations based on open-access data from the Ministry of Finance of Costa Rica.

On top of these effects, the SUPRES reform could generate welfare gains by improving the predictability of transfer receipts. Before SUPRES, the payment date could vary across beneficiaries and periods because of administrative delays, differing payment channels, and staggered Treasury releases. This uncertainty limited vulnerable households' ability to plan and meet routine expenses – such as schooling, utility bills, rents, mortgage payments - and could increase reliance on short-term coping mechanisms while waiting for social transfers. By validating payment information before execution and channeling transfers directly from the TSA through the national payment system managed by the central bank, SUPRES reduces administrative delays and narrows the range of payment dates within each cycle, enhancing predictability even though benefit levels and frequency remain unchanged. Evidence from related programs suggests that such improvements in timing certainty can

matter for welfare: households tend to reduce consumption when expected payments are delayed and increase spending once funds arrive (Gelman, Orlando, and Patki 2025; Aladangady et al. 2023). Although data limitations did not allow direct measurement of these effects in this study, more predictable payment timing under SUPRES plausibly eases short-term liquidity stress for beneficiaries.[16]

V. Main Conclusions

This paper is a novel contribution to the growing literature on GovTech by examining the cash management and macro fiscal implications of digitizing social assistance payments through Costa Rica's SUPRES platform. While prior studies have focused primarily on the impact of digital transfers on beneficiaries - such as improved targeting, reduced leakage, and enhanced service delivery – this analysis highlights the less-explored but equally critical effects on cash management and treasury operations, including its macro fiscal impacts. Specifically, the implementation of SUPRES has led to improvements in cash management efficiency, operational efficiency as well as fiscal savings. In addition, it shows how this type of reform can also support efforts for financial inclusion and improve the payment predictability for the beneficiaries, generating broader welfare gains.

The SUPRES reform replaced a fragmented and manual payment system with a centralized, automated platform enabling almost a near real-time transfer from the TSA directly to cash transfers beneficiaries. This transformation significantly reduced the lead time between fund release and final disbursement, thereby enhancing liquidity management and lowering the opportunity cost of idle public funds for the Treasury. The analysis shows that average lead times fell from 9-13 days to 2-3 days, for the period evaluated across key social programs like *Avancemos, Atencion a Familias* and *Prestacion Alimentaria*.

The reform generated during the period 2018-2024 estimated opportunity cost savings exceeding USD 4.3 million for the Treasury at relatively low implementation cost. The reform's total implementation cost is about USD 600,000, delivering strong value for money, as annual benefits outweigh one-off and transitional expenses. From a macro fiscal perspective in 2020, the pre-SUPRES opportunity cost associated with payment delays corresponded to roughly 1.1 percent of total domestic short-term interest payments (zero-coupon bonds + T-bills). While modest relative to the broader short-term interest bill, and related to Costa Rica's aggregate fiscal position, these liquidity losses matter in an environment where the Treasury relies heavily on short-term issuance to manage cash-flow pressures. These estimated opportunity cost gains underscore the potential of digital treasury solutions to strengthen macro-fiscal outcomes, especially if its coverage is expanded to all social programs, that represents a to1.7 percent of the GPD.

Operational cash management workflows, key public financial management processes, also benefited from the reform. Survey evidence indicates that SUPRES improved processing speed, reduced errors, and enhanced transparency and traceability in payment operations. These gains were achieved despite transitional

[16] The enhanced households' ability to anticipate and plan expenditures thanks to faster and more timely social payments could also plausibly improve local economic activity in areas where a large share of the population relies on social cash transfers. However, limits to the availability of granular data prevent a credible assessment of such local effects, and any causal inference would be highly speculative.

challenges during implementation, highlighting the importance of institutional coordination, adequate IT support, and sustained capacity building for the success of digital treasury reforms.

The integration of SUPRES with SINIRUBE- the national beneficiary registry - further strengthens the social protection system by enabling more accurate targeting and comprehensive data analysis. This interoperability supports evidence-based policymaking and lays the foundation for a more unified and responsive social assistance framework. The reform's legal underpinnings, including service-level agreements and a presidential decree, have been instrumental in institutionalizing the platform and fostering trust among participating agencies.

The SUPRES reform also facilitates the adoption of a multi-bank payment model, setting the stage for more inclusive, equitable, and efficient financial access for beneficiaries. By replacing cash, teller, and check payments with electronic transfers to beneficiaries' bank accounts, the SUPRES reform has facilitated broader financial inclusion by allowing beneficiaries to choose their preferred financial institutions and reducing dependence on a single state-owned bank by adopting a multi-bank payment model.

The IMF has played a catalytic role in supporting Costa Rica's SUPRES reform. Through targeted technical assistance and collaboration under the Extended Fund Facility (EFF) program, the Fund supported the design and implementation of SUPRES, including the organization of a PFM focused hackathon and the development of a roadmap to its adoption. The inclusion of SUPRES as a structural benchmark under the EFF program helped prioritize resources and institutional commitment. As a result, this reform is a concrete and measurable example of IMF capacity development support to improve fiscal operations with digital solutions, utilizing an innovative type of capacity development initiative, such as a hackathon.

However, measuring the impact of digital innovations in public finance reform initiatives remains a challenging task. Despite the substantial resources allocated to these initiatives, most of them lack clearly defined baselines and monitoring frameworks necessary to collect granular data, assess the reform outcomes, and guide future improvements. The analysis developed in the case of SUPRES was constrained by limitations in the available data of payments, particularly its level of desegregation, which hindered the estimation of more specific impacts such as improvements on beneficiaries' financial inclusion or reductions in bank commission fees due to the aggregation and noise of available administrative data.

Looking ahead, key considerations emerge in the case of Costa Rica's SUPRES experience. First, expanding SUPRES to encompass the remaining large non-migrated social programs would significantly amplify fiscal and operational gains. Because SUPRES currently covers only a subset of Costa Rica's social transfer programs -principally IMAS cash transfer programs - the opportunities for social impact are far larger once major programs still outside the platform, such as CCSS non-contributory pensions and Ministry of Education social transfers, are integrated. Broader adoption would increase the share of social transfers executed directly from the Treasury Single Account, reduce idle balances in institutional sub-accounts, and improve cash predictability for both authorities and households. Thus, continuing to improve SUPRES' legal framework is key to supporting its expansion. Second, enhancing system interoperability, particularly with SINIRUBE, will support more integrated and data-driven fiscal operations and targeting efficiency.

The scalability of SUPRES and its ability to operate as a centralized, interoperable payment platform enhance the resilience of social assistance delivery. This situation positioning SUPRES as platform to support rapid and large-scale transfers in response to future economic shocks, natural disasters, or pandemic-type emergencies. In that context, continued investment in system stability, user training, and

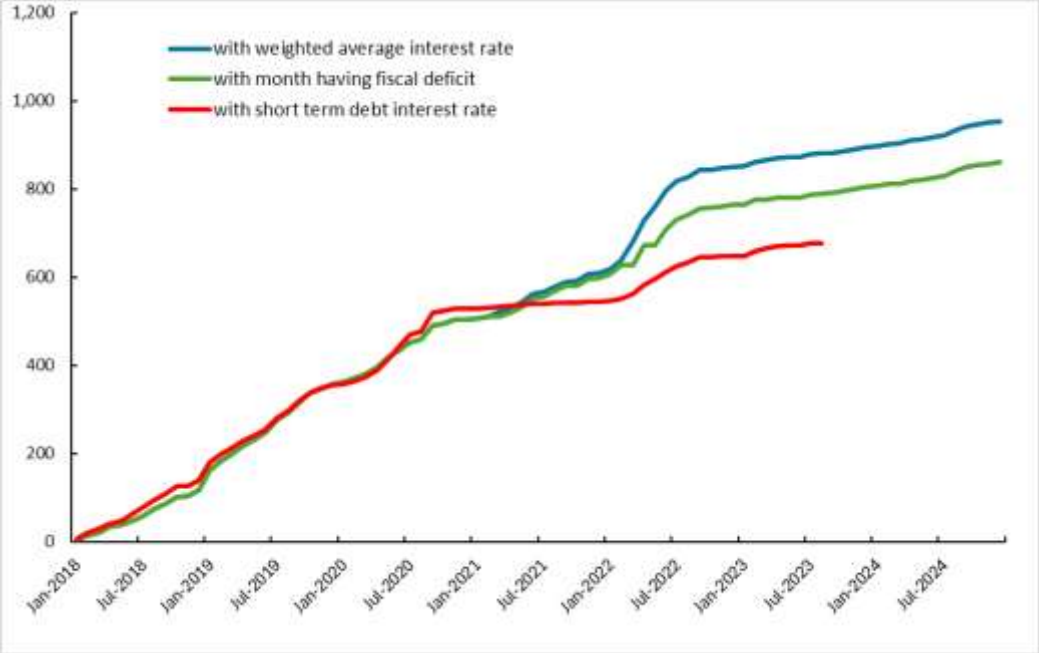
beneficiary engagement will be necessary. This includes ensuring adequate resources for long-term operations, maintenance, and cybersecurity to preserve the sustainability of the initial investment.

In sum, Costa Rica's experience shows how digital platforms can make treasury operations and social assistance more efficient, having at the same time broader impacts on citizens' welfare. SUPRES offers key lessons for other countries seeking to modernize treasury operations, including the importance of functioning TSA, a national payments infrastructure, and an integrated beneficiary registry that allows for automated validation. Costa Rica's experience also highlights the importance of clear institutional sequencing—starting with data and cash consolidation—and of phased implementation to accelerate adoption while managing operational risks. By leveraging digital tools to strengthen public financial management, governments can achieve tangible fiscal gains, promote more transparency, inclusion, and service quality, while generate broader welfare gains for the beneficiaries.

Annex I. Opportunity Cost Estimates Robustness

This appendix presents alternative methods for estimating the fiscal savings enabled by SUPRES through improvements in treasury cash management. In the main text, we estimated the opportunity cost of lead days by applying the weighted average interest rate of outstanding public debt, as reported by the Ministry of Finance, to the daily cash balance that could have been retained longer in the Treasury Single Account (TSA) due to reduced lead times. This estimate captures a broad fiscal benchmark for the cost of borrowing and is represented by the blue line in Figure A1.

Figure A1. Alternative Estimate of Opportunities Cost



To test the robustness of this estimate and account for different fiscal contexts and funding structures, we constructed two alternative estimates:

Conditional Estimate (Green Line):
This method applies the same weighted average interest rate but only considers those months in which the government faced a fiscal deficit. This adjustment provides a more conservative estimate by recognizing that idle funds have a tangible fiscal cost only when borrowing is actually needed to cover shortfalls. During months of surplus, the fiscal pressure to borrow is reduced, diminishing the opportunity cost of early fund disbursement.

Short-Term Debt Benchmark (Red Line):
This method matches the monthly lead time of disbursement with the maturity structure of short-term debt issuance and applies the interest rate of short-term instruments (e.g., Letras del Tesoro) to the estimated idle balances. This approach reflects the real financing cost the Treasury would incur if it had to cover gaps in liquidity through short-term borrowing, providing a more market-based measure of the opportunity cost. It is

particularly relevant for countries like Costa Rica, where short-term debt instruments are actively used for cash management.

As shown in Figure A1, all three approaches yield consistent trends and confirm that the SUPRES reform generated meaningful fiscal savings by allowing the Treasury to retain liquidity longer. The weighted average rate (blue) yields the highest cumulative opportunity cost, amounting to over ₡ 1,000 million by mid-2024. The conditional estimate (green) is lower but still significant, reflecting that the government ran deficits in most months during the analysis period. The short-term debt rate (red) yields the most conservative estimate, although we only have data for short term debt issuance up to August 2023, it arrives with a cumulative value just below ₡ 700 million by August 2023 yet still indicating sizable potential savings.

These alternative estimates underscore the fiscal relevance of treasury efficiency gains. While none of the methods precisely replicate real-time government borrowing behavior or cash balances, they collectively provide a credible range of potential savings from faster and more transparent fund disbursement enabled by SUPRES.

Annex II. Verifying Broader Impact Across Programs and Institutions

While the main analysis focused on the cash management efficiency gains of the SUPRES reform for Avancemos and *DESAF* programs administered by IMAS, this appendix extends the analysis to additional programs implemented by IMAS and other institutions. The objective is to assess whether the observed efficiency improvements generalize beyond the initial case studies and reflect a systemic impact of SUPRES across Costa Rica's social protection ecosystem.

Specifically, we extended the analysis to the following programs:

1. **Becas Madres Adolescentes** – a program run by **PANI** (Patronato Nacional de la Infancia), which delivers monthly subsidies to adolescent mothers to support school attendance and basic needs.
2. **Pobreza y Discapacidad** and **Autonomía Personal** – two programs operated by **CONAPDIS**, aimed at supporting persons with disabilities through monthly transfers to ensure basic subsistence and encourage independent living.

These programs differ from the IMAS programs in terms of institutional arrangements, scale, and target population. Importantly, all transitioned to the SUPRES platform during 2023.

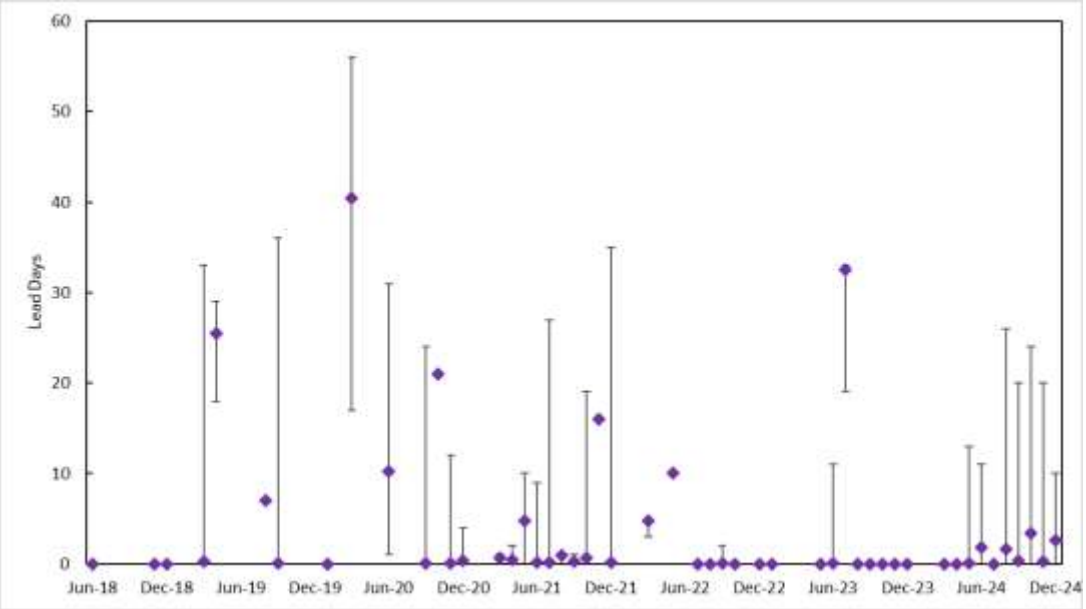
To assess the change in treasury efficiency, we replicated the same lead time analysis used for IMAS programs:

- **Outflow dates** were drawn from TSA transaction logs associated with PANI and CONAPDIS program accounts.
- **Post-SUPRES receipt dates** were obtained from the SUPRES platform's transaction logs, enabling exact matching of payments to beneficiaries.
- **Pre-SUPRES receipt dates: PANI** has kindly provided the individual level transaction records they made to beneficiaries with timestamp which gave us the accurate receipt date. For CONAPDIS program, they reported to not have any payment calendar or administrative records, but staff disclosed during the discussion that they usually make payments to beneficiaries every Thursday, thus we infer every Thursday as the payment date.

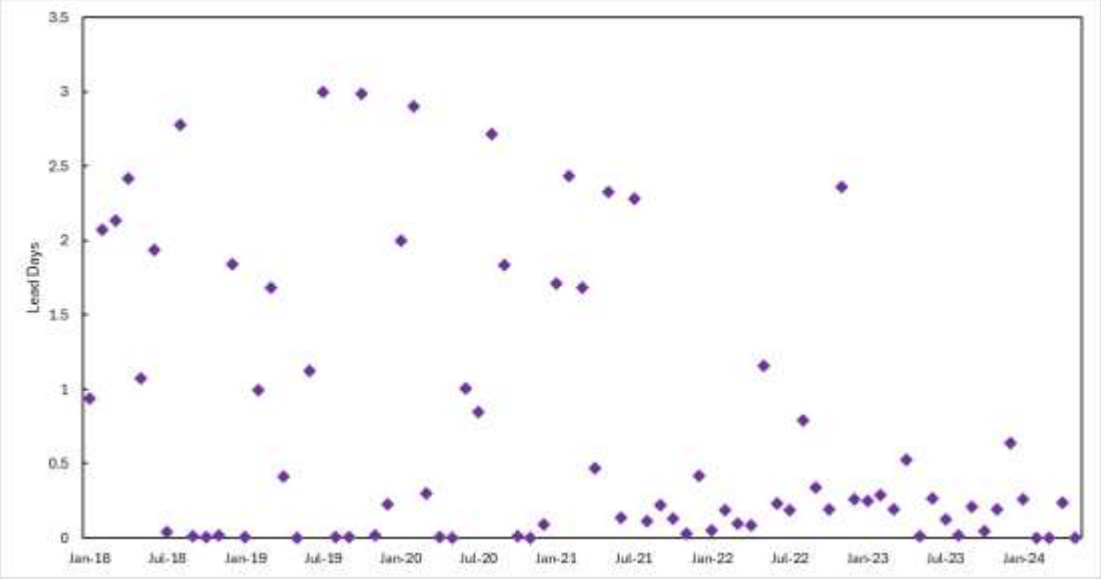
Lead time is defined as the number of days between the Treasury's release of funds and their receipt in beneficiaries' bank accounts. We computed monthly average lead times by transaction amounts and plot in Figure A2. The results for all two institutions demonstrate a consistent reduction in lead times following adoption of SUPRES. These reductions mirror the trend observed for the IMAS programs and suggest that the gains from SUPRES are not institution-specific but rather system-wide. All three programs also showed greater consistency in monthly disbursements and fewer processing anomalies, likely reflecting the standardization and automation enabled by SUPRES.

Figure A2. Lead Time between Cash Release and Receipt

A. *PANI*



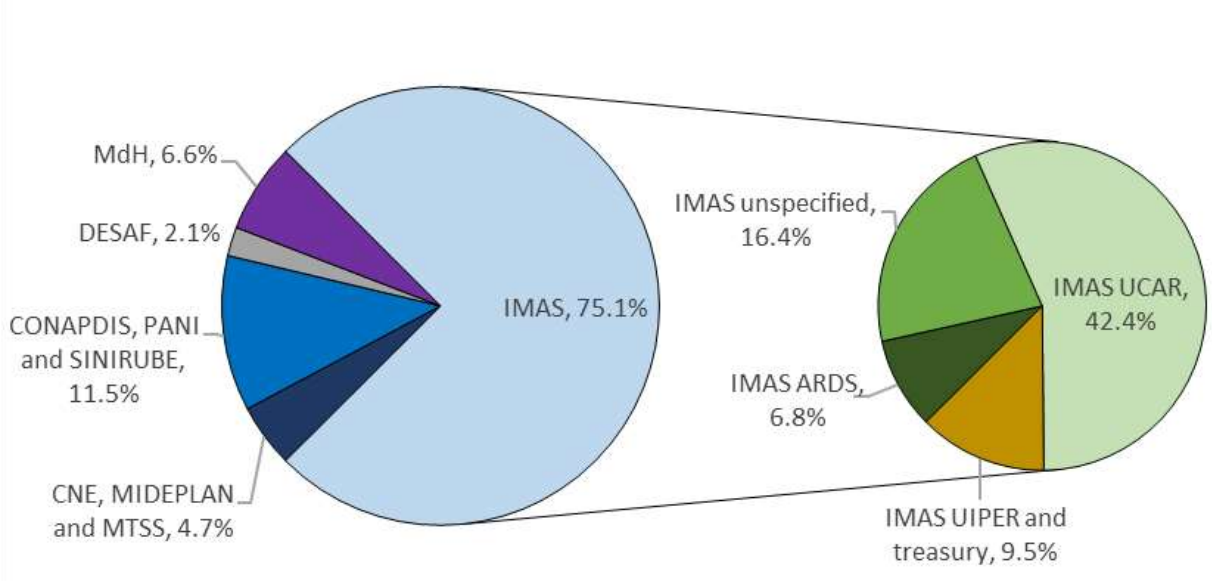
B. *CONAPDIS*



Source: IMF staff estimates based on data provided by PANI and CONAPDIS.
Note: The purple dot shows the average lead days across fund movements during the month, weighted by the amount of the fund. The bar extending above and below the dot shows the range of the lead days of the month (upper bar shows maximum and lower bar shows minimum).

Annex III. SUPRES Survey

Figure A3 - Distribution of survey respondents by institution



Source: dedicated IMF-led survey

Note: MdH: Ministry of Finance; MIDEPLAN: Ministry of National Planning and Economic Policy; CNE: National Commission for Risk Prevention and Emergency Response; MTSS: Ministry of Labor and Social Security; IMAS ARDS: IMAS Regional Area for Social Development (regional office); IMAS UCAR: Regional Administrative Coordination Units; IMAS UIPER: Regional Research, Planning and Evaluation Unit.

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