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Dollars and Departures: Foreign Exchange Crises and Migrations

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Dollars and Departures: Foreign Exchange Crises and Migration

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Abstract

The migration literature shows that labour-seeking and remittance-driven motives are central determinants of movement, with identifiable push and pull factors shaping flows across countries. Yet, the role of foreign exchange (FX) availability remains unexplored despite its relevance in small, open economies. We address this gap by introducing the concept of currency-seeking migration, where limited access to convertible currency acts as a push factor and the ability to earn FX abroad functions as a pull factor. Using Trinidad and Tobago, a country facing protracted FX shortages, we estimate autoregressive distributed lag (ARDL) models using data from 1975 to 2016 and find a long-run relationship in which a decline in net official reserves reduces net migration, signalling greater emigration pressures. We also observe a slow error-correction process, indicating that there is a sluggish adjustment toward long-run equilibrium as pressures or short-run disturbances persist once triggered. Our results are robust across multiple specifications using different measures of FX positions. We recommend improving access to FX as an essential step to reduce emigration pressures, achievable in the short-run through export reform, via more targeted protectionist policies, and export diversification. This can assist in stabilising the external balance and pave the way for more long-term structural reforms through exchange rate liberalisation.

Keywords: currency, foreign exchange, migration, Trinidad and Tobago

JEL classifications: C22, F22, F31

1. Introduction

A LONG-TERM international migrant is defined as someone who enters a country with the intention of staying for more than one year (United Nations Department of Economic and Social Affairs (United Nations Department of Economic and Social Affairs, 1998). Migration can generate substantial benefits for migrants, countries of origin, and destination countries. Migrants often earn higher incomes than they would in their home country, enabling them to send remittances that contribute to development in their countries of origin (World Bank, 2023). Destination countries, in turn, benefit from an expanded and often more skilled workforce, which promotes innovation, productivity and growth (Caballero Reina et al., 2024). Migration also helps to mitigate demographic pressures from ageing populations, sustaining population levels and supporting economic performance. Reflecting these dynamics, the global stock of international migrants rose from 153 million in 1990 to 281 million in 2020. However, when scaled to global population, this represented only a marginal increase, from 2.9% to 3.6% over the same period (International Organization for Migration, 2024). Although migrants constitute a relatively small share of the world's population, they contribute significantly to economic performance in host countries by lowering budgetary deficits and debt (HM Office for Budget Responsibility, 2024) and by stimulating consumer demand, investment, and overall economic growth (Migration Policy Institute, 2024). While migration offers considerable economic and demographic benefits, many countries have tightened their migration policies due to political considerations, social pressures and other concerns. The United Kingdom, for example, has tightened entry requirements (HM Government, 2025), while in the United States significant policy changes have aimed to reduce undocumented migration and to limit overall immigration flows (Wilson Center, 2025).

The drivers of migration take many forms and operate at multiple levels, but they are fundamentally rooted in the push–pull migration framework first articulated by Lee (1966). Broadly speaking, migration arises from the interaction of pull factors from the destination, push factors from the origin, as well as intervening obstacles and personal characteristics. Commonly identified push factors include occupational concerns such as wages and job security (see, e.g., Dywili et al., 2013), the general level of economic activity in the country of origin (Mayda, 2010), unemployment (see, e.g., Hagen-Zanker et al., 2025), and state-related issues such as political repression and violations of human rights (Matsui & Raymer, 2020). Conversely, frequently cited pull factors include the strength of the destination country's economy (see, e.g., Van Hear et al., 2020), culture and taxation (Friedman et al., 2025), the availability of labour market opportunities and social protection services (see, e.g., Dean & Edge, 2024; Geis et al., 2013), and migration policy regimes (Hugo, 2012).

While this framework has been influential, it has not fully captured the economic realities of small, open economies that depend heavily on external financial flows. Previous empirical studies, such as Shin (2021), Nguyen & Duncan (2017) and Keita (2016), have examined the

relationship between exchange rates and migration primarily through labour market outcomes and the effects of exchange rate movements on real wages and purchasing power. Yet in economies where foreign exchange markets are characterised by persistent shortages, the exchange rate is only part of the story. A crucial push–pull factor that remains absent from the literature is residents' access to foreign exchange (FX) or foreign currency itself, particularly the US dollar, which directly shapes their capacity to meet consumption and investment needs. In 2022, the majority of global migration flows originated through developing-country corridors, with the United States standing as both the most popular destination and the leading remittance-sending country, accounting for USD79 billion of the USD831 billion in global remittance outflows (International Organization for Migration, 2024). The centrality of the US dollar and other major currencies to international trade and finance is well established (Gopinath & Stein, 2021). Indeed, FX is indispensable for developing economies, not only for financing imports but also for stabilising macroeconomic performance. A lack of FX in local markets often fuels the emergence of parallel exchange markets, undermines monetary policy, and distorts key indicators such as economic growth (see, e.g., Sula & Oguzoglu, 2021).

We fill this gap by proposing a new concept, which we term 'currency-seeking migration'. Currency-seeking migration may be understood as a distinct extension of push–pull migration theory, whereby limited access to stable FX in the home country acts as a push factor, while the opportunity to earn and accumulate convertible currency abroad serves as a pull. This shifts the analytical focus from wage differentials as the dominant determinant of migration to the role of FX availability and liquidity constraints in shaping migration decisions. Theoretically, it links pressures in FX markets with household migration choices, thereby extending the push–pull framework. Practically, it highlights how FX shortages can generate unintended consequences for migration patterns, an issue especially pressing for small, open economies. Undeniably, access to FX functions simultaneously as a push and a pull factor: inadequate access in domestic markets encourages residents to emigrate, while the prospect of earning and saving or remitting FX enhances the attractiveness of emigration itself. Remittance-driven migration, in contrast, occurs when remittance inflows to origin countries influence household behaviour and migration decisions by generating financial incentives, social expectations, and obligations to sustain these income streams over time (see, e.g., Grigoryan & Khachatryan, 2022; Lim et al., 2023; Manchin & Orazbayev, 2018). Unlike currency-seeking migration, it may not be driven by the pursuit or lack of access to FX, but by the use and circulation of incomes earned in destination economies to support households and livelihoods at home. We advance currency-seeking migration as a novel contribution to the literature, positioning it in dialogue with more established perspectives such as labour-seeking migration (see, e.g., Beaverstock, 1994) and remittance-driven migration (see, e.g., Grigoryan & Khachatryan, 2022; Gupta et al., 2009). Against this backdrop, we aim to test the following hypothesis: declining access to foreign exchange in the origin country increases outward migration.

Trinidad and Tobago provides an appropriate case study. This twin-island republic, located in the southern Caribbean near Barbados and Guyana, is a small, open, energy-dependent economy

that has long struggled with the challenges of the resource curse and energy-driven boom–bust cycles. Between 2000 and 2014, FX reserves were relatively strong and trended upwards on the back of robust energy production and favourable international prices. However, since 2015, both energy-sector output and international prices have declined steadily (Rahaman & Mahadeo, 2025a). Combined with a high propensity to import, this decline has led to diminishing net official reserves at the Central Bank of Trinidad and Tobago (CBTT) and reduced FX liquidity across the domestic financial system (we discuss this further in section 3). In response, the government has implemented measures such as an online purchases tax in 2016 aimed at curbing foreign currency outflows linked to consumer spending abroad. More recently, since 2023, authorised FX dealers have imposed increasingly restrictive credit card limits, in some cases reducing these limits multiple times.

This context underscores our central contribution: we extend the classic push–pull framework by incorporating access to FX as a migration driver, which we refer to as currency-seeking migration. Aforementioned studies emphasise labour market conditions, political institutions, and demographic pressures, but we hypothesise that FX shortages can also influence household migration choices. Trinidad and Tobago (T&T) provides an appropriate case because it highlights how currency scarcity operates as a push factor by constraining domestic economic activity and as a pull factor by increasing the attractiveness of foreign earnings. To examine this relationship, we employ an autoregressive distributed lag (ARDL) model to analyse the short and long-run interaction between FX availability and migration flows. This approach is well suited to capture both the persistence of migration decisions and the gradual adjustment of FX markets, thereby providing a framework to assess the role of FX access within the broader economics of migration. Using several indicators of FX availability, we find that in most instances, FX shortages create migration pressures in both the short-run and the long-run, and migration does not quickly return to its long-run equilibrium.

The remainder of the paper is structured as follows: In section two, we present a brief review of the literature, followed by some stylised facts in section three. We then present an analysis of the data and estimation, and baseline results in section four and discuss robustness in section five. We present detailed policy recommendations in section six and conclude in section seven.

2. A Brief Review of the Literature

Lee (1966) is a foundational contribution that formalised the determinants of migration within a coherent framework. The paper proposed that movement is influenced by conditions at origin and destination, intervening obstacles such as distance or policy restrictions, and the characteristics of potential migrants. This structure generated hypotheses concerning migration volumes, the emergence of flows and counter-flows, and the selective nature of mobility. Lee (1966) developed a general and systematic account applicable to both internal and international migration, and the framework shifted the literature away from purely descriptive accounts by

providing a conceptual basis for subsequent economic approaches, including human capital and equilibrium models.

Building on this foundation, Mayda (2010) is one of the more influential empirical applications of the push-pull framework, notable for the breadth of its coverage of both determinants and destinations. The study examines emigration to 14 OECD countries using a wide range of economic and socio-spatial factors, including growth in both origin and destination countries, demographic and cultural characteristics, and the stance of migration policies. The findings show that income opportunities in destination countries are the most consistent drivers of emigration, whereas origin-country economic conditions exert only weak and often insignificant effects. The asymmetry between pull and push factors is explained by the constraining role of migration policies, as quotas reduce the responsiveness of flows to underlying incentives and highlight the importance of demand-side restrictions. At the same time, structural determinants such as distance and demographic composition, particularly the share of young people in the origin population, prove to be significant and persistent, and their effects are amplified when immigration laws of the destination become less restrictive. Overall, these findings underscore the role of policy regimes in shaping the translation of economic and demographic pressures into actual migration outcomes. Benček & Schneiderheinze (2024) adopt a similarly broad macroeconomic approach, investigating the relationship between economic growth in poorer countries and emigration to OECD destinations. Their results align with Mayda (2010) in showing that higher income levels are associated with lower rates of emigration, and they further emphasise the importance of favourable economic policy frameworks in reducing outward migration pressures.

Alongside these wide-ranging studies, a complementary body of research focuses on narrower applications of the push-pull framework, either by examining specific regions or by isolating particular determinants. Gonzalez-Gorman (2022), for example, analyses the legislative dimension of emigration to the United States and finds that favourable state-level immigration policies, often considered a crucial pull factor, did not deter undocumented migration, whereas employment verification mechanisms exerted a more substantial deterrent effect. Matsui & Raymer (2020) apply the framework to asylum seekers moving from developing to developed countries, and their results challenge conventional wisdom: political and civil unrest, traditionally viewed as push factors, are found to reduce migration rather than increase it, while destination-country immigration policies remain powerful pull determinants. Redlin (2023) introduces a macroeconomic perspective on unemployment, with particular emphasis on youth unemployment and demographic pressures in MENA countries between 1995 and 2020. The study shows that high youth unemployment, combined with a disproportionately young population, significantly increases outward migration from the region, a result that reflects broader structural challenges such as rising numbers of graduates and bottlenecks for highly skilled labour. Across these more targeted studies, the evidence is broadly consistent with macro-level findings, though the magnitude of effects varies by context. In general, robust economic activity and favourable migration policies in destination countries, combined with youth-skewed

demographics in origin countries, raise emigration rates, while low economic performance and unemployment generate comparable pressures.

Despite the breadth of factors examined, a crucial determinant remains absent from the existing empirical literature, particularly for small, open economies. The availability and accessibility of FX, which is vital for day-to-day transactions in highly open economies, has not yet been explicitly considered. FX constraints have far-reaching macroeconomic consequences: shortages generate parallel markets, imported inflation, business closures and rising unemployment, restrict outward travel and access to tourism services, and contribute to stagnation. These outcomes reduce the quality of life and create strong incentives for individuals, particularly those with higher levels of education and international mobility, to seek opportunities abroad. We therefore propose that FX availability be treated as a potential push–pull factor, with particular relevance for contexts such as T&T, where recent crises have highlighted the link between external constraints and domestic economic stability. Introducing this currency-seeking migration behaviour not only fills an identified gap in the literature but also extends the scope of the push–pull framework, as well as other perspectives such as labour-seeking and remittance-driven migration, to encompass macro-financial determinants of migration in small, open economies.

3. Stylised Facts

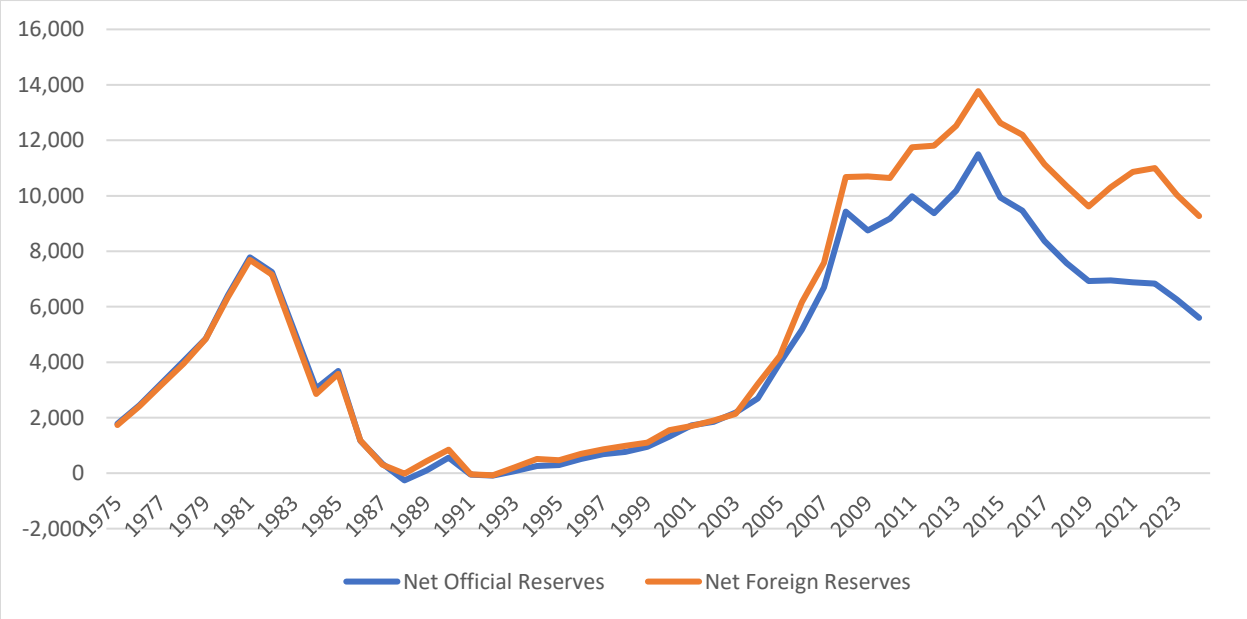
We use T&T as our case study because it is a small, open economy that relies heavily on a single sector for FX earnings, which have steadily declined over the past decade. As a result, access to FX by the general public has become increasingly difficult, with consumers often facing unmet demand and businesses experiencing waiting periods of up to nine months for FX transactions (International Trade Administration, 2024). A recent survey reports that 59% of businesses receive no more than 25% of their foreign exchange needs and confirms the existence of an unregulated parallel market with higher exchange rates (Trinidad and Tobago Chamber of Industry and Commerce (TTCIC, 2024).

During the oil boom of the 1970s, official reserves rose sharply as the peg to the USD at T&T dollar (TTD) TTD2.40 channelled windfall energy revenues into reserve accumulation rather than allowing for nominal appreciation (Figure 1). The subsequent collapse of oil prices in the early 1980s produced the opposite effect, with reserves falling rapidly as the authorities sought to defend the fixed parity. By 1985 the Central Bank of Trinidad and Tobago (CBTT) was forced to devalue to TTD3.60 per USD, illustrating the inherent fragility of fixed regimes in commodity-dependent economies where the burden of adjustment falls on external buffers until policy realignment becomes unavoidable.

Reserves remained low under a system of exchange controls and administrative allocation of FX through the late 1980s and early 1990s, which constrained adjustment while suppressing market pressures. The liberalisation of April 1993, when the authorities moved to a floating exchange rate and abolished controls, led to an immediate depreciation to around TTD5.70. This move

restored competitiveness and allowed reserves to recover gradually. From the early 2000s, high oil and gas prices generated a sustained accumulation of reserves, which peaked in 2014, even as the nominal exchange rate remained broadly stable. This stability reflected the transition to a managed float, or what the IMF classifies as a de jure float but a de facto stabilised arrangement, where the CBTT intervenes regularly to smooth fluctuations. Since 2015, however, declining hydrocarbon revenues combined with continued intervention to maintain stability around TTD6.20 to TTD6.80 per USD have eroded reserves, underscoring how the evolution of the exchange rate regime has shaped the capacity of reserves to absorb and mediate external shocks.

Figure 1: Official and Foreign Reserves (USD millions) of Trinidad and Tobago



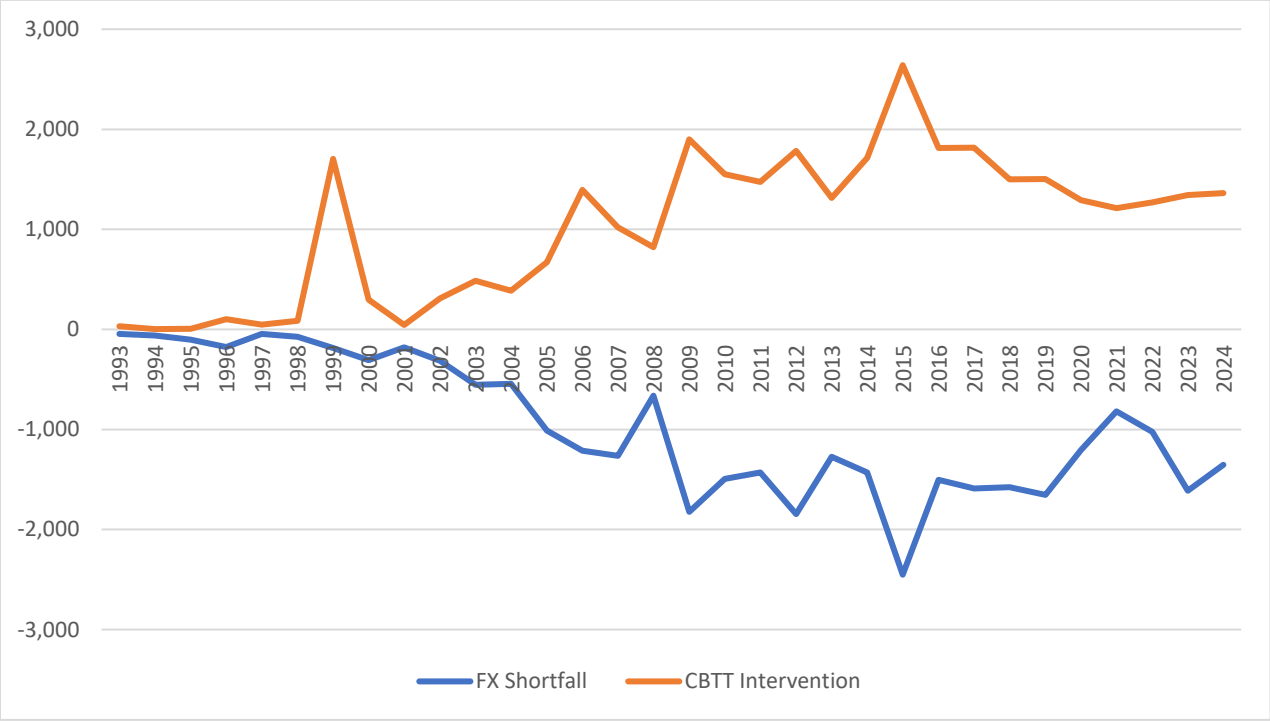
Source: Central Bank of Trinidad and Tobago (CBTT)

In T&T, only authorised dealers licensed by the CBTT are permitted to engage in the purchase and sale of FX. These authorised dealers purchase FX from the public (which becomes the dealer's supply) and sell it to the public (which is the public's demand) for purchasing goods and services. However, limited access and availability, particularly over the past decade, have reduced the willingness of the public to supply FX to authorised dealers. At the same time, demand for FX has increased markedly. Although a substantial share of this rising demand remains unmet, part of the shortfall between demand and supply is bridged through FX intervention by the CBTT.

The evolution of the FX shortfall and the scale of CBTT interventions since 1993 (Figure 2) illustrate the persistence of this imbalance and the reliance on official support to sustain market functioning. From the early 2000s, the shortfall widened significantly as structural excess demand emerged, with particularly acute deficits recorded in 2008, 2012 and 2016 (Figure 2), coinciding with sharp declines in energy revenues. In response, the CBTT's interventions expanded considerably, reaching a peak in 2015 when hydrocarbon receipts contracted and FX inflows

proved insufficient to meet rising domestic demand. While interventions broadly track the dynamics of the shortfall, they are typically smaller in magnitude, suggesting that CBTT sales offset a large share but not the entirety of excess demand. It is important to keep in mind, based on the aforementioned survey evidence, that a substantial portion of demand continues to go unmet despite these interventions. Although interventions have moderated somewhat in the years since, they have remained elevated, reflecting the ongoing gap between FX supply and demand.

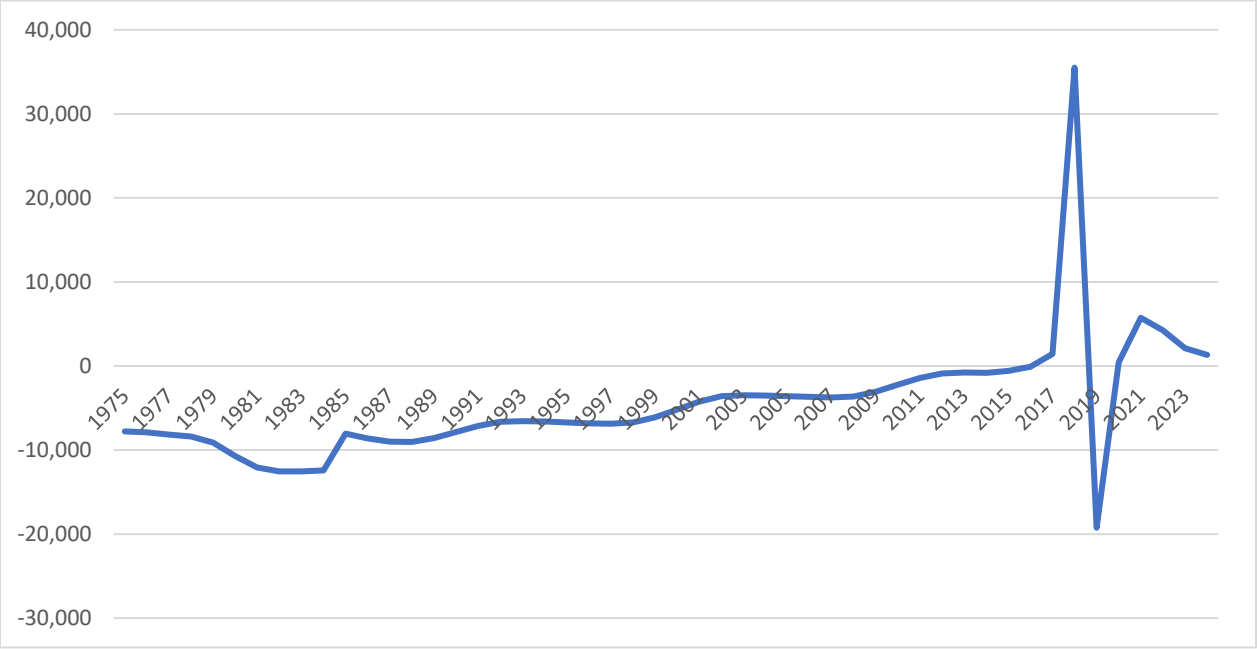
Figure 2: FX Shortfall and CBTT Intervention (USD millions)



Source: Central Bank of Trinidad and Tobago (CBTT) and authors' calculations

Net migration in T&T has been persistently negative, with steady outflows from the 1970s through to the early 2000s as citizens sought opportunities abroad (Figure 3). Outflows slowed from the mid-2000s and had almost stabilised with inflows by the early 2010s. This trend was abruptly reversed in the latter part of the decade, when the deepening crisis in neighbouring Venezuela gave rise to a large inflow of migrants, pushing net migration temporarily into positive territory around 2018–2019. The reversal proved short-lived as the onset of the COVID-19 pandemic brought about a sharp return to net outflows in 2020. Since then, migration has moderated but reverting to a net inflow trend which is still driven by Venezuelan migrants.

Figure 3: Net Migration for Trinidad and Tobago



Source: World Bank

4. Data, Estimation and Baseline Results

In our baseline model, we examine the impact of net official reserves (NOR) on net migration per 1,000 persons[1] in T&T, while controlling for other common push–pull factors such as GDP in the country of origin and destination, unemployment, inflation, and crime (see, e.g., Mayda, 2010; Redlin, 2023). NOR provides a strong indicator of FX availability under a fixed exchange rate and a managed float, as it directly measures the CBTT's intervention capacity and act as a credible buffer against external shocks. For robustness, we also consider the Net Financial Reserves (NFR) which is NOR plus the net foreign reserve assets of authorised dealers. We use annual data from 1975 to 2016, spanning more than four decades of economic history, with the sample length determined primarily by data availability. Although earlier descriptive trends are presented through to 2024, we truncate the estimation sample at 2016 to exclude the sharp shock associated with the inflow of Venezuelan migrants. This allows the estimated relationships to reflect underlying structural determinants of emigration from T&T rather than being influenced by an exceptional, non-structural episode. Social, legislative, and demographic variables are not included due to limited data availability. The analysis therefore primarily adopts an economic perspective, relying on variables that adequately capture T&T fundamentals. We present the

[1] To create a sufficiently long series for estimation, we use net migration instead of outward migration or emigration due to consistency in data availability. We scale net migration to the population and express it per 1,000 persons.

descriptions of these variables in Table 1, descriptive statistics in Table 2A, and correlation analysis in Table 2B.

Table 1: Variables and Descriptions

Variable	Description	Source
Net official reserves (NOR)	This refers to the stock of foreign financial assets that the Central Bank holds (in USD millions). For estimation, we use the natural log.	Central Bank of Trinidad and Tobago (CBTT)
Net financial reserves (NFR)	This is NOR adjusted for the commercial banking system's net foreign position (in USD millions). For estimation, we use the natural log.	CBTT
Net migration (MIG)	Net migration measures the difference between the number of people entering a country and the number leaving it over a given period. A negative MIG means outflows exceeds inflows and the converse holds true. It is scaled to the population and presented per 1,000 persons.	World Bank (WB)
US GDP growth (USGDP)	This captures the annual percentage change in Gross Domestic Product (GDP) in the US – the most common destination country.	WB
TT GDP growth (TTGDP)	This captures the annual percentage change in GDP in T&T – the home country.	WB
Unemployment (UNEMP)	This is the number of persons unemployed in T&T, expressed as a percent of the population.	CBTT
Inflation (INF)	This is the annual percentage change in the consumer price index in T&T.	CBTT
Crime (CRIME)	This is the total number of serious crimes reported to the police in T&T. For estimation, we use the natural log.	Ministry of National Security and the Central Statistical Office
Exchange Rate (ER)	This is the prices of US dollars in terms of T&T dollars.	CBTT

Table 2A: Descriptive Statistics

	NOR	NFR	MIG	USGDPG	TTGDPG	UNEMP	INF	CRIME	ER
Mean	4,009.15	4,556.63	-5.07	2.79	3.39	12.01	8.34	15,412	4.89
Median	2,873.70	3,021.30	-5.16	2.87	3.75	11.60	7.73	16,217	5.99
Maximum	11,497.15	13,773.23	-0.06	7.24	14.44	22.30	17.47	22,161	6.67
Minimum	-260.50	-76.23	-10.91	-2.58	-10.30	3.30	3.07	9,783	2.17
Std. Dev.	3,698.46	4,417.32	3.08	1.95	5.60	5.71	4.02	3,445	1.72
Skewness	0.57	0.78	-0.20	-0.65	-0.40	0.12	0.53	-0.16	-0.55
Kurtosis	1.87	2.17	2.16	3.73	2.71	1.95	2.32	1.89	1.55
Observations	42	42	42	42	42	42	42	42	42

Note: See Table 1 for descriptions on the acronyms used in Table 2A column headings.

Table 2B: Correlation Analysis

	NOR	NFR	MIG	USGDPG	TTGDPG	UNEMP	INF	CRIME	ER
NOR	1.000	0.995	0.375	-0.356	-0.062	-0.919	0.119	-0.242	0.380
NFR	0.992	1.000	0.398	-0.348	-0.061	-0.928	0.103	-0.221	0.402
MIG	0.408	0.497	1.000	-0.325	0.052	-0.604	-0.622	0.439	0.945
USGDPG	-0.380	-0.377	-0.207	1.000	0.144	0.412	-0.054	-0.117	-0.233
TTGDPG	-0.126	-0.141	0.167	0.030	1.000	-0.117	-0.215	0.067	0.067
UNEMP	-0.887	-0.885	-0.572	0.324	-0.122	1.000	0.138	0.050	-0.597
INF	0.095	0.016	-0.670	-0.077	-0.195	0.136	1.000	-0.239	-0.653
CRIME	-0.178	-0.123	0.436	-0.168	0.101	0.083	-0.359	1.000	0.480
ER	0.186	0.273	0.884	-0.140	0.206	-0.406	-0.741	0.649	1.000

Note: Pearson correlation in the lower triangle and Spearman correlation in the upper triangle

To begin, we test for stationarity using the augmented Dickey-Fuller (ADF) and Phillips-Perron (PP) tests and we show the results in Table 3. The results suggest a mixture of stationary and non-stationary variables, with no evidence of integration of order two.

Table 3: Stationarity tests

	ADF test (levels)		**ADF test (first difference)**	
	Intercept	*Trend and Intercept*	*Intercept*	*Trend and Intercept*
NOR	-0.888	-1.357	-4.425**	-4.453**
NFR	-0.617	-1.292	-4.077**	-4.172**
MIG	-0.022	-4.670**	-5.032**	-5.070**
USGDP	-4.887**	-5.273**	-5.502**	-5.412**
TTGDP	-1.961	-1.858	-8.929**	-8.989**
UNEMP	-1.317	-2.243	-2.558	-3.993**
INF	-3.147**	-3.962**	-6.381**	-6.482**
CRIME	-1.797	-0.828	-6.703**	-6.102**
ER	-1.230	-1.071	-6.202**	-6.200**
	Phillips-Perron test (levels)		**Phillips-Perron test (first difference)**	
	Intercept	*Trend and Intercept*	*Intercept*	*Trend and Intercept*
NOR	-0.893	-1.291	-4.482**	-4.482**
NFR	-0.504	-1.064	-4.140**	-4.054**
MIG	-0.022	-2.950	-5.028	-5.078**
USGDP	-4.938**	-5.291**	-20.984**	-20.373**
TTGDP	-2.970**	-2.186	-9.671**	-9.329**
UNEMP	-0.763	-1.426	-4.041**	-4.032**
INF	-3.066**	-3.984**	-13.368**	-12.836**
CRIME	-1.879	-0.738	-6.703**	-6.119**
ER	-1.231	-1.090	-6.203**	-6.200**

Note: The lag length for the ADF test is determined using the Akaike Information Criterion (AIC), while the bandwidth for the PP test is selected using the Newey–West method. ** indicates rejection of the null hypothesis of a unit root at the 5% significance level.

Given the presence of both stationary and non-stationary variables, we adopt an autoregressive distributed lag (ARDL) model following Morley (2006), Oyadeyi et al. (2024) and Rahaman & Mahadeo (2025a). The ARDL framework can accommodate mixed integration orders, capture the inertia of migration, and model the long-run relationships between key variables such as net migration and reserves. Using the Bounds testing procedure of Pesaran et al. (2001), we can detect cointegration irrespective of the variables' order of integration. Additionally, ARDL also captures both short-run dynamics and long-run equilibrium. Moreover, it exhibits favourable small-sample properties (Narayan & Narayan, 2005), with coefficients that are super-consistent in small samples (Murthy & Okunade, 2016). Endogeneity is unlikely to be a major concern, as T&T's reserves are primarily determined by energy sector performance and CBTT intervention but not migration. Hence, causality is more plausibly from reserves to migration. If endogeneity were to arise, the ARDL's simultaneous estimation of short-run and long-run coefficients helps to mitigate this issue (Murthy & Okunade, 2016). Following Morley (2006), Oyadeyi et al. (2024), and Rahaman & Mahadeo (2025a), we specific the ARDL as follows:

$$\Delta MIG_t = \alpha_0 + \sum_{i=1}^{p} \gamma_i \Delta FX_{t-i} + \sum_{j=0}^{q} \delta_j \Delta X_{t-j} + \varphi ECT_{t-1} + \varepsilon_t \quad (1)$$

where MIG is the net migration (per 1,000 persons), FX is the specific measure of FX availability and accessibility, X is the vector of control variables identified in Table 1, γ and δ are the short-run coefficients, and ECT is the error correction term capturing the speed of long-run adjustment.

From the results in Table 4 (column 1), the Bounds F-statistic suggests that cointegration exists and the ECT is negative and statistically significant (−0.187), indicating a stable long-run relationship in which approximately 18.7% of any disequilibrium in MIG is corrected each period. This small ECT is quite concerning, as it implies that MIG does not quickly return to its long-run equilibrium and outward migration pressures remain elevated for longer. The long-run multiplier for NOR is positive and statistically significant, with an estimated coefficient of 6.63. Given that negative values of MIG denote net emigration, this estimate implies that a 1% increase in NOR is associated with an improvement of about 0.066 migrants per 1,000 population in the long-run. That is to say, higher levels of reserves are linked to smaller net outflows or larger inflows, suggesting that greater access to FX reduces the incentive to migrate. Conversely, a reduction in reserves exerts the opposite effect: a 1% decline in NOR lowers MIG by approximately 0.066 per 1,000 in the long-run, consistent with larger net outflows. This underscores the role of reserve positions as a macroeconomic buffer, where deterioration in external liquidity conditions translates into heightened migration pressures.

In the short-run, the lagged MIG is positive and significant, suggesting short-term persistence in migration changes where an increase in MIG last period tends to carry over into the current period. The contemporaneous coefficient of NOR is positive and significant, indicating that a 1% increase in NOR raises net migration by approximately 0.016 per 1,000 population within the same period, with a further 0.007 per 1,000 in the subsequent period. Cumulatively, a one-off 1% increase in NOR yields a short-run improvement of about 0.023 per 1,000 before the system adjusts back toward its long-run equilibrium. A 1% decline in NOR has the opposite effect, lowering net migration by roughly 0.023 per 1,000 in the short-run and thereby amplifying outward flows. For T&T, with a population of approximately 1.5 million, the contemporaneous short-run estimate implies that a 1% decline in NOR leads to roughly 24 more persons leaving the country in the same period, underscoring how the lack of FX availability and accessibility is leading to emigration.

Both the long-run and short-run findings are consistent with our a priori expectation that T&T is exhibiting currency-seeking migration, providing support for our hypothesis that declining access to FX in the origin country increases outward migration or reduces net migration (outflows exceeds inflows). As it relates to the other control variables, ER depreciation exerts a strong contemporaneous effect, lowering MIG and thereby increasing outward migration. This complements the NOR results, as both highlight the importance of FX availability in shaping migration outcomes. TTGDP and INF also reduce MIG, consistent with stronger local pressures to emigrate. USGDP is positive in the long-run but negative with a lag in the short-run, while CRIME exerts a positive long-run effect. Other variables are statistically insignificant.

For robustness, we replace NOR with NFR and display the results in Table 4 (column 2). The Bounds F-test supports the presences of cointegration and the ECT (-0.126) is negative and statistically significant but to a lesser magnitude relative to NOR. The larger ECT obtained when using NOR reflects the fact that CBTT's holdings provide a more direct and credible measure of external liquidity. Deviations from the long-run equilibrium are, therefore, corrected more rapidly. By contrast, the broader measure of NFR, which incorporates the positions of commercial banks and authorised dealers, is less tightly linked to sovereign external stability, resulting in a slower adjustment process. Furthermore, the coefficient of NFR is statistically insignificant in the long-run. In the short-run, however, the coefficients of NFR are positive and statistically significant. It shows that a 1% decline in NFR reduces MIG by approximately 0.008 persons per 1,000 in the contemporaneous period, with a further reduction of about 0.009 persons per 1,000 in the subsequent period. The cumulative short-run effect of roughly 0.017 per 1,000 indicates that falling NFR generates both immediate and persistent outward migration pressures in the short-run. Against the backdrop of T&T's population of approximately 1.5 million, the results translate to about 12 emigrants in the contemporaneous period, with another 14 persons leaving in the subsequent period, yielding a cumulative short-run effect of around 26 persons emigrating.

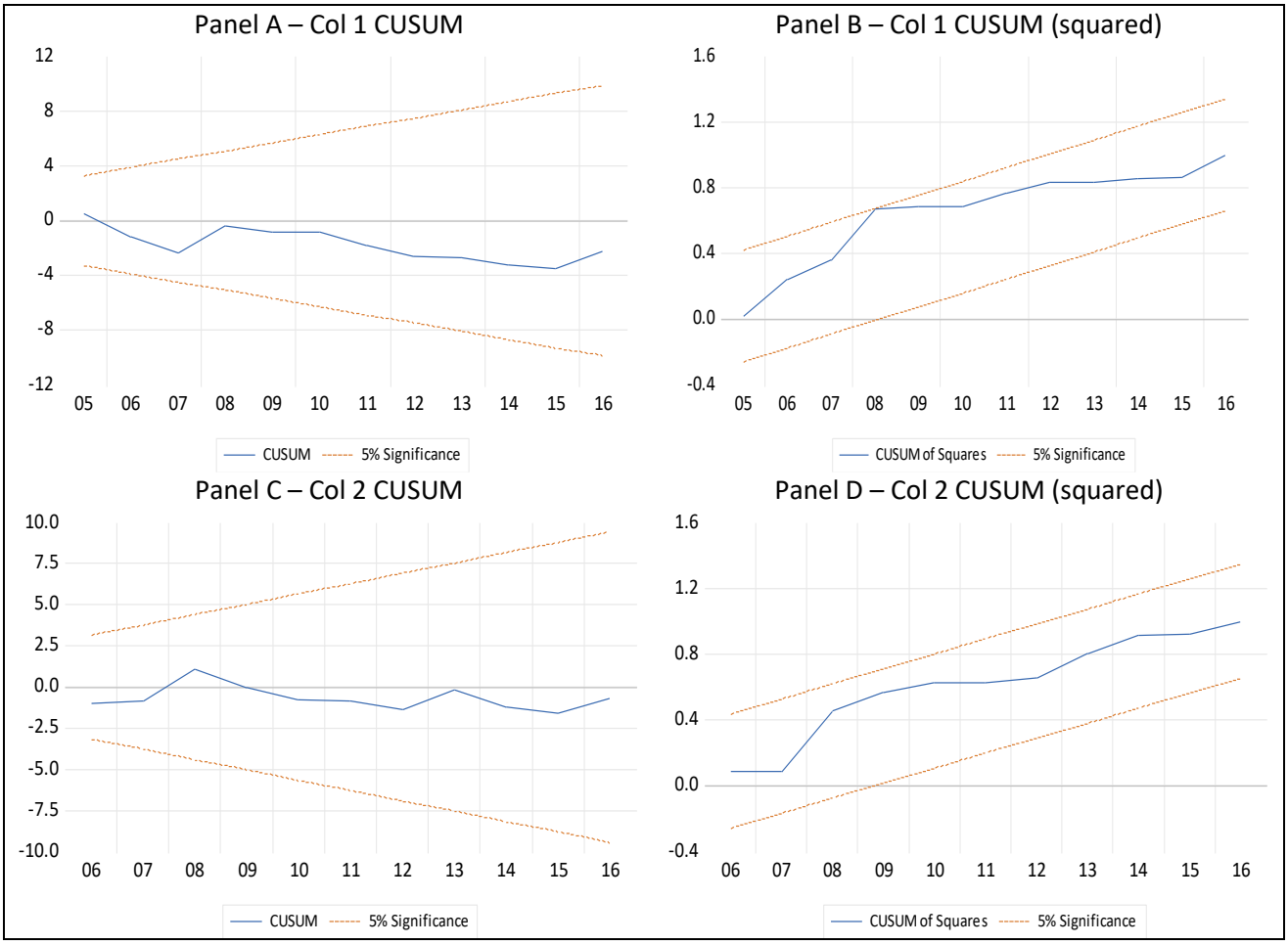
In both specifications, all diagnostics for normality and homoscedasticity are satisfied (Table 4) and parameter stability tests such as the CUSUM and CUSUM (squared) are satisfied (Figure 4). Given that our study is novel, we do not have any direct empirical literature to draw comparisons in terms of our results. However, our results are consistent with other studies that adopt an exchange rate perspective on net migration. Specifically, if we consider a FX shortage in a country with a managed float regime as analogous to a depreciation due to the emergence of parallel markets when FX is unavailable through authorised dealers, the comparison holds. Keita (2016) finds that in a sample of 165 origin countries and 30 destination countries, a 10% depreciation in the country of origin in real terms can lead to between 18-19% outward migration as it leads to higher remittance conversion and savings accumulation to eventually return. A recent country example is Zimbabwe, where limited and uneven access to FX and other macroeconomic issues lead to many problems, including outward labour migration (see, e.g., World Bank, 2022).

Table 4: Estimation Results

	FX – NOR (Col 1)	**FX – NFR (Col 2)**
	Long-run estimates (Selected Model: ARDL(3, 2, 0, 1, 0, 1, 0, 1))	**Long-run estimates (Selected Model: ARDL(1, 2, 2, 2, 2, 2, 1, 1)**
ECT_{t-1}	-0.187*** (0.015)	-0.126*** (0.007)
FX	6.631* (3.321)	-0.727 (4.201)
$TTGDP$	-0.734** (0.268)	-1.587** (0.690)
$UNEMP$	0.515 (0.875)	-3.094 (1.938)
$USGDP$	1.117** (0.432)	2.432* (1.211)
$CRIME$	7.033* (3.783)	22.163* (11.516)
ER	2.055 (2.065)	2.714 (3.381)
INF	-1.496*** (0.485)	-2.793** (1.167)
Short-run estimates		
ΔMIG_{t-1}	0.228** (0.089)	-
ΔFX_t	1.578*** (0.178)	0.812*** (0.186)
ΔFX_{t-1}	0.685*** (0.157)	0.863*** (0.179)
$\Delta TTGDP_t$	-0.037*** (0.007)	-0.039*** (0.007)
$\Delta TTGDP_{t-1}$	0.053*** (0.008)	0.085*** (0.008)
$\Delta UNEMP_t$	0.189*** (0.055)	0.053 (0.061)
$\Delta UNEMP_{t-1}$	0.278*** (0.057)	0.423*** (0.056)
$\Delta USGDP_t$	0.025 (0.015)	0.032* (0.015)
$\Delta USGDP_{t-1}$	-0.127*** (0.019)	-0.179*** (0.019)
$\Delta CRIME_t$	-	0.483 (0.455)
$\Delta CRIME_{t-1}$	-	-1.560*** (0.346)
ΔER_t	-3.000*** (0.299)	-2.590*** (0.268)
ΔINF_t	-0.162*** (0.017)	-0.183*** (0.016)
Diagnostics		
Bounds F-statistic	11.592***	22.799***
Jarque-Bera (JB) test	2.001	0.961
Breusch-Pagan-Godfrey (BPG) test	0.672	0.555
CUSUM	Satisfied	Satisfied
CUSUM (squared)	Satisfied	Satisfied

Note: Using a maximum possible lag length option of three due to the sample size, the optimal estimation lag is determined by the model that minimises the AIC. Both specifications are estimated with a constant and a trend as this also minimises the AIC (relative to other options such as constant, restricted trend, restricted constant and none). Huber-White-Hinkley heteroskedasticity consistent standard errors are in parentheses. Empty cells are not omitted results but are not reported as statistical software automatically omits redundant or collinear variables during ARDL estimation. The null hypothesis for the Bounds test is no cointegration exists, the null for the JB test is residuals are normally distributed and the null for the BPG test is that residuals are homoscedastic. * p < 0.10, ** p <0.05, *** p < 0.01.

Figure 4: Parameter Stability Plots



5. Robustness Analysis

For robustness, we investigate another measure of foreign reserve adequacy that is popular in the empirical literature – the import cover ratio (ICR) (Aydın & Tunç, 2023; Ghosh et al., 2014). The ICR shows how many months of imports a country could pay for using only its FX reserves if no new FX inflows are available. We use the same independent and control variables, as well as sample size as the baseline specification from Table 1, and display the results in Table 5.

In Table 5 (column 1), the results are largely consistent with our baseline specification. The Bounds F-statistic confirms the presence of cointegration and the ECT of -0.835 is statistically significant. This suggests a rapid adjustment which is intuitively correct since T&T relies heavily on imports for consumption and production and immediately feel changes in the ICR. The long-run coefficient of ICR is positive (0.153) and statistically significant. This implies that a decrease in the ICR by one unit is expected to lower MIG by 0.153 per 1,000 population, which reflects an increase in outward migration pressures. This relationship also holds in the short-run as a fall in the ICR quickly lowers MIG in both the contemporaneous and lagged period.

Additionally, we use another measure of the FX position (Aydın & Tunç, 2023) – net official reserves to the broad money base (RES-M2). This measures reserve adequacy relative to the domestic money supply, with lower values indicating greater vulnerability to FX shortages. The results, displayed in Table 5 (column 2) supports the presence of cointegration using the Bounds F-statistic, with an ECT of -0.371. The long-run coefficient on RES-M2 is positive and significant, implying that a one percentage-point (pp.) decrease in reserve adequacy lowers MIG by 0.021 per 1,000 population. Since lower net migration can reflect greater outward flows, this result indicates that declining reserves heighten emigration pressures. In the short-run, a one pp. decrease in RES-M2 reduces MIG by 0.014 per 1,000 in the same period, but the lagged effect is opposite in sign (0.008), implying a partial offset in the following period. The cumulative short-run effect is therefore -0.006 per 1,000, indicating that falling RES-M2 ultimately intensify net outward migration, though on a smaller scale than the immediate impact.

Another form of robustness we use is to investigate the impact of FX shortfall on MIG. The CBTT floated the exchange rate in April 1993 and since then, purchases and sale of FX has been recorded. Using annual data from 1993 to 2024 (which covers just over three decades on economic history), we compute the shortfall in the FX market as the difference between the purchase of foreign currency by authorised dealers (supply) and the sale of foreign currency by authorised dealers (demand), with a shortfall existing where sales exceed purchases. Using a similar approach to other common economic ratios such as the output gap (see, e.g., Rahaman & Mahadeo, 2024), we then construct a shortfall ratio (SR) in equation 2:

$$Shortfall\ (\%) = \frac{Sales - Purchases}{Purchases}\ x\ 100 \qquad (2)$$

The SR captures the FX gap relative to supply capacity and shows how much authorised dealers sell beyond what they purchased from the market, and it is an indicator of market strain. As mentioned in the previous section, MIG data are available through 2024, but we truncate the previous samples to 2016 because of Venezuelan migrants entering T&T which is distorting current MIG statistics. Since a sample from 1993 (when data collection begins) to 2016 is fairly small, we take the existing MIG data from 1993 to 2024 with the migrant distortion and we follow Rahaman & Mahadeo (2024) and apply the Hodrick-Prescott (HP) filter (with a smoothing parameter λ=100 for annual data) on MIG to extract the trend component and remove the distortion. This gives us a filtered or trend version of MIG (HP-MIG) across the sample 1993 to 2024. Using the computed SR and the HP-MIG, along with the other control variables over the period 1993 to 2024, we estimate equation 1 and display the results in Table 5 (column 3).

The ECT is negative and statistically significant, and comparable in magnitude to our baseline specification in Table 4 (column 1), further highlighting that slow correction from shocks to migration (like worsening FX shortages) persist for several years before stabilising. The negative and significant coefficient on the SR suggests that a one pp. increase in the FX shortfall is associated with a 0.007 per 1,000 decline in the net migration trend (HP-MIG). This implies that worsening FX shortages contribute to stronger net migration pressures over the long-run. The

short-run coefficient exhibits a similar behaviour, but the magnitude is smaller. This is unsurprising given that the dependent variable is now HP-MIG, which captures the trend only and evolves slowly over time.

Table 5: Robustness Estimation Results

	FX – ICR (Col 1)	**FX – RES-M2 (Col 2)**	**FX – SR (Col 3)**
	Long-run estimates (Selected Model: ARDL(2, 2, 2, 2, 2, 0, 1, 1))	**Long-run estimates (Selected Model: ARDL(2, 2, 0, 0, 1, 2, 0, 0))**	**Long-run estimates (Selected Model: ARDL(3, 1, 2, 0, 2, 2, 1, 1)**
ECT_{t-1}	-0.835*** (0.098)	-0.371*** (0.055)	-0.180*** (0.011)
FX	0.153*** (0.051)	0.021* (0.012)	-0.007*** (0.002)
$TTGDP$	-0.052 (0.026)	-0.035 (0.048)	0.037*** (0.010)
$UNEMP$	0.175*** (0.050)	0.291 (0.206)	0.049* (0.022)
$USGDP$	0.006 (0.042)	0.331 (0.265)	-0.046** (0.016)
$CRIME$	0.147 (0.824)	5.634* (3.228)	0.464* (0.246)
ER	-0.733*** (0.212)	-1.449* (0.725)	0.258 (0.159)
INF	-0.224*** (0.058)	-0.382** (0.146)	0.013 (0.012)
Short-run estimates			
ΔMIG_{t-1}	0.391*** (0.094)	0.307*** (0.099)	1.330*** (0.041)
ΔMIG_{t-2}	0.734*** (0.149)	-	–0.296*** (0.052)
ΔFX_t	0.261*** (0.033)	0.014*** (0.003)	–0.000*** (0.000)
ΔFX_{t-1}	0.119*** (0.036)	-0.008*** (0.003)	-
$\Delta TTGDP_t$	-	-	0.002*** (0.000)
$\Delta TTGDP_{t-1}$	-	-	–0.003*** (0.000)
$\Delta UNEMP_t$	-0.284*** (0.079)	-	-
$\Delta UNEMP_{t-1}$	-	-	-
$\Delta USGDP_t$	-	–0.001 (0.038)	–0.006*** (0.001)
$\Delta USGDP_{t-1}$	-	-	0.002** (0.001)
$\Delta CRIME_t$	1.912*** (0.662)	1.271 (0.753)	0.005 (0.012)
$\Delta CRIME_{t-1}$	-	-1.950** (0.753)	–0.047*** (0.010)
ΔER_t	-	-	–0.006 (0.014)
ΔINF_t	-0.062*** (0.019)	-	–0.001 (0.000)
Diagnostics			
Bounds F-statistic	6.898***	4.368**	18.169***
Jarque-Bera test	2.272	0.078	0.753
Breusch-Pagan-Godfrey test	1.265	2.234	0.927
CUSUM	Satisfied	Satisfied	Satisfied
CUSUM (squared)	Satisfied	Satisfied	Satisfied

Note: See notes from Table 4.

6. Policy Recommendations

Overall, the results suggest that a declining reserve position leads to a decline in net migration (emigration exceeds immigration), a relationship that is likely to persist as FX access in T&T continues to tighten and approach crisis levels. To mitigate these pressures, policy measures should aim to restore balance in the FX market through both supply and demand adjustments.

The following policy options, including export reform, selective protectionism, diversification, and carefully managed exchange rate liberalisation, are intended to strengthen FX availability, support macroeconomic stability, and in doing so, reduce outward migration, brain drain, and overall labour market outflows. Given this shared objective, subsequent discussions do not restate the expected impact on migration for each policy, in order to avoid unnecessary repetition.

Based on the economic structure of the T&T economy, export reform has the potential to positively influence growth (see, e.g., Irwin, 2025) by facilitating greater FX inflows. One policy option is the partial or complete removal of corporate taxes on the export segment of domestic businesses. Such fiscal incentives can stimulate production and exports (see, e.g., Beckman et al., 2018), ultimately broadening the economic base and strengthening FX inflows. This approach is particularly relevant given the economy's small size, openness, and limited market power (Devarajan et al., 1996). For example, Mauritius, an economy with some historical and structural similarities to T&T (see, e.g., Rahaman & Mahadeo, 2024), provides preferential tax treatment to exporters. Firms that export more than 80% of their output are subject to a 3% corporate tax rate, compared to the 15% rate applied to firms that do not meet this threshold (Mauritius Revenue Authority, 2025). If a comparable incentive structure were implemented in T&T, it could contribute to sustainable economic growth and enhanced FX inflows.

Similar to other theories such as import substitution industrialisation (see, e.g., Irwin, 2021), further selective and protective tariffs could be applied to foreign goods that are already manufactured and available locally but are still imported in large quantities, such as food, beverages, and fruits, in order to facilitate expenditure switching. Such a targeted protectionist approach should not be viewed as inherently restrictive, as evidence suggests that excessive trade liberalisation has, in some cases, constrained economic growth in developing economies (see, e.g., Abbas, 2014). As a result, many of these economies impose higher tariffs on consumer goods for which local substitutes are available (Krueger, 1997). By encouraging consumption toward locally produced substitutes, while imposing higher selective tariffs on goods with local alternatives, this can reduce import demand and thereby lower FX outflows in the short-run.

Another short-term but infrequent, temporary and dated solution is a FX auction system (see, e.g., Kovanen, 1994). Under this system, the CBTT sells limited FX to banks and businesses through competitive bidding, letting demand and supply determine the exchange rate and allocation. This was implemented in Zimbabwe in 2020 (IMF, 2022) but with limited success, they eventually introduced a new currency in 2024 and fully liberalised the exchange rate (IMF, 2024). Within a managed float regime, the effectiveness of this measure may be limited, as auction-determined prices often fail to meaningfully alleviate underlying market pressures. For instance, in the case of Zimbabwe, auctions are usually within -/+ 5% of the market rate. Additionally, the allocation being auctioned may also be insufficient to satisfy the current demand, resulting in (for T&T), the parallel market continuing to thrive and FX shortages persist. However, it may be a start as the government moves towards implementing more permanent, sustainable measures.

Export diversification, once regarded as a long-term remedy, has now become a short-term necessity to address the FX shortage. This entails shifting from a highly concentrated, energy-dependent export structure toward a more diversified portfolio of goods and services (Love, 1986). This can reduce export-earnings instability in both manufacturing economies (Herzer & Nowak-Lehnmann D., 2006) and service-oriented economies (Gnangnon, 2021). For instance, Malaysia successfully transitioned from a narrow concentration to a broad basket including tourism, textiles, finance, and information and communication technology and this resulted in more sustainable economic activity (see, e.g., Sobhee, 2009). The same goes for Chile, an economy that was primarily copper-dependent, but the export base now includes fisheries, wine, and fruits (Herzer & Nowak-Lehnmann D., 2006). For T&T, diversification options are wide given its geographic location and lesser susceptibility to natural disasters relative to other Caribbean countries. These options include agriculture to promote food self-sufficiency which can reduce the import bill and potentially be exported to other Caribbean countries through agro-processing, thereby earning export revenue. This has the combined effect of easing foreign currency pressures from both demand and supply sides. Another avenue is business process outsourcing, given the country's educated and skilled workforce. Other realistic options also include carnival, and cultural and tourism-related products and services.

One of the most recommended and used solutions when faced with a FX crisis is to liberalise the exchange rate (see, e.g. Grosse, 1994). An IMF Article IV Report in 2016 highlights that the exchange rate in T&T is significantly overvalued and there exists a substantial FX shortage (IMF, 2016). In its subsequent version in 2017, the IMF's External Balance Assessment (EBA) model finds that the exchange rate is overvalued between 23.6% and 48.5% (IMF, 2017). Liberalising the exchange rate would help correct the persistent overvaluation and alleviate FX shortages by curbing excess demand, as users would face the currency's true market value, while simultaneously boosting supply as sellers shift from the parallel to the official market. This was successful in Jamaica in the early 1990's as Jamaica suffered from many of the same FX problems as T&T such as shortages, overvaluation and parallel markets but when the exchange rate was liberalised, these problems were quickly eliminated (Grosse, 1994). This measure is also not new to T&T as the exchange rate was liberalised in 1993 and over the last two decades, it has been a de facto managed float but with very little variations. In the 1990's, the Czech Koruna was also pegged to a basket of currencies and during the 1997 emerging markets turmoil, they faced a shortage of FX and in May 1997, they liberalised the exchange rate which eventually resulted in a return to economic competitiveness (Begg, 1998).

Most recently, Egypt liberalised its exchange rate in March 2024 amid acute FX shortages, subsequently eliminating substantial backlogs and restoring market balance, which now serves as a buffer against external shocks while enhancing monetary policy flexibility and autonomy. The currency value fell between 50%-60%, resulting in the exchange rate being unified with the parallel market (IMF, 2025). Drawing on this experience, we recommend a 20% depreciation as the liberalisation point for T&T. This aligns with local estimates placing the parallel rate between TTD7–8 per USD (Ramdass, 2024). With the official rate averaging TTD6.8 and the parallel rate

around TTD8, the current premium is approximately 18%, suggesting that a 20% liberalisation starting point is plausible. Evidence from a recent T&T CCIC business survey further supports this recommendation: 40.5% of respondents expressed support for exchange rate liberalisation, while 27% were neutral but emphasized the need for education and communication to better understand the rationale and implications of a floating exchange rate. Historical precedent also provides context. When the exchange rate was floated in April 1993, the currency depreciated by roughly 37%, from TTD4.20 to TTD5.75.

Importantly, liberalisation should not be commingled with devaluation. In 2016, the currency was devalued by about 7%, yet this measure had little impact on alleviating FX shortages (IMF, 2017). Moreover, historical evidence suggests that when the CBTT has relied on infrequent or large adjustments in the exchange rate, it has tended to drive further divergence between official and parallel rates (Fardmanesh & Douglas, 2008). A major risk of this approach is accelerated inflation through the exchange rate pass-through mechanism (see, e.g., Valogo et al., 2023), alongside broader disruptions to macroeconomic fundamentals. At the same time, the aforementioned survey indicates that a substantial share of FX demand remains unmet by authorised dealers, forcing transactions into the parallel market where buyers already incur a premium that feeds into higher domestic prices. This implies that while liberalisation may generate additional price pressures, part of the inflationary impact is already present under the existing system.

7. Conclusion

Since the work of Lee (1966) and the introduction of the push-pull factors influencing migration, there are numerous empirical studies investigating the determinants of net migration from economic, social, legislative and demographic perspectives (see, e.g., Keita, 2016; Mayda, 2010; Nguyen & Duncan, 2017; Redlin, 2023). As such, patterns such as labour-seeking migration (see, e.g., Beaverstock, 1994) and remittance-driven migration (see, e.g., Grigoryan & Khachatryan, 2022; Gupta et al., 2009) were established. However, a crucial gap remains in the literature relating to another push-pull factor – access to FX – which is vital for small, open economies and these shortages have been seen over the last few decades in several countries including Jamaica (Grosse, 1994), Argentina (Moreno, 2025), and Zimbabwe (IMF, 2022). This study addresses this gap by introducing the concept of currency-seeking migration, a phenomenon distinct from remittance-driven migration, characterised by the limited availability of widely traded currencies such as the USD, which constrains consumption, investment, and other facets of economic activity, thereby prompting outward migration. To investigate this currency-seeking migration, we use common indicators of FX positions and analyse its impact on net migration, while controlling for other economic factors (based on data availability). We use T&T as our case study because it is currently experiencing a FX shortage due to its smallness, openness and dependence on the energy sector which is subject to large fluctuations and uncertainty.

Using an autoregressive distributed lag (ARDL) model, our results support the presence of cointegration within the model and existence of currency-seeking migration in both the short-run and long-run. Specifically, in the long-run, a 1% decline in net official reserves (NOR) lowers MIG (meaning emigration exceeds immigration) by approximately 0.066 per 1,000. This suggests that declining reserves leads to more migration pressures. Similarly, in the short-run, a 1% decline in NOR lowers net migration by roughly 0.023 per 1,000. With an approximate population of 1.5 million, this translates to approximately 24 persons emigration due to FX issues. The results also reveal a small error correction term which means that MIG is not quickly returning to long-run equilibrium and outward migration pressures remain elevated for longer. Our results remain robust when we consider other measures of FX positions such as the import cover ratio, reserves to broad money and the shortfall in FX sold by authorised dealers relative to purchases.

These findings provide a clear rationale for the policy measures proposed earlier. Restoring balance in the FX market through export reform, selective protectionism, diversification, and exchange rate liberalisation remains central to mitigating migration pressures. Together, these strategies address both the structural and cyclical dimensions of T&T's FX shortage. However, the effectiveness of these measures ultimately depends on the extent to which they can generate a sustainable increase in the supply of FX. In this context, the only way to maintain the current exchange rate system and remedy the shortage is by achieving a significant and sustainable expansion of FX inflows to the market. However, given the current situation of declining production of the energy sector and the volatility of its associated prices (see, e.g., Rahaman & Mahadeo, 2025a), coupled with the constrained capital expenditure in governments annual budgetary allocation of less than 10% which limits diversification potential (see, e.g., Rahaman & Mahadeo, 2025b), this is highly unlikely. Further to this, any new or upcoming energy-related projects should be viewed as long-term solutions as they require significant time to generate financial profits and often suffer from scheduling and costs overruns (Basak et al., 2019), making its horizon more difficult to predict and the same holds for expanding the export basket. As such, policymakers face a choice: they can implement measures such as export reform and more targeted protectionism, some of which may appear draconian, or they can risk a more active parallel market. Long-term solutions, including liberalising the exchange rate, have recently been successful in the aforementioned countries, but in the case of T&T such reforms may reduce the probability of government re-election, as occurred after the 1993 liberalisation. Irrespective of the path chosen, inaction will lead to a depletion of the net official reserves under current trends and an eventual return to IMF support, as experienced under the stand-by arrangements of the late 1980s.

Whatever the way forward, effective communication by the CBTT is key to managing exchange rate and FX volatility. The timing and clarity of central bank communication can result in a calming effect, as seen during the Czech Republic's transition from a fixed to floating regime (Fišer & Horváth, 2010). The same holds for Uruguay as they moved from a crawling-band to floating rate in 2002 and relied heavily on transparency and communication to maintain and enhance credibility (Ötker, 2007). This study opens the door for future research by providing an analysis

that can be applied to other countries that face challenges similar to T&T but differ in their economic structure. Other indicators from the IMF's Assessing Reserve Adequacy (ARA) framework that were not considered here, such as reserves to short-term debt due to data limitations, can also be examined.

Disclosure statement

We have no conflict of interest to disclose

Data availability

The data from this study will be made available upon request.

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