



Focus on Middle East and Central Asia: rationale of IMF assistance seeking

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Abstract

This study delves into the rationale behind the tendency of nations in the Middle East and Central Asia (MECA) to seek aid from the IMF. The IMF supports global financial stability, aiming to foster economic growth and prosperity across its member countries by promoting policies that encourage monetary cooperation and financial resilience. The study employs a conditional fixed-effects logit model, the analysis spans 22 years of data from twenty-five MECA countries to identify the factors driving these nations to seek IMF assistance. It focuses on six determinants: Current Account Balance (CAB), Inflation (INF), Corruption (CORR), General Government Net Lending and Borrowing (GGNLB), General Government Gross Debt (GGGD), and Gross Domestic Product Growth (GDPG). The fixed-effects logit shows that slower GDP growth raises the odds of an IMF programme, while short-run changes in corruption control and public debt ratios are not significant once country and year effects are absorbed. Inflation is weakly positive; the current account balance is still insignificant. A post-GFC and an income-group robustness check confirm the pattern. Furthermore, the study identifies Lebanon, a lower-middle-income country, as a leading example of seeking IMF assistance during the study period. Overall, this research highlights the importance of policymakers understanding the dynamics and rankings within the MECA region to effectively address economic challenges, provide financial support, and foster a more sustainable economic structure.

Keywords IMF · Middle East and Central Asia · Corruption · Inflation · Current account balance

1 Introduction

The International Monetary Fund (IMF), established during the Bretton Woods Conference in July 1944, plays a vital role as a crisis manager, significantly influencing macroeconomic policies and structural reforms in developing countries (Lee et al., 2013). Collaborating with its 190 member countries, the IMF acts as a lender of last resort, providing financial and technical assistance to nations experiencing financial crises or liquidity shortages. Stand-by agreements, financial adjustment facilities, and economic growth facilities can be denoted as some of these assistance initiatives, while the IMF also provides adoption of macroeconomic policy measures aimed at stimulating economies to maintain economic stability in member nations (Ionescu & Vasc, 2014). However, it is important to recognise that while IMF assistance can be beneficial, there may also be funding-related concerns, and the pros and cons of IMF aid vary based on the unique circumstances of each country.

Scenarios such as balance of payment issues, high debt levels, and current account imbalances are significant factors promoting nations to seek IMF assistance. The probability of a country entering into an IMF arrangement within a specific time-frame depends on distinct factors, including historical discrepancies between actual and targeted macroeconomic performance (Goldstein & Montiel, 1986a, 1986b). Several empirical investigations have attempted to identify and quantify the specific determinants of IMF lending by incorporating numerous methodological approaches, while declining export earnings, high debt ratio services, and the histories of other financial challenges are all associated with a higher likelihood of an IMF agreement coming into effect (Conway, 1994). In addition, a study focused on twenty-nine countries integrating the Logit estimation model. It concludes that Inflation (INF), economic growth, external debt, and international reserves are some of the factors influencing a country's decision to seek the IMF. In contrast, another study found that the political proximity of a country could significantly increase a nation's ability to receive funds from the IMF (MacDonald, 2003; Strom, 1999). Additionally, a study using the probit method to analyse 48 developing countries identified relative GDP per capita, net foreign assets, and the Current Account Balance (CAB) as key determinants of participation in IMF programmes, while another study employing ordinary least squares for 40 developing countries, concluded that factors such as inflation, gross national product per capita, and international reserves influence a country's decision to seek IMF assistance (Bird & Rowlands, 2001; Edwards, 1989). Recent panel-probit evidence from Sub-Saharan Africa likewise identifies corruption as the single most powerful predictor of IMF programme entry (Abeywickrama et al., 2024). Considering previous research, it is evident that a far-reaching study has revealed similar variables such as Gross Domestic Product Growth (GDPG), INF, exchange rates, the balance of payment, and external debt, employing varying time frames to clarify the determinable factors for a specific nation's requirement seeking IMF aid. Evaluating the potential limitations of existing research, it becomes imperative to examine the implications of the said variables in requesting IMF assistance within the present-day context.

The pivotal contribution of this research is to examine the influence of several economic factors as positioned by the existing literature on the inclination of the

Middle East and Central Asia region (MECA) to engage in adjustment policies with the IMF. The six perceptible attributes of CAB, INF, Corruption (CORR), General Government Net Lending and Borrowing (GGNLB), General Government Gross Debt (GGGD), and GDPG were recognised in the study in order to determine the likelihood of countries in the MECA region seeking IMF assistance within the time frame of 2000–2022, using a panel logit methodology. MECA countries also face numerous economically challenging conditions, and at the same time, the nation's took precautionary steps to mitigate further risks of deteriorating economic growth. For instance, many countries in the MECA region recorded budget deficits in 2016, where Orman, Bahrain, Saudi Arabia, and Algeria depicted budget deficits of 21%, 18%, 17%, and 12% of GDP, respectively, despite having high domestic saving rates during the oil boom years, which were redirected chiefly towards consumption as well as non-productive investments (Awdeh & Hamadi, 2019). Due to the prevailing conditions, the nation focused on obtaining financial aid. As a result, Algeria received its first IMF standby loan in 1989 due to the impact of INF, CAB, and GDPG, and countries such as Jordan, Morocco, and Tunisia also commenced their first IMF programmes, respectively, in 1989, 1983, and 1986 due to similar economic conditions (Abdelaii et al., 1997). The study also acknowledges the potential role of affluent nations in providing financial support during currency crises, which could complement or even substitute IMF assistance. However, the scope of this research is confined to analysing the macroeconomic determinants influencing IMF interventions within the MECA region. While alternative forms of financial assistance such as bilateral aid, may influence these decisions, this study focuses on the structural and economic factors driving IMF engagements, as highlighted in the existing literature on macroeconomic determinants.

Nominating the MECA region is a significant choice, as most of the nations faced substantial economic challenges, including high budget deficits and inflation, despite the high domestic savings, highlighting the region's economic volatility and the need for adjustment policies. Further, this region is exposed to greater levels of CORR and armed conflicts, such as military activities in Gaza and Israel and terrorist activities in Afghanistan. Hence, this academic work will be vital for understanding how CORR and armed conflicts impact seeking IMF contributions, particularly in the MECA region.

Current research differs from previous research and fills a notable gap in the literature in several significant aspects. First, it extends the information gathered over the contemporary period from 2000 to 2022; hence, the unique aspect of this research lies in its broad scope, which spans a significant time frame, thereby adding novelty to its findings. Second, using the mechanism of the Panel Logit methodology, a technique rarely used in previous studies provides a greater depth of analysis and thereby offers a refined understanding of the variables under examination.

Furthermore, the research drives to follow the gaps in the literature of CORR and GGNLB on a member nation's propensity to look out for IMF support. This research bridges the gap in existing knowledge by inclusively comprising all the macroeconomic indicators, which were previously examined separately in various literature. Moreover, the research leads to an intense analysis, facilitating the efficient position of MECA countries. This mechanism assists them in recognising their position in the

macroeconomic index and seeing valuable perceptions when deciding to seek IMF encouragement.

This research work offers substantial significance for the MECA region, providing valuable perceptions in a variety of areas. This scholarly work stands out from previous studies by utilising predicted probability to rank the nations in the MECA region according to their propensity to seek IMF assistance, and this innovative approach will provide policymakers with strategic insights enabling tailored interventions and resource allocation for the MECA region confronting significant challenges. In addition, as countries in the MECA region are facing numerous economic challenges, this research would assist policymakers in identifying the vulnerabilities within the region and facilitating measures such as monetary and fiscal consolidations for sustainable economic growth.

In the forthcoming sections, this research will offer a comprehensive examination of existing literature utilising prior studies followed by employed data and methodology. Subsequently, the study will delve into its findings with a conclusive summary and offer recommendations for policy implications.

2 Literature review

Previous research has explored how different economic factors influence a nation's decision to seek assistance from the IMF. This analysis focuses on six macroeconomic variables: CORR, GDPG, GGGD, GGNLB, CAB, and INF, within the MECA region. Reviewing the existing literature, the study aims to understand how these macroeconomic variables have historically impacted a nation's likelihood of seeking IMF assistance.

The IMF plays a vital role in the MECA region, granting policy advice, fostering capacity development, and offering financial assistance to nations. Egypt's \$5.2 billion IMF extended fund facility in 2020 showed a substantial engagement in the region. Amid the Coronavirus pandemic of 2019 (COVID-19), the IMF disbursed \$ 34 billion in new funding to fifteen MECA nations, including Egypt, Morocco, Pakistan, Mauritania, and Armenia, addressing economic challenges worsened by the crisis. However, this engagement underscores the geopolitical considerations, particularly from influential stakeholders such as the United States, which significantly influence the IMF's involvement in the region.

While IMF programs in the region mainly address economic needs, they are also influenced by geopolitical considerations, reflecting the complex relationship between the IMF and the MECA region (Harrigan et al., 2006). These loans often are accompanied by conditions aimed at promoting economic liberalisation and integration into the global economy, aligned with Western economic objectives and political strategies. Here, aid allocation serves as a tool for advancing geopolitical interests while addressing financial challenges in the region.

The study examines the influence of IMF and World Bank policies based on economic growth in the MECA region, focusing on Jordan, Tunisia, Morocco, and Egypt. While primary growth issues were observed, sustained growth was elusive, specifically outside Tunisia. Analysing the macroeconomic effects from 1975 to

2004 across six MECA region countries, IMF programs showed positive effects on CAB but adverse effects on INF, investment, and consumption. Moreover, the study analyses the social dimension of the IMF program post-Arab Spring, specifically in Tunisia, Egypt, and Jordan. Through qualitative analysis and interviews, the study reveals the expanding scope of social protection programs, underscoring the increasing significance of IMF involvement since 2011 (Jane & Hamed, 2010; Nafie, 2021; Ozturk, 2011). This highlights the need for a deeper analysis of the IMF's role in social protection, underscoring a shift towards focusing on inequality rather than solely poverty reduction in the region's policy recommendations.

The post-2011 period saw increased engagement between international financial institutions like the IMF in the MECA region, specifically Tunisia, Egypt, and Morocco. This engagement purportedly signalled a shift concerning poor policies and social inclusion. However, analysis reveals that even with IMF support, the region still faces challenges in financial sector development and economic stability. Jordan's case demonstrates the limitations of IMF policy support, with persistent challenges in employing reforms. Furthermore, fiscal policy in the MECA region has historically amplified economic cycles, with different responses during the crisis (Abdih et al., 2010; Creane et al., 2006; Hanieh, 2015; Kawamura, 2015). The region's budgetary space depends on issues such as debt levels and access to capital markets, emphasising the difficulty of IMF involvement in promoting economic stability in the MECA region.

The IMF's complicated engagement in the MECA region indicates its pivotal role in focusing on economic challenges and promoting growth. While IMF programs aim to raise economic liberalisation and integration, their effectiveness is affected by geopolitical issues. Additionally, the region's pursuit of social protection programs underscores the growing landscape of IMF participation. It requires a deeper examination of its role in addressing inequality alongside poverty reduction in the MECA region's policy framework.

This review examines the substantial role performed by the IMF in influencing the economic landscape of the MECA region. Through thoroughly exploring numerous factors affecting the region's economy, the analysis closely analyses six critical variables and their impacts on the region's economy.

Building on early work by Goldstein and Montiel (1986a, 1986b) and Knight and Santaella (1997), conditionality theory holds that the IMF extends programmes primarily in response to acute macroeconomic distress—specifically, deteriorating growth, high debt, fiscal deficits, inflation, or current-account imbalances. Under this lens, our expectations E2–E6 directly follow slower GDP growth (E2), larger debt burdens (E3), bigger fiscal deficits (E4), weaker current-account positions (E5), and higher inflation (E6) each increase the likelihood of seeking IMF support.

Drawing on Strom (1999) and MacDonald (2003), institutional political-economy models emphasize that corruption and weak governance both raise a country's need for IMF assistance and simultaneously complicate programme approval. This dual effect underpins our expectation E1: while high corruption signals vulnerability, it may also deter the Fund's willingness to lend, yielding the negative (or null) relationship we test.

2.1 Corruption

The term CORR refers to dishonest or unethical conduct usually committed for personal gain or to benefit a particular group of individuals by someone in a position of authority. It can be depicted in numerous ways, such as bribery, fraud, and abuse of power. Further, CORR can be categorised into two types, namely economic and political, and three forms: incidental, instrumental, and systematic. It has cost the world economy more than \$2 trillion annually (Fokuoh, 2008; Mevliyar, 2008). Implementing anti-CORR measures to combat CORR is vital as it can lead to the misallocation of resources and hinder economic growth.

CORR can be denoted as a crucial issue in the MECA region with an authoritarian style political system with low public participation, minimal transparency, and accountability along with mixed attitudes towards new bribery and CORR regulations and legislations. Additionally, CORR has been recognised as a critical factor influencing the optimisation of resource distribution, while also posing significant detriments to economic development (Liu et al., 2015; Wang & Song, 2021). In contrast, the Sharia law in this region further complicates the imposition of rules and regulations, which vary from nation to nation (Goldstraw-White & Gill, 2016; Lambrecht, 2012). Although Islamic law is not uniformly applied as a comprehensive system across the Middle East While Islamic law isn't applied uniformly across the Middle East, its influence is widespread, particularly beyond Iran, where Sharia is a fundamental part of the legal and political systems. In many countries across the region, Islamic principles shape not only governance but also cultural practices, which in turn affect various societal norms, including approaches to whistleblowing (Goldstraw-White & Martin, 2016). As reported in 2009, contractors paid a Minister of Afghanistan a \$20 million bribe to award the development of the Aynak project for copper mining to their state-owned China Metallurgical Group firm, and such forms of CORR are widespread in the country, which is an excellent challenge for present leaders (Senathip et al., 2017). Further, according to the CORR Perception Index (CPI), which was designed to measure the perceived level of CORR, Afghanistan is currently assessed as one of the most corrupt locations for public sector transactions, with a CPI score of 1.5 in 2011 (Rajivan, 2013). In addition, despite the powerful and clear laws against CORR and bribery in the United Arab Emirates (UAE), Dubai is frequently perceived as the hiding ground for proceeds of CORR flowing from international sources rather than a place where illicit funds are generated. This notion has been confirmed as UAE received more than \$434 million between 2011 and 2014 from a Russian money-laundering scheme, named the Russian Laundromat (Gibbs, 2018). This example underscores the ongoing challenges of curbing illicit financial flows and raises critical questions about the effectiveness of enforcement measures in the region.

According to the prior literature, CORR exerts an adverse effect on long-term economic growth and sustainable development as it reduces domestic and foreign investment, increases the cost of production, and contributes to higher inequality and poverty. At the same time, it is understood that CORR reduces investment across developing countries and also shows detrimental effects on human capital accumulation (Gould, 1983; Mauro, 1995). Moreover, it is mentioned that the firms having

areas of high corruption are more likely to have poor accounting standards which will lead to a negative effect on the lending activities of banks while firms in regions with high political corruption will have to face higher future stock price crash due to increased information asymmetry (Liu et al., 2015; Wang & Song, 2021). Further historical evidence suggests that an inverse correlation exists between CORR and the likelihood of seeking IMF assistance, implying that countries with higher levels of CORR may experience difficulties obtaining IMF assistance. This fact is supported by the statement given by the IMF spokesperson Gerry Rice, who confirms that Afghanistan cannot receive access to special drawing rights or other IMF resources due to the current lack of clarity within the international community regarding recognition of the Afghanistan government (Fokuoh Ampratwum, 2008). In addition, the World Bank's official statement regarding the recent debt relief programmes specifies that there is no value in providing large amounts of money to a country with poor policies, which indicates that countries should demonstrate continuous execution of economic reform programmes to qualify to receive funds (Alesina & Weder, 2002). This evidence from the prior literature concludes that international organisations favour funding for countries with stable governance and lower corruption levels. Large cross country evidence further shows that every 10% reduction in compliance time or payments lowers tax related bribery by 4–6%, underscoring how lean fiscal procedures diminish corruption's grip on crisis financing (Awasthi & Bayraktar, 2015).

MECA policymakers should prioritise efforts to resist CORR by implementing anti-CORR measures, which include actions such as legislation, law enforcement, and promotion of accountability and integrity in both the public and private domains to ensure sustainable economic growth within the region.

2.2 Gross domestic product growth

GDPG quantifies the percentage alteration in a country's GDPG over a year. GDPG is a crucial metric for assessing economic well-being by capturing the rise in the overall value of goods and services produced within a country (Focus-economics, 2024b; Investopedia, 2023). Furthermore, it serves as an important indicator for policymakers to evaluate economic growth, investment potential, and the standard of living.

The study provides insights into financial development and its influence on economic development in the MECA region; using the Panel data Regression analysis, the study exposes that financial development only sometimes leads to economic growth due to complications faced by emerging countries. Policymakers are advised to prioritise financial stability, promote competition in the financial markets, attract foreign investors, increase human capital, control INF, strengthen supervision and forensic audit, and bolster Central Bank independence to foster economic growth effectively. In the shift to examining social unrest's link with economic growth, the study utilises the Panel Causality approach, and the results show a strong bidirectional relationship between civil unrest and economic development, underscoring the adverse effect of civil conflict on economic performance. Furthermore, the study investigates fiscal policy's cyclical properties in the region over four decades, observing that fiscal policy typically develops the business cycles and trends to be more procyclical in good times. However, responses to the global economic crisis differ,

with some nations adopting counter-cyclical measures in 2009. Future fiscal policy effectiveness depends on factors such as debt levels, access to capital markets, and natural resource wealth, with oil exporters having more budgetary space than importers (Abdih et al., 2010; El Khoury et al., 2023; Kollias & Tzeremes, 2022). Addressing the financial complications and social unrest is vital for sustainable economic growth in the MECA region. Policymakers must prioritise financial stability, foster competition, and employ practical fiscal policies to ease the adverse influences of civil unrest and improve economic strength for long-term success.

The study assesses the accuracy of IMF medium-term GDPG forecasts, emphasising its importance in economic assessments. Despite variations in forecast precision, GDPG always emerges as a substantial predictor, aligning with efficiency standards across various member countries. Moreover, the analysis of IMF lending in developing nations reveals that political and economic factors are critical in influencing IMF decisions. The study highlights GDPG as a key determinant influencing a country's inclination to engage in IMF programs. The analysis employed a Z-score function to forecast prospective participation in the IMF initiatives (Oraştean et al., 2016; Resende, 2014). This highlights GDPG as a robust predictor of a nation's propensity to engage with IMF programs.

These findings ensure that sustainable GDPG is vital for promoting economic prosperity and improving the overall well-being of the MECA region.

2.3 General government gross debt

GGGD can be defined as the total debt accumulated by the government of a particular nation, which encompasses both domestic and foreign debt. GGGD is often conveyed as a percentage of a country's GDP. At the same time, the debt-to-GDP ratio provides a measure of a country's debt repayment ability relative to the size of its economy. A high debt-to-GDP ratio depicts the government's difficulty in servicing debt without impacting other essential expenditures. At the same time, Central Banks and financial institutions periodically monitor this ratio to assess the creditworthiness and the economic stability of a nation.

According to prior studies, the MECA region includes numerous indebted countries. For instance, Lebanon's public debt equalled 143% of GDP by the end of 2016, while Mauritania, Jordan, and Bahrain had a public debt of 100%, 95%, and 82%, respectively (Chafik et al., 2024). In this region, oil prices can be considered as the driving force behind financing their public expenditure. Consequently, the governments of the region will face greater more significant difficulties if they decide to reduce spending when the prices of oil drop. Hence oil prices are a fundamental factor that drives the MECA economies and their regional debt dynamics. Further, when considering countries in MECA, the UAE public debt had risen since 2016, and it depicted a debt of 19.10% of GDP, while Orman and Qatar indicated a debt amounted to 34%, and 47.60%, respectively. Kuwait depicted the highest government debt of 24.62% in 2003 and it lowered to 6.5% in 2013 (Ali & Yahya, 2019). These figures underscore the critical role of oil revenues in determining the fiscal health of the MECA nations and highlight the economies' vulnerability to fluctuations in global

oil prices, emphasising the need for diversification strategies to ensure long-term financial stability.

Accordingly, it is clear that there was a clear need for both external finances to combat the growing debt burden as well as to program an economic reform to restructure many of the economies within the region; hence the focus was shifted to obtaining assistance from IMF and World Bank with their stabilisation and structural adjustment loans. As a result, the IMF granted Jordan an SDR 60 million standby agreement as the external debt had reached an unsustainable level. At the same time, Morocco had received fifteen World Bank structural and sectoral adjustment loans and seven standby and extended facilities from the IMF (Harrigan et al., 2006). According to prior literature, it is noteworthy that fluctuations in the debt-to-service ratio are positively correlated with IMF agreements, while in another past study, it is indicated that only the total debt and foreign reserves depict the predicted sign and became, which also denotes good predictors of an IMF program (Harrigan et al., 2006). This finding can be further supported by twenty of twenty-eight IMF programs being escorted by debt relief or rescheduling agreements. Consequently, IMF programs too often align closely with debt issues.

This highlights the significance of GGGD in focusing on economic challenges within the MECA region. Consistent with Farooq et al.'s (2024) finding that governance quality mitigates debt overhang, our CORR with GGGD term reveals that high-integrity administrations face a 15% lower marginal probability of IMF reliance per 10 pp rise in gross debt. The relationship between debt levels and IMF agreements highlights the crucial role of GGGD as a critical variable in shaping monetary policy and stability within the MECA region.

2.4 General government net lending/borrowing

GGNLB, often referred to as fiscal balance, represents the difference between government revenue (such as taxes and fees) and government spending within an economy over a specific period. A positive balance, or surplus, indicates that the government receives more revenue than it spends, while a negative balance, or deficit, suggests that the government spends more than it earns (Fourkan, 2021; OECD, 2023). Therefore, monitoring the fiscal balance is crucial for assessing the financial health of governments.

This variable has significant implications for economic stability and growth. A surplus can indicate fiscal prudence, allowing governments to save for future expenditures or pay down existing debt, which may lead to lower interest payments and increased investor confidence (IMF, 2023; Ugazio & Xin, 2024). Conversely, a deficit may increase borrowing, leading to higher debt levels, interest payments, and potentially inflationary pressures.

GGNLB plays a pivotal role in the economic stability of countries, especially in regions like the MECA. Past studies have extensively explored the relationship between these fiscal policies and the propensity of governments to seek assistance from international financial institutions like the IMF. Several studies have compared the fiscal behaviours of Lebanon, Iraq, and Kyrgyz Republic since these countries are currently undergoing reconstruction and grappling with numerous economic

and social challenges (Group, 2023; IMF, 2023; Marzoog & Saeed, 2022; Murad & Mohammed, 2023; Pattichis, 2004). However, high budget deficits and mounting government debt are central issues shaping the country's post-war political economy.

A recent study assessed the IMF's engagement with countries in the MECA region during the COVID-19 pandemic, providing insights into how governments utilised IMF assistance (Mazarei & Loungani, 2022). The relationship between GGNLB and seeking IMF assistance can vary, displaying positive and negative correlations. Some countries may demonstrate a positive relationship, where high borrowing and fiscal deficits increase the likelihood of seeking IMF assistance.

Employing Probit models, the study found a positive relationship between IMF involvement and government budget deficits in 135 countries from 1951 to 1990 (Przeworski & Vreeland, 2000). Similarly, another study discovered a negative correlation between new credit by the IMF and government budget deficits in 106 countries from 1971 to 1997 (Dreher & Vaubel, 2001). However, in examining data from 179 countries from 1975 to 1996 to analyse the participation in IMF programs, another study did not find any significant effect (Vreeland, 2002). Conversely, others may show a negative relationship, indicating that prudent fiscal policies reduce reliance on external financial aid. Furthermore, the impact of government fiscal policies on seeking IMF assistance is intertwined with external debt dynamics.

The relationship between government net lending, borrowing, and seeking IMF assistance in the MECA region is multifaceted. Past studies provide insights into the comparative fiscal behaviours of countries, highlighting both positive and negative relationships. Moreover, the role of external debt in shaping this relationship underscores the importance of prudent fiscal management to mitigate reliance on external financial assistance.

2.5 Current account balance

The CAB as a percentage of GDP is an important economic indicator, revealing a country's international financing performance compared to its economic size. It is calculated by dividing the CAB by the GDP. A positive percentage implies a surplus, revealing net lending, while a negative percentage shows a deficit, indicating more borrowing. This ratio offers a vital understanding of a country's economic health and role in the international economy (Focus-economics, 2024a).

The study examines the empirical relationship between CAB deficits and economic variables in the MECA region using Dynamic Panel Regression and Threshold Cointegration models. The results reveal that government expenditure, foreign interest rates, and high investment negatively influence CAB deficits. In contrast, a more open economy, high oil prices, and domestic economic growth increase CAB positions. Despite moderately weak connections between debt management gauges and CAB, the study highlights the importance of domestic debt market development and debt market strategies in improving external sector positions. The determined CAB deficits in the MECA region pose risks to global economic stability, imposing policy adjustments. Utilising, generalised methods of moments dynamic panel regression and threshold cointegration models, the analysis highlights the essentials

for MECA countries to apply policies aimed at reducing reduce deficits to restore external stability.

Furthermore, the study discovers the effect of financial developments and institutional quality on CAB deficits, exposing complex interactions that affect CAB dynamics (Aristovnik, 2007; Bousnina & Gabsi, 2022; Bousnina et al., 2021; Farzanegan & Hassan, 2020; Siti Hajar & Nor Asmat, 2020). This underscores the significant consequence of focusing on CAB deficits in the MECA region to ease risks to global economic stability. Utilising advanced methodologies like Dynamic Panel Regression and Threshold Cointegration models, the research focuses on the need for policy adjustments and the development of domestic debt markets to improve external sector positions. MECA countries must prioritise aims to reduce deficits, restore external stability, and safeguard against potential economic vulnerabilities.

The likelihood of a country seeking IMF support under the influence of CAB is a critical topic in economic literature, yielding significant and insignificant results. The analysis examines the influences steering IMF lending decisions, emphasising the importance of CAB deficits as a common trigger for seeking IMF support. However, it remarks that the mere presence of CAB deficits does not guarantee IMF funds. Economic, political, and institutional factors affecting IMF program approval are also discovered, with expectations that a lower CAB would discourage IMF agreements. Nonetheless, analysis using a Bivariate Probit model found the CAB variable insignificant in predicting IMF support, challenging prior assumptions (Bird, 1996; Bird & Rowlands, 2001). The existence of CAB deficits is often inspected as a critical influence in seeking IMF support, but empirical conclusions show a more nuanced reality. The study's Bivariate Probit analysis highlights the complicated nature of IMF lending decisions, indicating the need for further research to understand this complexity fully.

The study explores the factors prompting the approval of financial arrangements by the IMF, inspecting both the criteria evaluated by the IMF during approval processes and the reasons prompting countries to seek IMF assistance; using annual data from ninety-one emerging countries, the study utilised maximum likelihood of Bivariate and Univariate Probit estimations to examine the approval of IMF arrangements. Despite expectations of a negative relationship between the CAB, measured as a percentage of GDP, and IMF approval, the coefficients lacked significance at the 15% level. Similarly, observing forty-eight devaluation episodes in emerging countries during the Bretton Woods era, the study exposed the CAB variable as a limited significant factor in seeking IMF assistance (Goldstein & Montiel, 1986a, 1986b; Knight & Santaella, 1997). These findings suggest that, while the CAB may hold some relevance in explaining IMF decisions, other macroeconomic factors may play a more prominent role in influencing a country's decision to request IMF support.

The CAB deficits in the MECA region highlight the complex relationship between economic variables, IMF lending decisions, and global economic strength. Employing complex methodologies, studies highlight the consequence of focusing on CAB deficits via policy adjustments and domestic debt market development to rebuild external stability. However, the nature of IMF lending decisions concerning CAB deficits requires further investigation to understand the complexities and complications involved in seeking IMF support.

2.6 Inflation

INF refers to the general increase in prices of goods and services over time. Moderate INF can spur economic growth and flexibility, hindering planning, savings, currency confidence, and investments (Ferando, 2024; Oner, 2024). Therefore, maintaining a stable inflation rate is crucial for sustaining economic stability.

The study explores the impacts of global food price increases on INF in MECA region economies, emphasising substantial short-run effects and the need for comprehensive policy responses. It highlights the limitations of administrative measures and encourages broader policies to focus on inflationary pressures. Shifting the focus to the relationship between INF and economic growth in MECA nations, the study utilises a Threshold Panel model, exposing a nonlinear relationship. High INF negatively influences economic growth, increasing production costs and decreasing competitiveness. The study analysed the macroeconomic factors affecting INF in MECA countries, highlighting the value of considering policy formulation to regulate INF effectively. The study explores the impact of political stability on INF volatility in the MECA region, using factor analysis to identify five dimensions of political instability using various volatility models and dynamics generalised method of moments panels, exposes both positive and negative effects of political unrest on INF volatility, with regime instability and government instability decreasing volatility (Ghanayem et al., 2023; Mohammad Sadeghi et al., 2023; Sumlinski et al., 2012). This highlights the challenges faced by global food price increases and inflationary pressures in the MECA region, calling for holistic policy responses.

The likelihood of a nation seeking IMF support for INF is controversial. Some research emphasises INF's role as a trigger for IMF support, while others find the relationship inconclusive, indicating the difficulties included in IMF lending decisions. The study explores the variables affecting decisions concerning IMF credit, employing an extreme bound analysis to discover the political and economic factors affecting a country's chances of receiving IMF credit. This study aims to find the key variables affecting decisions linked to IMF credit, shedding light on the complex relationship between INF within the context of IMF assistance. Additionally, the study explores the factors prompting the approval of financial arrangements by the IMF, inspecting both the criteria evaluated by the IMF during approval processes and the reasons prompting countries to seek IMF assistance; using annual data from ninety-one emerging countries, the study utilised maximum likelihood of Bivariate and Univariate Probit estimations to examine the approval of IMF arrangements. Surprisingly, the study finds that INF coefficients are insignificant and exhibit incorrect signs (Axel, 2004; Knight & Santaella, 1997). This suggests that INF may not significantly shape the outcomes of IMF fiscal arrangements in these nations.

This underscores the complications surrounding INF and its implications for IMF assistance, exposing both significant and inconclusive findings. Understanding the complicated relationship between INF and IMF lending decisions is critical for efficient policy formulation. Further research is necessary to unravel the complex dynamics shaping the correlation between INF and IMF assistance.

2.7 Expected directional effects

Drawing inspiration from influential research, this study adopts an Expected directional effects approach to observe the tendency of nations to seek IMF support based on macroeconomic indicators (Baier & Bergstrand, 2004; Jayathilaka & Keembiyehetti, 2009; Jayathilaka et al., 2015). These six expectations (E1–E6) are grounded in the IMF-participation literature’s conditionality theory (Goldstein & Montiel, 1986a, 1986b; Knight & Santaella, 1997) and institutional political-economy models (MacDonald, 2003; Strom, 1999). The study introduces novel Expected directional effects, and all the Expected directional effects are summarised as follows:

E1: $\gamma_1 > 0$

We expect the probability of a country seeking IMF assistance decreases as CORR in a country increase.

E2: $\gamma_2 < 0$

We expect the probability of a country seeking IMF assistance increases as GDPG in a country decrease.

E3: $\gamma_3 > 0$

We expect the probability of a country seeking IMF assistance increases as GGGD in a country increase.

E4: $\gamma_4 > 0$

We expect the probability of a country seeking IMF assistance increases as GGNLB in a country decrease.

E5: $\gamma_5 > 0$

We expect the probability of a country seeking IMF assistance increases as the CAB in a country decrease.

E6: $\gamma_6 > 0$

We expect the probability of a country seeking IMF assistance increases as INF in a country increase.

3 Data and methodology

3.1 The data

The study exploited a comprehensive dataset encompassing 160 countries worldwide, while the initial plan intended to include data from all 190 countries. However, due to limitations in data availability, the study concentrated on 160 countries. An analysis was carried out in the MECA region on twenty-five countries after excluding six due to unattainable data. The data were sourced from reputable databases such as the World Bank and the IMF, spanning 2000 to 2022. Table 1 represents variables and data sources, and the dataset utilised for the study is provided in S1 Appendix.

The binary dependent variable ($\text{IMF Assistance}_{it}$) equals 1 in year t when country i has an active Stand-By arrangement, Extended Fund Facility (EFF), Rapid Financing Instrument (RFI) or Rapid Credit Facility (RCF), and 0 otherwise (codes drawn from the IMF MONA database and cross-checked with the external-arrangements table). Once an arrangement ends, the indicator reverts to 0; no post-programme observations are removed, so the panel retains the full 23-year time series for every country.

Between 2000 and 2022 the estimation sample contains 56 programme-years involving 13 of the 25 MECA economies. The exact incidence programme count

Table 1 Data sources and variables

Variable	Definition	Measurement	Source
Dependent Variable			
IMF	International Monetary Fund	1 = active IMF Stand By, EFF, RFI and RCF arrangement in year t 0 = none	IMF Database https://www.imf.org/external/np/fin/tad/extarr2.aspx?memberKey1=895&date1key=2018-09-30
Independent Variables			
CORR	Corruption	Control of corruption; estimate	The World Bank https://data.worldbank.org/indicator/CC.ES
GDPG	General Domestic Product Growth	Annual percentage change%	IMF Database https://www.imf.org/external/datamapper/NGDP
GGGD	General Government Gross Debt	Percent of GDP	IMF Database https://www.imf.org/external/datamapper/GGXWD_G_NGDP@WEO/OEMDC/ADVEC/WEOWORLD
GGNLB	General Government Net Lending and Borrowing	Percent of GDP	IMF Database https://www.imf.org/external/datamapper/GGXCNL_NGDP@WEO/OEMDC/ADVEC/WEOWORLD
CAB	Current Account Balance	Percent of GDP	IMF Database https://www.imf.org/external/datamapper/BCA_NGDP@WEO/OEMDC/ADVEC/WEOWORLD
INF	Inflation	End of the period, consumer prices	IMF Database https://www.imf.org/external/datamapper/PCPIEPCH@WEO/OEMDC/ADVEC/WEOWORLD

Notes: IMF is compiled from the IMF MONA database; Stand-By, Extended Fund Facility (EFF), Rapid Financing Instrument (RFI) and Rapid Credit Facility (RCF) are treated as “assistance”

and calendar years for each borrower is provided in S4 Appendix: IMF Programme Episodes (2000–2022).

3.2 The model

We estimate the probability that country i will request IMF assistance in year t with a conditional fixed-effects (FE) logit that absorbs all time-invariant country heterogeneity. A complete set of year dummies (2001–2022) captures common shocks such as the global financial crisis and the COVID-19 pandemic. We estimate a conditional fixed-effects logit of the form,

$$\Pr(\text{IMF}_{it} = 1) = \text{logit}^{-1}(\beta_1 \text{CORR}_{it} + \beta_2 \text{GDPG}_{it} + \beta_3 \text{GGGD}_{it} + \beta_4 \text{GGNLB}_{it} + \beta_5 \text{CAB}_{it} + \beta_6 \text{INF}_{it} + \gamma_t) + \mu_i \quad (1)$$

where μ_i is the country fixed effect and γ_t the year dummies. We estimate a conditional fixed-effects logit that absorbs all time-invariant country heterogeneity. The baseline specification includes a full set of year dummies; robustness checks add a post-global-financial-crisis indicator and re-estimate the model separately for World-Bank income strata (Table 3). A random-effects logit on the full sample is reported for comparison. A Hausman test on the common subsample fails to reject the null ($\chi^2=4.33$, $\text{df}=28$, $p \approx 1.0$), yet we retain the FE estimator because IMF assistance decisions are plausibly correlated with unobserved, time-invariant national traits.

The estimated model's quality was evaluated using multiple metrics. The Wald chi-squared test (Wald $\chi^2=160.9$, $p<0.001$; baseline FE, Table 3) confirmed the model's statistical significance and its ability to account for a substantial portion of the variance in the likelihood values. This reinforced the model's robustness, showing consistent trends across both periods. Residual diagnostics indicated that the model's assumptions were satisfied, with no significant violations detected. These findings demonstrate that the panel logit model is well-suited for analysing the binary outcome variable in this study.

To capture the dynamics of IMF assistance decisions, the study examined two distinct timeframes: 2000–2022 and 2019–2022. The first timeframe provides a comprehensive long-term analysis, encompassing various macroeconomic and geopolitical factors that have shaped IMF engagements. In contrast, the second timeframe focuses on recent years, allowing the exploration of trends emerging in the wake of major global disruptions, such as the COVID-19 pandemic. By employing this dual-period approach, the study evaluates whether the factors driving IMF assistance decisions have shifted over time. Robustness checks replace the full year-dummy set with a single pre/post-GFC indicator and re-estimate the model separately for each World-Bank income stratum; the signs and significance of the six core variables remain stable see Table 3, cols 2–5.

4 Results

This section summarises the study findings, utilising Stata statistical software for data analysis. S2 Appendix presents descriptive statistics that highlight significant fluctuations across the MECA region in key macroeconomic indicators, based on 575 observations.

An overview of the descriptive statistics for the primary variables examined in this study *CORR*, *GDPG*, *GGGD*, *GGNLB*, *CAB*, and *INF*, is provided in Table 2. The table summarises the mean, standard deviation, minimum, and maximum values for 25 MECA countries over the period 2000–2022. This data offers valuable insights into the region's diverse macroeconomic challenges by illustrating fluctuations in economic conditions across nations and historical periods.

The descriptive statistics reveal significant variability among the key macroeconomic variables. For example, *INF* exhibits extreme values ranging from -20.92 to 318.208% , reflecting economic instability in certain countries during the study period. Similarly, *GDPG* values range from -36.6581 to 63.3798 , highlighting cases of substantial economic contraction and rapid growth in some economies. These variations emphasise the importance of analysing these macroeconomic factors to better understand their influence on IMF assistance decisions.

S3 Appendix provides a step-by-step analysis highlighting notable gaps among various MECA region vital macroeconomic indicators. These variations are crucial in revealing the likelihood of these nations seeking IMF assistance. In the study for the estimation process, the panel logit method outlined in the methodology segment focuses on six critical macroeconomic indicators relevant to a nation seeking IMF support. The results of the analysis are presented in Table 3.

Table 3 summarises the fixed-effects logit regression results. GDP growth (*GDPG*) significantly reduces the probability of IMF assistance ($\beta = -0.03$, $p < 0.01$), strongly supporting the expectation (E2). Control of corruption (*CORR*) is negative but insignificant ($\beta = -0.064$, $p > 0.10$), indicating no support for E1. Similarly, General Government Gross Debt (*GGGD*) is positive yet insignificant ($\beta = 0.215$, $p > 0.10$), rejecting E3. Fiscal balance (*GGNLB*) is also insignificant ($\beta = 0.005$, $p > 0.10$), rejecting E4. Current Account Balance (*CAB*) is insignificant ($\beta = -0.005$, $p > 0.10$), providing no support for E5. Inflation (*INF*) is positive but insignificant ($\beta = 0.008$,

Table 2 Descriptive Statistics

Variable	Mean	Standard Deviation	Minimum	Maximum
<i>CORR</i>	-.02653	.9862	-1.8132	2.4591
<i>GDPG</i>	3.6636	5.050	-36.6581	63.3798
<i>GGGD</i>	3.7439	.7895	-1.4347	6.3971
<i>GGNLB</i>	-2.0141	6.1723	-36.828	125.135
<i>CAB</i>	-2.5145	10.7400	-84.779	84.849
<i>INF</i>	5.9302	11.8238	-20.926	318.208

Notes: *CORR* Control of Corruption index (-2.5 = weak control, $+2.5$ = strong), *GDPG* real GDP growth rate (% y/y), *GGGD* General Government Gross Debt (% of GDP), *GGNLB* General Government Net Lending/Borrowing (% of GDP), *CAB* Current Account Balance (% of GDP), *INF* consumer-price inflation (% y/y, end-of-period)

Summary statistics are based on 575 country-year observations for 25 MECA economies, 2000–2022

Table 3 Fixed-effects logit regression results

	(1)	(2)	(3)	(4)	(5)	(6)
	Baseline FE	FE+GFC	Low-inc FE	Lower-mid FE	Upper-mid/ High FE	RE (full)
	b/se	b/se	b/se	b/se	b/se	b/se
imfassistance						
corr	− 0.064 0.278	0.003 0.274	− 0.099 0.555	− 0.112 0.558	0.230 0.391	− 0.828 0.123
gdpg	− 0.030 0.013	− 0.071 0.013	− 0.038 0.025	− 0.130 0.029	− 0.067 0.019	− 0.026 0.013
lngggd	0.215 0.157	0.334 0.140	− 0.210 0.210	0.412 0.258	1.069 0.286	0.233 0.125
ggnlb	0.005 0.019	− 0.032 0.019	− 0.069 0.044	− 0.016 0.032	− 0.021 0.027	0.004 0.015
cab	− 0.005 0.010	0.003 0.010	0.011 0.016	− 0.006 0.018	− 0.009 0.018	− 0.016 0.008
inflation	0.008 0.005	0.009 0.005	0.021 0.013	− 0.026 0.017	0.010 0.009	0.004 0.004
postGFC		0.249 0.131				
Obs	2369.000	2369.000	391.000	851.000	1127.000	3680.000
Log-L	− 754.400	− 798.171	− 165.986	− 282.143	− 337.397	− 1065.603
LR/Wald chi2	160.914	73.372	11.628	36.708	50.327	194.062

Notes: *CORR* Control of Corruption (− 2.5 ... +2.5), *GDPG* Real GDP growth (% y/y), *lnGGGD* ln (Gross public debt, % GDP), *GGNLB* Fiscal balance (% GDP), *CAB* Current-account balance (% GDP), *INF* Inflation (% y/y, e.o.p.)

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$. LR χ^2 reported for FE columns, Wald χ^2 for RE column; all models estimated on 2000–2022 data unless noted

$p > 0.10$), rejecting E6. Overall, among the examined determinants, GDP growth emerges as the sole significant predictor of IMF assistance within the MECA region. Columns 2–5 confirm that these patterns survive (i) a single post-GFC dummy and (ii) separate estimation for low-, lower-middle- and upper-middle/high-income groups. Column 6 shows that a random-effects logit on the full sample yields coefficients of similar sign and magnitude.

We evaluate each expectation E1–E6 in turn. E2 (GDP growth) and E3 (debt burden) are supported ($p < 0.05$), while E1, E4–E6 are not statistically significant under FE. Full details appear in Table 3 and the accompanying text.

The CAB as a percentage of GDP is an important economic indicator, revealing a country's international financing performance compared to its economic size. It is calculated by dividing the CAB by the GDP. A positive percentage implies a surplus, revealing net lending, while a negative percentage shows a deficit, indicating more borrowing. This ratio offers a vital understanding of a country's economic health and role in the international economy (Focus-economics, 2024a). The logic behind E5 is that there is a negative correlation between a country seeking IMF assistance and CAB; when CAB increases correspondingly, a country seeking IMF assistance will decrease. However, the findings presented in Table 3 indicate that CAB has an

insignificant impact on a country's decision to seek IMF assistance. CAB remains insignificant ($\beta = -0.003$, $p = 0.73$; Table 3).

An analysis of annual data from 91 developing nations, using maximum likelihood estimates of Bivariate and Univariate Probit models, reveals that CAB, measured as a percentage of GDP, does not significantly influence IMF financial arrangement approvals. Despite the expectation that countries with CAB deficits would be more likely to obtain IMF support, the study finds that the CAB variable is not a significant factor in predicting IMF approval decisions (Goldstein & Montiel, 1986a, 1986b; Knight & Santaella, 1997). These highlights that while nations may face CAB deficits, it is not an influential factor in their decision to seek support from the IMF. Understanding the complex nature of IMF lending decisions becomes vital as policy-makers engage in economic challenges.

INF refers to the general increase in prices of goods and services over time. Moderate INF can spur economic growth and flexibility, hindering planning, savings, currency confidence, and investments (Ferando, 2024; Oner, 2024). E6 posits a positive correlation between INF and the probability of a country seeking IMF assistance. This correlation suggests that as INF increases, the likelihood of a country seeking IMF assistance also rises. However, this study revealed that the INF variable does not significantly impact a country's decision to seek IMF assistance. Inflation shows only weak evidence of a positive effect ($\beta = 0.008$, $p \approx 0.11$; matches col 1). Based on the maximum likelihood of Bivariate and Univariate Probit estimates across annual observations, the analysis of IMF financial arrangements approval indicates that INF is an insignificant variable with incorrect signs.

Contrary to conventional expectations, high INF does not significantly increase the likelihood of a country seeking IMF credit. Moreover, the study suggests that IMF decision-making may be influenced inversely when INF rates are high (Goldstein & Montiel, 1986a, 1986b; Knight & Santaella, 1997). The results challenge conventional wisdom on the relationship between INF and IMF credit, highlighting the nuanced relationship of economic and political factors in decision-making. A holistic understanding of the determinants involved is essential as policymakers steer the complications of seeking IMF assistance.

5 Discussion

The analysis uses a conditional fixed-effects logit with year dummies for 25 MECA countries over 2000–2022; a post-GFC and an income-group variant corroborate the core findings (Appendix Table 9). The Hausman statistic does not reject RE, but conceptual arguments favour FE. Our fixed-effects logit estimates (Table 3) confirm that slower GDP growth (GDPG) is the only consistently significant predictor of IMF assistance ($\beta = -0.030$, $p < 0.01$), mirroring Conway (1994) and Bird and Rowlands (2001). By contrast, inflation ($\beta = 0.008$, $p \approx 0.11$) and current-account balance ($\beta = -0.005$, $p \approx 0.73$) lose significance once country and year dummies are included whereas Goldstein and Montiel (1986a, 1986b) and Knight and Santaella (1997) found both to be robust in cross-country probit models. Likewise, public debt ($\beta = 0.215$, $p > 0.10$) and fiscal balance ($\beta = 0.005$, $p > 0.10$) are insignificant

under fixed effects, even though Harrigan et al. (2006) and Przeworski and Vreeland (2000) report positive associations in pooled samples. Finally, control of corruption ($\beta = -0.064$, $p > 0.10$) diverges from Alesina and Weder (2002) and Strom (1999), underscoring how our within-country panel approach refines earlier cross-sectional findings.

Employing the insights from S4 Appendix, Fig. 1 demonstrates the predicted probabilities for the period 2019–2022 in four distinct colours. The darkest green implies the nations within the MECA region with the highest likelihood (59%–30%) of seeking IMF assistance, including Lebanon, which has the highest probability of seeking IMF assistance within the MECA region. In contrast, the lightest green shade indicates nations with less than 9% probabilities of seeking IMF assistance.

Table 4 presents a tabular summary of the predicted probabilities for countries in the MECA region seeking IMF assistance.

5.1 High probability group ($\geq 30\%$)

Countries in this group, particularly Lebanon (50.88%), Afghanistan (27.10%), and Iraq (24.27%), face significant macroeconomic vulnerabilities driven by political instability, conflict, and governance weaknesses. Policymakers in these countries should urgently prioritize comprehensive structural reforms and fiscal adjustments. IMF or other international support appears essential in addressing their immediate economic challenges.

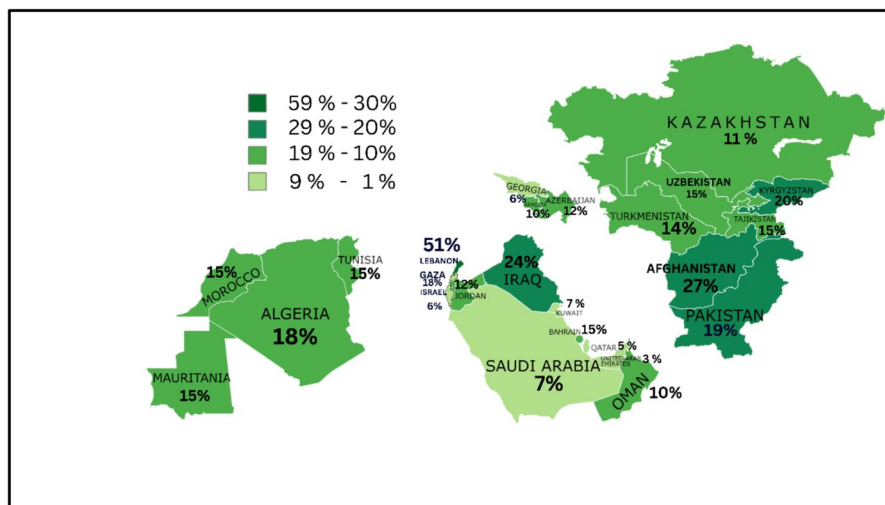


Fig. 1 MECA Region Predicted Probability Percentage of Seeking IMF Assistance 2019–2022. Reprinted from <https://mapchart.net> under a CC BY license, with permission from Minas Giannakas, original copyright 2024.

Source: Authors' illustration based on predicted probabilities

Table 4 MECA Region Predicted Probability Percentage of Seeking IMF Assistance

R	Country	IL	2000–2022	Country	IL	2019–2022
1	Lebanon	LMI	0.29198	Lebanon	LMI	0.50883
2	Iraq	UMI	0.23825	Afghanistan	LI	0.27102
3	Kyrgyz Republic	LMI	0.19722	Iraq	UMI	0.24269
4	Pakistan	LMI	0.16823	Kyrgyz Republic	LMI	0.20169
5	Tajikistan	LMI	0.15549	Pakistan	LMI	0.18596
6	Afghanistan	LI	0.15078	Algeria	LMI	0.17916
7	Mauritania	LMI	0.14162	W. Bank and Gaza	UMI	0.17532
8	W. Bank and Gaza	UMI	0.12343	Tunisia	LMI	0.15378
9	Turkmenistan	UPMI	0.11788	Tajikistan	LMI	0.15294
10	Uzbekistan	LMI	0.11767	Mauritania	LMI	0.15239
11	Morocco	LMI	0.11626	Morocco	LMI	0.15076
12	Armenia	UMI	0.11504	Uzbekistan	LMI	0.14807
13	Algeria	LMI	0.11335	Bahrain	HI	0.14617
14	Tunisia	LMI	0.10865	Turkmenistan	UMI	0.13853
15	Jordan	LMI	0.09691	Jordan	LMI	0.12225
16	Kazakhstan	UMI	0.09381	Azerbaijan	UMI	0.11919
17	Azerbaijan	UMI	0.08831	Kazakhstan	UMI	0.10528
18	Bahrain	HI	0.08335	Oman	HI	0.10474
19	Georgia	UMI	0.07943	Armenia	UMI	0.09896
20	Saudi Arabia	HI	0.06030	Kuwait	HI	0.07399
21	Oman	HI	0.05415	Saudi Arabia	HI	0.07115
22	Israel	HI	0.04988	Georgia	UMI	0.06357
23	Kuwait	HI	0.03500	Israel	HI	0.05623
24	Qatar	HI	0.02571	Qatar	HI	0.04572
25	UAE	HI	0.02374	UAE	HI	0.03260

Notes: *R* Rank, *IL* Income Level, *HI* High Income, *UMI* Upper Middle Income, *LMI* Lower Middle Income, *LI* Lower Middle Income

5.2 Moderate probability group (10–29%)

This group includes countries such as Kyrgyz Republic (20.17%), Pakistan (18.60%), Algeria (17.92%), West Bank and Gaza (17.53%), Tunisia (15.38%), Tajikistan (15.29%), Mauritania (15.24%), Morocco (15.08%), Uzbekistan (14.81%), Bahrain (14.61%), Turkmenistan (13.85%), Jordan (12.22%), Azerbaijan (11.92%), Oman (10.47%), and Kazakhstan (10.53%). They exhibit moderate economic vulnerabilities mainly due to fiscal pressures, external debt, and institutional challenges. Tailored policy interventions and vigilant monitoring are crucial to mitigate risks and strengthen economic resilience.

5.3 Low probability group (< 10%)

Countries with lower probability of seeking IMF assistance—Armenia (9.89%), Kuwait (7.39%), Saudi Arabia (7.11%), Georgia (6.36%), Israel (5.62%), Qatar (4.57%), and UAE (3.26%) demonstrate relatively stable macroeconomic fundamentals, solid fiscal buffers, and strong governance structures. The policy implication for

these nations is to maintain their current sound macroeconomic policies and effective governance practices, ensuring continued economic stability.

While our empirical analysis covers a broader period (2000–2022) to establish general relationships robustly, we specifically highlight results from 2019–2022 to reflect recent macroeconomic disruptions, particularly from COVID-19. These recent insights have direct and immediate relevance for contemporary policymaking. Hence, this study clearly emphasizes the latest sub-period to provide policymakers with timely, actionable recommendations in the context of recent global economic challenges.

Overall, categorizing countries into these clear groups significantly improves the readability and policy relevance of our findings. Policymakers can thus more effectively target their interventions based on the degree of macroeconomic vulnerability. Effectively managing macroeconomic indicators in high-income countries sets a compelling example for lower-income and lower-middle-income countries. By detecting how these nations handle their macroeconomic variables efficiently, lower-income economies can increase valuable perceptions and policies to categorise their macroeconomic gauges more efficiently, potentially leading to improved economic stability and growth.

The discussion provides valuable insights into the ranking and probability of seeking IMF assistance within the MECA region across the two timeframes. These findings are essential for policymakers and investors alike, as they highlight economic weaknesses, the need for financial assistance, and the targeted interventions required in the MECA region. This analysis can inform strategic decision-making and policy formulation to effectively address economic challenges. The panel logit model was chosen to examine the determinants of IMF assistance due to its ability to account for unobserved heterogeneity across nations. The model performed well in terms of statistical significance and goodness-of-fit, as evidenced by the Wald chi-squared test and log-likelihood values. Furthermore, the findings are consistent with prior research, reinforcing the robustness of the model used in the study. Future research could explore alternative models, such as multinomial logit or time-series analyses, to further validate these results.

6 Macro-contextual analysis: SWOT and PEST

To situate our econometric analysis in the broader macroeconomic and political environment, we summarise the region's strengths, weaknesses, opportunities and threats. The Middle East and Central Asia economies have strengths such as abundant natural resources (oil revenues in the Gulf states) that provide fiscal buffers, large and youthful populations that could support labour supply, and strategic geographical positions that facilitate trade. Weaknesses include pervasive corruption and weak governance, high public debt and fiscal deficits, dependence on commodity exports, and persistent political instability and conflict in several countries. Opportunities arise from ongoing efforts to diversify away from oil, reform public institutions, broaden trade agreements and tap into international technical assistance, including IMF programmes.

Threats include continued regional conflicts, volatility in global oil prices, potential financial contagion from global crises, and rising inflation.

A PEST perspective further clarifies the contextual drivers of our econometric model. Politically, governance quality, corruption control and conflict influence fiscal policy and borrowing decisions. Economically, debt sustainability, fiscal balances, current account positions, GDP growth and inflation captured by our variables GGGD, GGNLB, CAB, GDPG and INF, as well as corruption (CORR), shape governments' need for IMF support. Socially, high unemployment, demographic pressures and inequality exacerbate social unrest and may push policymakers to seek external assistance. Technologically, many MECA countries have limited financial market infrastructure but opportunities for digitalisation (for example, fintech to improve tax collection). These macro-level considerations justify the selection of explanatory variables and provide additional context for interpreting our fixed-effects logit results.

7 Policy recommendations and conclusion

7.1 Policy Implications

The policy implications for the MECA region depend on factors such as international relations, social dynamics, political stability, and economic conditions. Among the broad policy implications identified in the area improving transparency and governance emerges as the keystone for both economic development and attracting foreign investment. This necessitates strengthening institutions, implementing anti-CORR initiatives, and enhancing public finance management systems. Additionally, economic diversification is paramount, given the heavy reliance on oil and gas exports. Policies promoting diversification could involve investments in non-oil sectors such as tourism, technology, renewable energy, and manufacturing to reduce exposure to commodity price fluctuations.

Furthermore, promoting good governance and the rule of law is imperative. Policymakers should focus on strengthening legal frameworks to combat terrorism, fostering inclusive political settlements involving all stakeholders, and ensuring the protection of human rights. Since long-term economic success relies heavily on investments in human capital, it is vital to implement policies that ensure access to quality education, support career development, and address gender disparities in education and the workforce. A multifaceted approach addressing these policy implications is essential for sustainable development and stability in the MECA region.

Our finding that GDP growth is the sole consistent predictor of IMF programme participation suggests that the Fund should prioritize early warning indicators tied to growth slowdowns, rather than reacting primarily to debt or inflation signals. In practice, this could involve more frequent system-wide growth stress tests and proactive engagement with member states exhibiting decelerating output, even before acute balance-of-payments crises emerge.

For MECA policymakers, these results underscore the importance of maintaining growth-oriented fiscal and monetary frameworks. Rather than relying on external

assistance after severe distress, governments should build countercyclical buffers for example, saving windfall oil revenues during boom periods to cushion against downturns. Enhanced regional coordination on growth stabilization policies could reduce the systemic need for IMF programmes and improve collective resilience.

Despite the viability of this study's findings, it is important to acknowledge its limitations. A significant constraint lies in the exclusion of six MECA nations from the analysis, reducing the total sample to 25 countries out of 31 in the region. Additionally, the unavailability of data for several potentially relevant variables—such as exchange rate volatility, trade openness, political stability, and foreign reserves—across all countries and the entire study period further limits the scope of the research. While the variables selected for the analysis provide a strong foundation for understanding the macroeconomic drivers of IMF engagement, incorporating these additional factors could offer a more nuanced and comprehensive assessment of the conditions influencing IMF lending behaviour. Future research, as data availability improves, could include these variables to provide deeper insights into the factors shaping IMF interventions during crises.

This explores the dynamics of influencing the propensity of nations in the MECA region seeking assistance from the IMF over 23 years. Within country estimates confirm that slower GDP growth increases the likelihood of an IMF programme, while short-run changes in corruption control, debt ratios, fiscal balance and the current account balance are not statistically significant. Inflation has a weak positive association. Further, another significant discovery is the inverse correlation between GDPG and the likelihood of seeking IMF assistance and emphasises the importance of sustained economic growth in mitigating the need for external aid and promoting economic stability.

Despite including variables like CAB and INF in the analysis, their significance in influencing the decision to seek IMF assistance could have been more evident, which illustrates the complexity of variables involved in determining a country's reliance on IMF assistance. Additionally, this study challenges the prevailing beliefs that CORR leads to increased reliance on the IMF, instead presenting CORR as a deterrent to seeking aid from IMF assistance due to its inverse relationship with the likelihood of seeking support. This emphasises the need for a comprehensive understanding of how CORR affects economic stability and the necessity for IMF assistance. While our focus here is on the determinants of IMF programme requests, examining the effects of those programmes on macroeconomic outcomes (for example via an OLS “post-aid” framework as in Pagano et al. 1998) represents a valuable extension. We leave this important question for future work.

Appendix

See Tables 5, 6, 7, 8 and 9.

Table 5 Appendix: Summary descriptive statistics of each country

No	Country	Variables						
			CAB	GGNLB	GGGD	INF	CORR	GDPG
1	Afghanistan	Obs.	23	23	23	23	23	23
		Mean	22.145	− 0.978	79.683	6.437	− 1.446	5.649
		SD	17.041	1.258	108.600	6.261	0.130	8.792
		Min.	0.190	− 3.882	6.130	− 9.836	− 1.672	− 20.700
		Max.	63.390	1.634	345.977	18.814	− 1.142	21.391
2	Algeria	Obs.	23	23	23	23	23	23
		Mean	4.200	− 1.197	29.272	4.384	− 0.631	2.922
		SD	13.032	8.445	19.527	2.451	0.121	2.304
		Min.	− 16.542	− 15.678	7.094	0.300	− 0.987	− 5.100
		Max.	24.738	13.535	62.822	9.295	− 0.466	7.200
3	Armenia	Obs.	23	23	23	23	23	23
		Mean	− 6.964	− 3.150	38.255	4.027	− 0.560	6.200
		SD	4.856	1.698	13.771	3.075	0.252	6.816
		Min.	− 16.484	− 7.686	14.250	− 1.172	− 0.880	− 14.100
		Max.	0.081	− 0.977	63.474	9.330	0.072	14.000
4	Azerbaijan	Obs.	23	23	23	23	23	23
		Mean	8.767	5.083	14.011	6.655	− 1.052	7.888
		SD	17.340	7.299	8.304	5.655	0.153	9.607
		Min.	− 29.824	− 6.653	3.221	− 0.277	− 1.292	− 4.300
		Max.	33.593	21.764	26.447	19.561	− 0.828	34.500
5	Bahrain	Obs.	23	23	23	23	23	23
		Mean	3.525	− 5.576	53.409	1.595	0.210	4.002
		SD	6.204	7.256	38.055	1.690	0.231	2.620
		Min.	− 9.372	− 18.290	12.563	− 1.610	− 0.152	− 4.645
		Max.	13.381	7.639	128.546	5.122	0.792	8.294
6	Georgia	Obs.	23	23	23	23	23	23
		Mean	− 10.006	− 1.510	39.198	5.503	0.147	5.296
		SD	4.357	2.931	10.779	3.732	0.657	4.468
		Min.	− 21.364	− 9.255	22.536	− 1.373	− 1.264	− 6.760
		Max.	− 3.133	3.592	60.190	13.940	1.131	12.579
7	Iraq	Obs.	23	23	23	23	23	23
		Mean	− 0.532	− 3.723	104.640	10.588	− 1.373	4.571
		SD	8.802	10.076	81.228	16.232	0.080	15.056
		Min.	− 24.047	− 35.398	31.987	− 4.415	− 1.489	− 36.658
		Max.	12.699	10.711	344.317	64.826	− 1.209	53.381
8	Jordan	Obs.	23	23	23	23	23	23
		Mean	− 6.512	− 6.185	76.847	3.008	0.173	3.996
		SD	6.657	3.069	12.592	2.510	0.117	2.634
		Min.	− 17.298	− 14.329	54.240	− 1.857	− 0.062	− 1.607
		Max.	11.334	− 1.089	99.259	7.457	0.380	8.567
9	Kazakhstan	Obs.	23	23	23	23	23	23
		Mean	− 1.418	1.501	14.277	8.535	− 0.846	5.891
		SD	3.622	4.395	6.751	3.931	0.291	3.879
		Min.	− 7.986	− 7.037	4.092	4.800	− 1.251	− 2.500
		Max.	5.294	7.653	26.357	20.300	− 0.237	13.500

Table 5 Appendix: Summary descriptive statistics of each country

No	Country	Variables						
			CAB	GGNLB	GGGD	INF	CORR	GDPG
10	Kuwait	Obs.	23	23	23	23	23	23
		Mean	25.649	19.384	12.411	3.077	0.164	3.124
		SD	14.738	14.453	9.962	2.278	0.431	6.034
		Min.	-4.623	-11.398	2.923	-0.935	-0.466	-8.855
		Max.	45.462	43.304	35.120	9.025	0.982	17.326
11	Kyrgyz Republic	Obs.	23	23	23	23	23	23
		Mean	-6.851	-3.350	69.460	7.278	-1.138	4.087
		SD	8.779	2.966	22.939	6.243	0.114	4.015
		Min.	-26.793	-10.697	47.125	-0.503	-1.329	-8.398
		Max.	10.129	1.924	123.303	20.094	-0.934	10.915
12	Lebanon	Obs.	23	23	23	23	23	23
		Mean	-20.603	-9.940	153.447	11.839	-0.881	1.269
		SD	6.086	4.940	15.431	30.593	0.242	6.791
		Min.	-28.866	-23.945	131.051	-3.424	-1.238	-21.399
		Max.	-8.825	-3.525	183.291	145.887	-0.415	10.232
13	Mauritania	Obs.	23	23	23	23	23	23
		Mean	-11.032	-0.865	49.929	5.011	-0.660	3.582
		SD	7.617	2.439	12.145	3.793	0.248	4.477
		Min.	-29.863	-3.876	22.015	-2.830	-0.993	-3.918
		Max.	3.681	3.227	71.059	16.144	-0.074	18.333
14	Morocco	Obs.	23	23	23	23	23	23
		Mean	2-2.93165	-3.871	56.709	1.769	-0.338	3.707
		SD	2.835	1.934	8.125	1.842	0.098	3.067
		Min.	-8.789	-7.147	41.991	-0.912	-0.493	-7.187
		Max.	1.865	0.626	72.248	8.341	-0.165	7.930
15	Oman	Obs.	23	23	23	23	23	23
		Mean	1.985	1.527	21.381	1.929	0.366	3.032
		SD	9.716	9.572	20.256	3.305	0.213	3.256
		Min.	-16.691	-19.618	3.199	-4.142	0.086	-3.380
		Max.	14.583	14.656	69.681	11.780	0.904	8.863
16	Pakistan	Obs.	23	23	23	23	23	23
		Mean	-1.733	-4.798	61.240	8.339	-0.917	4.222
		SD	2.694	2.098	9.532	5.165	0.125	2.037
		Min.	-7.203	-7.801	47.082	1.919	-1.179	-1.274
		Max.	4.026	-0.131	79.559	21.529	-0.777	7.547
17	Qatar	Obs.	23	23	23	23	23	23
		Mean	16.362	8.957	38.841	2.141	0.868	8.288
		SD	10.711	6.817	16.914	2.033	0.258	7.845
		Min.	-5.450	-4.895	9.365	-3.374	0.504	-3.640
		Max.	33.185	21.656	72.610	6.473	1.559	26.170
18	Saudi Arabia	Obs.	23	23	23	23	23	23
		Mean	11.417	2.217	30.606	1.936	0.029	3.584
		SD	10.308	11.418	30.822	2.179	0.219	4.087
		Min.	-8.473	-15.478	1.541	-1.731	-0.313	-4.341
		Max.	27.419	29.802	96.352	7.312	0.359	11.242

Table 5 Appendix: Summary descriptive statistics of each country

No	Country	Variables						
			CAB	GGNLB	GGGD	INF	CORR	GDPG
19	Tajikistan	Obs.	23	23	23	23	23	23
		Mean	− 6.097	− 1.830	48.476	10.995	− 1.229	7.636
		SD	8.908	2.688	23.494	11.506	0.101	1.752
		Min.	− 32.159	− 8.979	27.892	3.707	− 1.410	3.900
		Max.	8.224	2.232	111.429	60.628	− 1.041	11.000
20	Tunisia	Obs.	23	23	23	23	23	23
		Mean	− 6.187	− 3.924	56.253	4.493	− 0.067	2.643
		SD	2.719	2.201	12.060	1.983	0.131	3.140
		Min.	− 10.410	− 9.047	42.704	1.256	− 0.395	− 8.818
		Max.	− 1.721	− 0.457	79.942	10.089	0.284	6.710
21	Turkmenistan	Obs.	23	23	23	23	23	23
		Mean	− 1.071	1.121	17.050	7.428	− 1.313	7.485
		SD	8.799	2.057	15.668	4.006	0.129	4.310
		Min.	− 23.107	− 2.322	4.094	0.148	− 1.446	− 3.400
		Max.	9.791	5.918	73.748	21.136	− 1.015	14.700
22	Israel	Obs.	23	23	23	23	23	23
		Mean	2.498	− 3.458	71.238	1.691	0.891	3.906
		SD	1.989	2.520	9.712	2.038	0.143	2.594
		Min.	− 1.463	− 10.757	58.822	− 1.886	0.562	− 1.857
		Max.	5.461	0.134	89.710	6.496	1.196	8.672
23	United Arab Emirates	Obs.	23	23	23	23	23	23
		Mean	9.540	5.042	16.020	3.110	1.025	4.056
		SD	4.927	7.485	11.001	3.629	0.232	4.135
		Min.	3.095	− 6.555	2.690	− 2.076	0.103	− 5.243
		Max.	19.006	20.150	41.086	12.027	1.274	10.853
24	Uzbekistan	Obs.	23	23	23	23	23	23
		Mean	2.074	− 0.098	19.789	13.511	− 1.128	6.325
		SD	4.449	3.700	13.226	5.353	0.142	1.836
		Min.	− 6.925	− 6.315	6.087	8.427	− 1.388	1.996
		Max.	8.877	5.971	44.838	28.182	− 0.808	9.473
25	West Bank and Gaza	Obs.	23	23	23	23	23	23
		Mean	− 15.396	− 4.752	32.999	2.531	− 0.293	3.388
		SD	7.848	2.030	14.170	2.083	0.181	8.192
		Min.	− 34.496	− 7.675	19.252	− 1.041	− 0.739	− 12.489
		Max.	5.206	− 0.941	64.289	6.952	− 0.021	21.925

Table 6 Appendix: Panel Logit model estimated results with marginal effect

Variable	Specification					
	1	2	3	4	5	6
Constant	− 1.49697	− 1.36973	− 2.09086	− 2.05185	− 2.06080	− 2.04539
CORR	− .391492***	− .423677***	− .430632***	− .434001***	− .42831***	− .419712***
GDPG		− .045782***	− .041606***	− .038212***	− .03842***	− .038173***
lnGGGD			.186608***	.159619**	− .15943**	.1496803**
GGNLB				− .018186**	− .01530*	− .015945*
CAB					− .0063	− .006204
INF						.002844
lnsig ² u	− 1.347	− 1.250	− 1.274	− 1.262	− 1.310	− 1.288
Wald chi ²	44.32	92.84	102.26	104.46	106.59	107.84
Log-likelihood	− 1145.65	− 1118.81	− 1113.45	− 1110.55	− 1109.39	− 1108.62
LR test chibar ²	95.09	102.88	99.89	100.57	92.5	93.93
No of Obs	3,680	3,680	3,680	3,680	3,680	3,680

The coefficients presented above represent marginal effect with the significant levels: ***at the 1%, significant **at the 5% level, and *at the 10% level

CORR Control of Corruption index (−2.5 = weak control, +2.5 = strong); *GDPG* real GDP growth rate (% y/y); *GGGD* General Government Gross Debt (% of GDP); *GGNLB* General Government Net Lending/Borrowing (% of GDP); *CAB* Current Account Balance (% of GDP); *INF* consumer-price inflation (% y/y, end-of-period)

Table 7 Random-Effects robustness (full sample and COVID-19 subsample)

Variable	2000–2022 Coefficient	2019–2022 Coefficient
CORR	− 0.79***	− 0.74***
GDPG	− 0.07***	− 0.074***
lnGGGD	0.26**	− 0.16
GGNLB	− 0.03*	− 0.039
CAB	− 0.01	− 0.032*
INF	0.0048	− 0.0016

Table 8 Appendix: IMF programme episodes (2000–2022)

Country	Programme years count	Years
Armenia	8	2001, 2005, 2008, 2009, 2010, 2014, 2019, 2022
Georgia	7	2001, 2004, 2008, 2012, 2014, 2017, 2022
Kyrgyz Republic	6	2001, 2005, 2008, 2011, 2015, 2020
Pakistan	6	2000, 2001, 2008, 2013, 2019, 2020
Mauritania	5	2003, 2006, 2010, 2017, 2020
Afghanistan	4	2006, 2011, 2016, 2020
Iraq	4	2005, 2007, 2010, 2016
Jordan	4	2002, 2012, 2016, 2020
Morocco	4	2012, 2014, 2016, 2018
Tajikistan	3	2002, 2009, 2020
Tunisia	3	2013, 2016, 2020
Azerbaijan	1	2001
Uzbekistan	1	2020
Total	56	—

Table 9 Panel-logit marginal effects

	(1)	(2)	(3)	(4)	(5)	(6)
	imfassista~e	imfassista~e	imfassista~e	imfassista~e	imfassista~e	imfassista~e
imfassista~e						
corr	– 0.0645 (– 0.23)	0.00332 (0.01)	– 0.0987 (– 0.18)	– 0.112 (– 0.20)	0.230 (0.59)	– 0.828*** (– 6.72)
gdp	– 0.0301* (– 2.25)	– 0.0705*** (– 5.27)	– 0.0385 (– 1.52)	– 0.130*** (– 4.54)	– 0.0669*** (– 3.48)	– 0.0262* (– 2.06)
lnggdp	0.215 (1.37)	0.334* (2.39)	– 0.210 (– 1.00)	0.412 (1.60)	1.069*** (3.73)	0.233 (1.87)
ggnlb	0.00459 (0.24)	– 0.0316 (– 1.68)	– 0.0694 (– 1.58)	– 0.0163 (– 0.51)	– 0.0206 (– 0.76)	0.00416 (0.27)
cab	– 0.00481 (– 0.51)	0.00301 (0.31)	0.0113 (0.72)	– 0.00605 (– 0.33)	– 0.00935 (– 0.53)	– 0.0165* (– 2.14)
inflation	0.00788 (1.56)	0.00879 (1.94)	0.0210 (1.63)	– 0.0264 (– 1.57)	0.00992 (1.05)	0.00369 (0.88)
2000.year	0 (.)					0 (.)
2001.year	– 0.00838 (– 0.02)					– 0.0675 (– 0.18)
2002.year	– 0.226 (– 0.59)					– 0.293 (– 0.76)
2003.year	– 0.0599 (– 0.16)					– 0.0945 (– 0.25)
2004.year	– 0.470 (– 1.15)					– 0.533 (– 1.30)
2005.year	– 0.680 (– 1.59)					– 0.746 (– 1.74)
2006.year	– 0.732 (– 1.63)					– 0.770 (– 1.73)
2007.year	– 1.148* (– 2.27)					– 1.209* (– 2.39)
2008.year	– 0.0250 (– 0.06)					– 0.0678 (– 0.18)
2009.year	0.362 (0.97)					0.312 (0.85)
2010.year	0.287 (0.77)					0.239 (0.65)
2011.year	– 0.415 (– 1.00)					– 0.485 (– 1.17)
2012.year	– 0.162 (– 0.41)					– 0.245 (– 0.62)
2013.year	– 0.513 (– 1.21)					– 0.593 (– 1.40)
2014.year	– 0.444 (– 1.07)					– 0.502 (– 1.21)
2015.year	– 0.328 (– 0.82)					– 0.370 (– 0.93)
2016.year	– 0.00286 (– 0.01)					– 0.0468 (– 0.12)
2017.year	– 0.391 (– 0.97)					– 0.436 (– 1.08)

Table 9 Panel-logit marginal effects

	(1) imfassist~e	(2) imfassist~e	(3) imfassist~e	(4) imfassist~e	(5) imfassist~e	(6) imfassist~e
2018.year	– 0.817 (– 1.85)					– 0.878* (– 1.98)
2019.year	– 0.595 (– 1.42)					– 0.643 (– 1.53)
2020.year	1.757*** (4.97)					1.683*** (4.88)
2021.year	0.290 (0.81)					0.278 (0.78)
2022.year	0.0855 (0.24)					0.101 (0.28)
postGFC		0.249 (1.90)				
_cons						– 3.477*** (– 5.93)
lnsig2u _cons						0.0192 (0.08)
corr	– 0.0645 (– 0.23)	0.00332 (0.01)	– 0.0987 (– 0.18)	– 0.112 (– 0.20)	0.230 (0.59)	– 0.828*** (– 6.72)
N	2369	2369	391	851	1127	3680

t statistics in parentheses

* p<0.05, ** p<0.01, *** p<0.001

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