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RESEARCH PAPER

Dissecting Capital flow Dynamics: A Comprehensive Study of Global Drivers of capital Inflows, Outflows, Net Flows, and Gross Flows

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ABSTRACT

This study investigates the specific financial and macroeconomic factors after global financial crises driving inflow, outflow, gross and net capital flows in developing countries, focusing on the relationship with equity, debt, financial, trade, prices and bank flows. In developing countries, capital flow allocation remains a challenge, with financial development emerging as a crucial determinant for directing capital inflows by fostering economic growth. Utilizing a panel regression model and Dumitrescu Hurlin causality test, the study analyzes data from 1995 to 2023. The empirical findings reveal that equity and debt flows exhibit a positive and substantial influence on capital inflows, outflows and gross flows. Conversely, bank flow, prices flow, debt and trade flows demonstrate inverse relationships with capital flows, highlighting the complexities of financial intermediation and inflationary pressures. The Summary results of Dumitrescu Hurlin causality test show that bi directional causality runs from capital inflow to debt flow and bank flow; from capital outflow to debt flow, bank flow, and trade flow; from net flow to equity and debt flow; and from Gross flow to debt flow and prices flow. Some policy lessons emerge like encouragement of equity and debt market development, banking sector reforms, inflation management and promotion of trade policies.

KEYWORDS Economic Growth, Global Financial Crises, Debt Flow, Equity Flow, Gross Flow, Inflow, Net Flow, Outflow, Prices Flow

Introduction

Global drivers of gross and net capital flows have been a subject of increased focus post the global financial crisis. Both gross and net capital flows in advanced and developing countries are strongly influenced by two major global factors; the Global Financial Cycle (GFC) component and the commodity price factor (Davis et al, 2019). These variables, which follow changes in the prices of assets, gas and oil, account for a significant amount of the variation in capital flows. Notably, the results also portray that the effect of the GFC factor varies with net debt liability, where greater effects are observed among the countries with greater net debt liabilities; hence, there is a need to consider country-specific characteristics while investigating the capital flow pattern. Moreover, gross capital flow significantly reflects institutional factors, which include government effectiveness, regulatory quality and global economic characteristics which significantly affects gross capital flow (Osina, 2021).

Capital flow allocation functions as a puzzle in developing countries because due to urgency of capital inflows the investment allocation fails in investing in productive sectors, leading to underdevelopment. In this respect, financial development is also serving an important function of providing capital allocation solutions to help advance the growth and development of these regions. Acknowledging this relationship is vital in formulating policies to foster deeper financial development and efficient use of capital

flows in order to stimulate sound economic growth in developing Asia (Beirne & Panthi, 2024).

Before the global financial crisis, the net capital flows as proportion of current account was the main ingredient of literature on international flow of capital (Cavallo, 2019). After the crisis, the attention shifted to the use of a latent factor model to examine net flows defined as outflows less inflows, as well as gross flows as the sum of outflows and inflows. Interestingly, the study labeled two important factors that affect the capital flows, one is global factors influencing capital flows and another is related to commodities prices (Davis, et al 2019).

Avdjiev et al. (2017), Barrot and Serven (2018) as well as Broner et al. (2013) have reviewed the dynamics of the patterns of international capital flows by paying special attention to the determinants of gross capital flows and their consequences. Bruno and Shin (2015), Cerutti et al. (2017) and Cerutti et al. (2015) have analyzed how global factors affect capital flows and how different economies are interconnected in this regard. Studies by Milesi-Ferretti and Tille (2011) and Obstfeld (2012) has done the analytical studies on capital flow volatility and consequences for economic stability and laid a platform for studies in regards to global influences on capital flows. These works as a whole form the basis of more investigation of the issue of global capital flows by incarnating the dynamics of gross and net capital flows in the context of continuously changing global financial circumstances.

The objective of this work is to at the specific macroeconomic and financial factors that affect net and gross capital flows in developing countries. The second step is to assess the correlation between equity, debt, reserves, prices, trade and banks with capital inflow, capital outflow and gross and net capital in the context of developing countries.

In the field of international finance, this research aims to give invaluable information about determinants of capital flows which is important to investigate the global financial and economic processes. This paper links the source of both gross and net capital flows to global financial conditions and policy changes in the home country. Like it, movements of price, reserve, and trade flows equally contribute to dynamics of capital movements in developing economy. Flows of prices, involving use of the floor and ceiling prices, change supply and demand, the profitability of investment, and consequently flows of capital.

Our methodology for this study is different from these articles in a few ways. The primary distinction is in our simultaneous consideration of the effects of global factors on net, gross, inflow, and outflow of capital. The top 20 emerging nations were chosen based on a ranking of capital flow, which has not been included in any other noteworthy study. Sarno et al. (2016) do not examine gross flows or aggregate net flows (the current account), but instead estimate a factor model for high frequency net bilateral stock and bond transactions. Only a small number of other research focus on gross flows. Data on the balance of payments and international investment position are broken down into the following categories: trade balance (trade flows), global inflation (prices flow), official reserve asset accumulation (reserves flows), portfolio equity (equity flows), debt (debt flows), and bank lending (bank flows).

Literature Review

The study by Beirne & Panthi (2024) was intended to examine the role of financial development in determining the flow of capital in the developing Asian economies, with

especial emphasis to the roles played by the financial institutions and markets. Empirical evidence indicates that financial development is a key determinant of capital flows in developing Asian countries. Whereas, Osina (2021) focused on the Lucas paradox in macroeconomics and explained why capital does not move from the developed to the developing country. It applies politico-institutional and financial factors in gross capital flow variations during the period of 2000 to 2016. This paper has confirmed the agreement by revealing that institutional quality such as government effectiveness, regulatory quality, rule of law and political stability highly influence gross capital flows dynamics. It was further apperceived that financial institutions are more proactive than financial markets in determining gross capital flows.

Davis et al. (2019) simultaneously examined the global determinants of gross flows – the sum of outflows and inflows – and net flows – outflows less inflows – by employing a latent factor approach. Whereas, before the global financial crisis, the empirical international capital flow literature has relied mainly on net flows or the current account since the financial crisis, more attention has shifted towards gross flows. After the global financial crisis there has been a clear evidence of the world retrenchment with both capital inflows and capital outflows falling precipitously implying that gross flows volatility has increased but that net flows volatility has not risen proportionately. GFC factor significantly and negatively affects both gross and net capital flows in the sample of countries while, interestingly, the effect of this factor is even more pronounced in countries with higher net debt liabilities. Instead, Cerutti et al. (2017) sought to establish how the global financial cycle determines capital flows. They offer information on how financial cycle in the global economy influences other forms of capital flows across the periods in order to explain the interferences in international capital mobility.

When Meng & van Wincoop (2020) attempted a decomposition of capital flows into the growth of portfolio and reallocation, they focused on US equity and bond outflows. As highlighted in the research, the reallocation component is highly unpredictable compared to other components, and has a positive relationship with equity flow to individual country, consequently underlining its importance in affecting capital flow. Flows in and out of available portfolios, especially across foreign countries, serve as significant in defining equity and bond outflows in the short-term and the long run.

In their work Avdjiev et al. (2020) looked at the global drivers of cross-border capital mobility with emphasis on global banks. The study reveals that globalization of banks matter more in channeling global capital, and shift in global conditions of liquidity affect international investments. The result of the study also emphasize the role of global banking networks in explaining the nature of cross-border capital movements.

Barrot and Serven (2018) revisited the sources of macroeconomic shocks in developing countries and centered on global financial integration. IIt also showed how economies of developing countries are susceptible to global financial crisis. In contrast, Sarno et al. (2016) has focused on the structural characteristics of international capital flows. Their analysis led them to discover that a few easily measurable parameters are sufficient to account for a significant amount of the cross-sectional dispersion in capital flows.

Also, Bruno and Shin (2015) analyzed the effects of global liquidity on cross border Bank Credit. They pointed at the role of global liquidity in financial stability by demonstrating relationships between global liquidity, monetary policy and banking. Similarly, Cerutti et al (2015) analyzed role of global factors that explained capital flows

in emerging markets. They find that global factors can explain most of the variation in capital flows to emerging markets.

Milesi-Ferretti and Tille (2011) analyzed the impact and role of global financial conditions on capital flows during financial crises and tried to highlight the prevailing vulnerability during those such crises. They conclude that global financial conditions significantly shape capital flows during crises and global conditions are critical during financial crises.

Material and Methods

The study used the versatile model and methodology, as it considers four different types of flows as dependent; Capital Inflow, Capital Outflow, Capital Gross flow and Capital net flow. Whereas independent variables include Debt flow, Equity flow, Reserve flow, Bank flow, Prices flow and Trade flow. Data was gathered for the year 1995-2023 from International Finance Statistics. After analyzing the order of integration it is evident that most suitable method for estimating the results will be panel regression or panel ordinary least square as applied by Davis et al. (2021) in their study as well. The Panel Least Squares (PLS) model is a statistical technique used to estimate relationships in panel data—data that involves observations across multiple entities (such as countries, firms, or individuals) over time. For this specific analysis, the goal is to estimate the relationship between capital flows (inflow, outflow, net flow, gross flow) as dependent variables and several financial variables (bank flow, debt flow, equity flow, reserve flow, and prices flow) as independent variables.

Model Setup

To do so we set up four different Panel Least Square models, one for each capital flow measure used i.e. inflow, outflow, net and gross flows. This specification means that it does not contain the individual-specific effects (αi), which in fact does not vary with respect to all entities. Otherwise, OLS estimation can be applied directly, but in this case, means in presence of significant individual effects the results will be biased. Concerning this issue, models are checked for time and cross sectional effects and found to be inconsistent and insignificant. Whereas in comparison the results of Panel OLS are best and significant, and deemed satisfactory as large number of variables are significant, R square is high and standard error is low. The models are expressed as follows:

Capital Inflow Model

$$Capital\ Inflow_{it} = \alpha_i + Bankflow_{it} + Equityflow_{it} + Debtflow_{it} + Pricesflow_{it} + Tradeflow_{it} + Reserveflow_{it} + \epsilon_{it}$$

Capital Outflow Model

$$Capital\ Outflow_{it} = \alpha_i + Bankflow_{it} + Equityflow_{it} + Debtflow_{it} + Pricesflow_{it} + Tradeflow_{it} + Reserveflow_{it} + \epsilon_{it}$$

Capital Net Flow Model:

$$Capital\ Netflow_{it} = \alpha_i + Bankflow_{it} + Equityflow_{it} + Debtflow_{it} + Pricesflow_{it} + Tradeflow_{it} + Reserveflow_{it} + \epsilon_{it}$$

Capital Gross Flow Model

$$Capital\ Grossflow_{it} = \alpha_i + Bankflow_{it} + Equityflow_{it} + Debtflow_{it} + Pricesflow_{it} + Tradeflow_{it} + Reserveflow_{it} + \epsilon_{it}$$

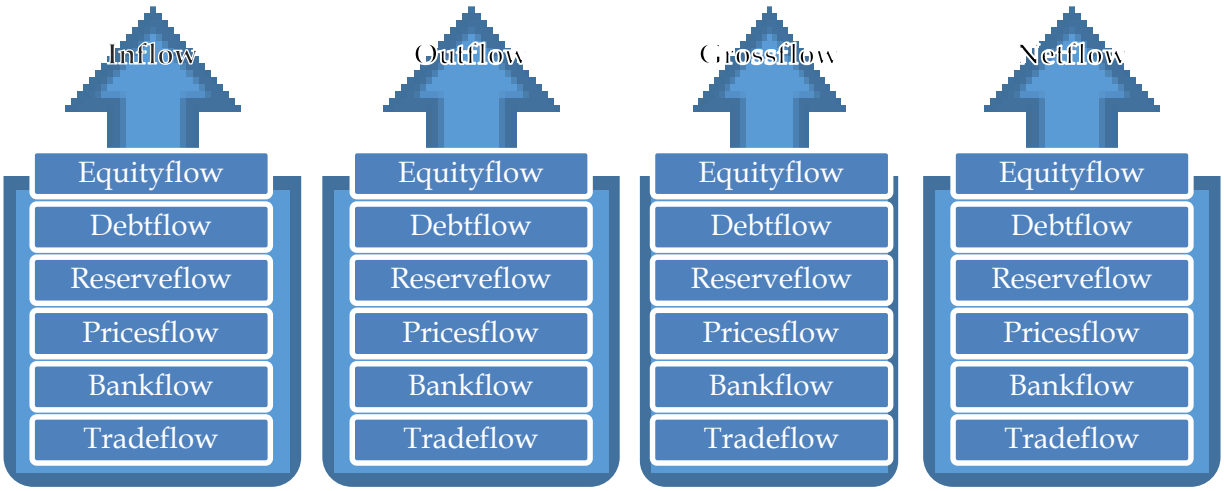
Where

α_i represents the individual entity-specific intercept.

$\beta_1, \beta_2, \ldots, \beta_5$ are the coefficients for the independent variables.

ϵ_{it} denotes the error term for entity i at time t.

Figure 1: Conceptual Framework



Descriptive Statistics

The table presents descriptive statistics for various financial flow variables by using 512 observations. These statistics gives an overview of the measures of central tendency, spread and the shape of the distribution of each of the variables.

Table 1
Descriptive Statistics

	GROSS FLOW	IN FLOW	NET FLOW	OUT FLOW	PRICES FLOW	RESERVE FLOW	TRADE FLOW	BANK FLOW	DEBT FLOW
Mean	3.699	2.403	-1.107	3.295	4.081	2.569	-0.540	9.680	41.169
Median	3.742	2.718	-1.642	3.836	4.454	2.694	-0.575	9.359	40.967
Max	211.310	106.531	8.561	104.779	89.113	125.104	38.783	150.160	151.566
Min	-82.372	-40.086	-33.140	-42.285	-4.009	-209.931	-42.400	1.000	0.000
Std. Dev.	19.011	10.022	3.358	9.268	11.240	19.740	8.306	13.603	27.200
Skewness	0.367	0.075	-0.628	0.673	0.941	-1.042	0.074	0.246	0.753
Kurtosis	3.755	3.013	2.670	2.939	3.393	3.129	2.584	3.330	3.803
JB	5.050	6.340	4.235	3.274	5.664	3.653	4.178	4.231	3.253
Prob	0.056	0.063	0.076	0.087	0.059	0.087	0.076	0.067	0.098
Obs	512	512	512	512	512	512	512	512	512

Unit root Test

The results of panel unit root test are presented in the table below for all variables and results shows that all the tests used to check the stationarity of the variables confirms that all variables are stationary at level and none i.e. having I (0) order of integration.

Table 2
Panel unit root test: Summary

Variables	Level
	None
Inflow	-3.60732***
Outflow	-2.46651***
Grossflow	-2.74520***
Netflow	-5.09488***
Debtflow	-21.0782***
Equityflow	-8.78212***
Reserveflow	-10.2191***
Bankflow	-6.08920***
Pricesflow	-8.51954***
Tradeflow	-8.74130***

Results and Discussion

Based on the findings from the unit root test performed on all the variables used in this, it was indicated that Panel Ordinary Least Square model is suitable for estimating the model as all the variables are stationary in their level from. The table below highlights the findings of four panel ordinary least square models with different explained variables, but they all include similar exogenous variables. The first column of the table shows the result of regression model where capital Inflow has been used as dependent variable. Equity flow is highly associated with capital inflow as 1% increase in it will lead to 3% increase in capital inflow. Since investors aim to diversify the portfolio, investing in equities in the emerging markets can be more rewarding than in the developed countries. This can translate to higher capital inflows given the increased investment in equity markets. Similar to the previous study, these results are fairly close to the work done by Ding and Sui (2021) who examined the effects of numerous factors on global capital movements, including equity flow for G20 countries and identified that equity flow has a considerable influence on the total flow of capital.

Debt flow and capital inflow have positive and significant relationship in developing countries: increase in capital inflow of 3 percent is associated with one percent increase in debt flow. The more access to the global capital markets is often associated with higher loan flows that can be as a sign of better creditworthiness and investors' faith in the country's economic stability and opportunities of its growth. A good debt management shows efficient economic governance and policy management to attract more fund from debt as well as equity market. According to Alimov (2022), it is true that debt inflow can help alleviate financial constraint in industries, importing capital goods in the developing countries creates more opportunities for capital accumulation.

On the other hand, bank flow, price flow and reserve flow bear negative and highly significant relationship with inflow; which decrease capital inflow by 7 percent, 4 percent and 1 percent respectively. An increase in the Bank flow reduces the accumulation of the capital inflow because when the banks invest more in local market, it may demonstrate it more attractive market as compared to foreign markets. As put forwarded by Dash (2020) that different forms of financial flows, including bank flows, have important impacts on the overall environment of a country, developing countries in particular. Whereas price flows go the other way to affect the capital inflow because higher price flows indicate inflation potential in the economy. Which in turn may increase the level of uncertainty and decrease the level of investors' confidence, that

make the country less attractive for the foreign investments. This puts pressure on their capacity to purchase goods and services and decrease their real returns negatively, having adverse impact on capital importation.

Likewise, there is an inverse relationship between reserve flow as they cut inflow by 1% in developed countries. From being utilized as backing in stabilization of the domestic currency, also can decline the foreign investor's interest if poorly managed or considered insufficient. Intuitively, high levels of reserves might give a wrong signal to investors that there is an enormous capital flight or there looming a currency crisis which therefore push investors to hang or withdraw their investments. This phenomenon has emerged most vividly in the studies like Combes et al (2019) and Yu & Wang (2023) that have reported similar experience thus propping up the effective management of reserves by countries to check the over burdening impacts on Foreign investment inflows.

Trade flow propels the economic integration and offers a favored venture for foreign investors since it yields an additional 3 percent of foreign direct investment for every additional one percent. By enhancing opportunities for trade, it improves the market size and growth within countries hence boost the investors' confidence and inflow of capital. Trade flow also promotes technology diffusion and efficiency improvement, which improves the economic performance and FDI susceptibilities of the host economy. Empirical works like Ali & Audi (2023) have revealed that volume of foreign investments is strongly related to the open trade policies and increasing trade volume.

In the second model, the dependent variable used is capital outflow and the result depicts that, equity flow and debt flow has direct and significant relationship with outflow, as 1 percent increase in both variables will lead to 2 percent and 1percent increase in outflow respectively.

This volatility of capital flows in developing countries can be attributed to the fact that: when equity and debt inflows occur they are followed by higher returns on investment hence a corresponding higher capital outflow as investors sell off their investments to realize gains or rebalance their portfolio. Secondly, higher fund inflows can put undue pressure on the economy by causing excessive growth in the economy, bubbles in the asset market and inflationary pressures: thus causing investors to pull out their money. Pyun (2016) established that net equity and debt flows considerably impact the capital flow in emerging economies suggesting strong correspondence of inflow and outflow patterns.

The observed inverse and significant relationship between the bank flow and price flow with capital outflow in developing countries; the way bank flow decreases outflow by 6% and price flow by 2% can be explained though several macroeconomic aspects. Bank flows in shape of cross border lending increase financial flows, boost liquidity of the domestic banking sector, and hence, minimize capital flight, because investors and depositors are more assured of the safety of their money as well as its yield. At the same time, price flow control through the regulation of prices such as setting a floor or ceiling is effective in stabilizing domestic market risks so there should be minimum profitability standards for producers; and consumers demand is also preserved creating a sound economic environment to retain capital. Similarly, Kapingura (2018) note that domestic investment is strongly positively correlated with foreign capital inflows resources that depict bank flow and market control as being paramount factor in enhancing economic balance.

Conflicting relationship between capital outflows and trade flows is established and it is demonstrated that in developing countries outflow promotes trade flows by increasing the productive capacity and export capability of the recipient country. Blavasciunaite et al (2020) also support the enhancement of a diversified economic base and development of trade, creating trade flow of the country extra reliant not confined to a particular type of exports.

The third model grouped Gross flow as dependent variable to determine the relationship and all the independent variable are significant apart from reserve flow. Equity flow also has a positive effect on the gross flow boost for the developing nations, this can be attributed to the fact that when complemented with other parameters like debt flow and trade flow, they bring more capital deepening and economic integration in the nation. Gross flow also includes the effect of trade flows as export growth and import of capital goods to support industrial development. These flows have combined incremental impact on investor confidence such that if equity, debt and trade flow by 1% there will be a corresponding 4% enhancement in gross flow. The same findings were put forwarded by Combes et al. (2019) about the significance of financial flows to growth and exchange rate stability. From the analysis it is seen that coefficients for bank flow and price flow with gross flow are negative in case of developing countries, where gross flow has reduced by 13%, and 7% respectively. Few plausible reasons show that financial instability and volatility can result from bank flows, which frequently involve speculative investments and short-term capital transfers, which discourages sustainable investment and lowers overall gross flows. Similarly, price flows showcasing the changes in asset prices may induces uncertainty leading to capital flight and fewer capital imports. This inverse relationship exposes the vulnerability of financial systems in developing economies where reliance on volatile sources of bank flows and asset prices can be destabilizing. These findings are similar to the conclusions reached by Broner et al. (2013).

In the last model, Net flow is dependent variable, while evaluating the result it emerges a negative relationship between debt flow and trade flow with Net flow where 1% change in debt flow & trade flow brings decline of 2% and 1% respectively in Net flow. Large debt flow can also lead the increase the cost of servicing and default risks, which in turn hampers the prospects and attractiveness of the country for net capital flows. Also, rising trade flow, especially trade deficits, gives rise to net resource losses when imports are financed through borrowing or funds withdrawal. This can further reduce net inflows. By using data of emerging markets, Pyun (2016) found the harmful impact of debt flows on net capital inflows. The bank flows like cross-border deposits and lending increase financial vulnerability, and in the period of crisis, lead to capital flight, and thus a reduction of net capital inflows.

Flows in prices, which signal exchange rates and inflation rates, reduce investors' confidence and wear down the real value of investment leading to discouragement of net inflows by 1 percent. In the same way, reserve flows capture changes in foreign exchange reserves; movements in which may be indicative of defensive interventions by central banks to support their home currency, and which typically is associated with existence of economic problems and thus discourages foreign direct investors. All these factors cumulatively lead to a negative feedback which adversely affects net flows. These findings are supported by Combes et al (2019) and Harrison & Reed (2024) who also found negative correlation between these flows and net capital flows within developing countries. Thus the all four models are overall significant and well specified, and overall goodness of fit of all the models show that the explanatory variables are explaining good

variations in capital inflow, outflow, gross flow and net flow in case of developing economies.

Table 3
Results of Panel Regression

	In flow	Out flow	Gross flow	Net flow
EQUITY FLOW	0.027925***	0.022287***	0.040636***	0.000736
DEBT FLOW	0.035433***	0.011489***	0.044129***	-0.023368***
BANK FLOW	-0.075902***	-0.069334***	-0.137611***	0.004660*
PRICES FLOW	-0.044974***	-0.020245***	-0.068662***	0.013764***
RESERVE FLOW	-0.005620**	0.000781	-0.004924	0.003466*
TRADEF LOW	0.032613***	0.017598***	0.043385***	-0.011297***
C	4.922756***	3.428614***	8.298736***	-1.281774***
R^2	0.523462	0.433308	0.477437	0.353608
Prob (F-statistic)	0.000000	0.000000	0.000000	0.000000

Pairwise Dumitrescu Hurlin Panel Causality Tests

These interactions across panels can be more thoroughly understood through the use of the Pairwise Dumitrescu Hurlin Panel Causality Test, which sheds light on the dynamics of financial flows and how they are interconnected. This test has been used in a number of studies to assist determine the direction and degree of causation between economic variables, which is useful for financial modeling and policymaking.

DH Panel Causality Test for Capital Inflow: This diagram shows the Dumitrescu Hurlin Panel Causality Test results which tested uni-directional as well as bi-directional causality relationship between capital inflow and other independent variable. Uni directional causality is represented by the blue lines while the bi directional causality has been represented by purple lines. In particular, the diagram shows that capital inflow maintains unidirectional causality with equity flow, reserve flow as well as trade flow. At the same time, capital inflow holds bidirectional causality with the debt flow as well as bank flow. Previous studies highlight the uni directional causal relationship between international trade and exchange rates. In addition, the results showing that capital inflows have a bi directional relationship with the flow of debts consistent some previous research analysis.

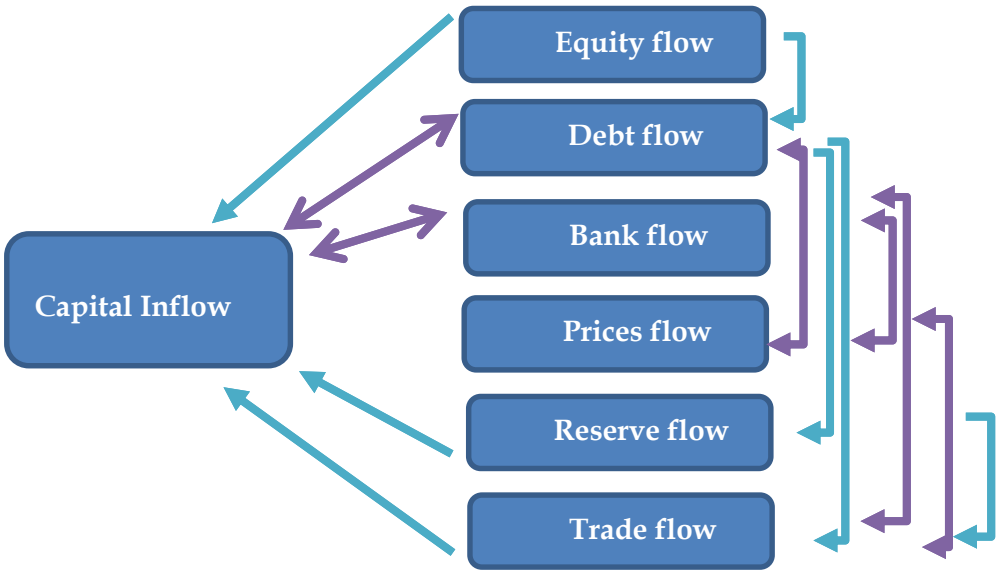


Figure 2 Pairwise Dumitrescu Hurlin Panel Causality Test for In flow

Pairwise Dumitrescu Hurlin Panel Causality Tests for Outflow: The following diagram shows Pairwise DH Panel Causality Tests regarding capital outflow and other independent variables. The results were as follows: capital outflow is shown to have a unidirectional causal relationship with equity flow, prices flow and reserve flow. Furthermore, capital outflow has bi directional causal ties with debt flow, bank flow, and trade flow. These results share the same conclusion with prior studies that capital flow is highly correlated with some economic and financial measurements. Similar to work of Pang et al. (2021) who used DH causality test, to highlight bi directional connections with financial variables. The bidirectional causality between capital outflow, debt flow, bank flow, and trade flow supports Küçüksakarya (2022) with similar bidirectional relationships between FDI, trade openness, and growth in BRICS nations. Additionally, the direct causality from capital outflow to equity flow, prices flow, and reserve flow conforms with other studies who established causality within financial data, including the study by To et al (2019).

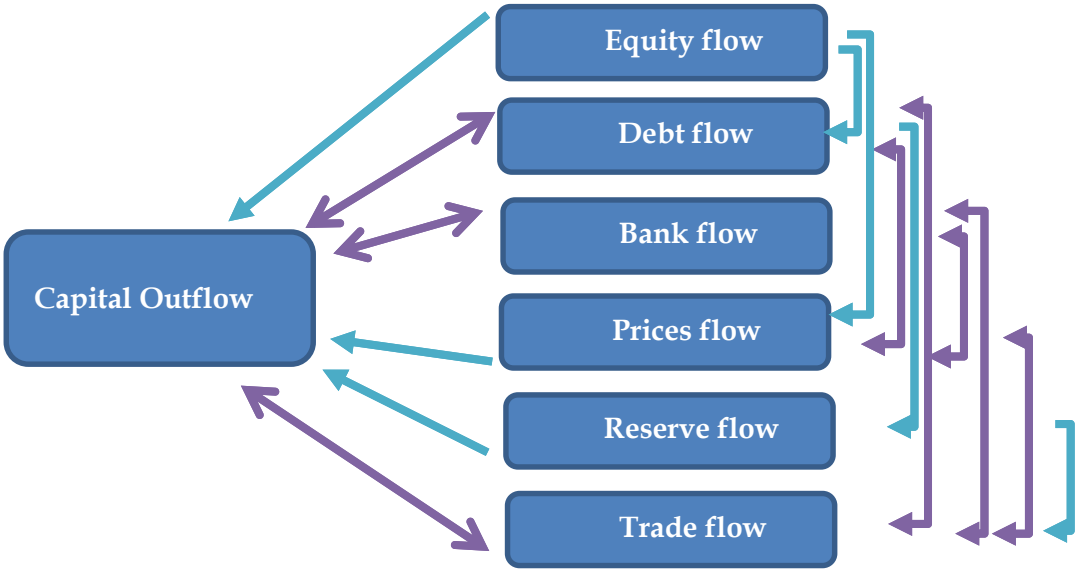


Figure 3: Pairwise Dumitrescu Hurlin Panel Causality Test for Out flow

Pairwise Dumitrescu Hurlin Panel Causality Test for Net Flow: The results of DH Panel Causality Tests, focusing on the relationships among different economic flows and overall capital net flow. The key causality linkages show that unidirectional causality runs from Capital net flow to the changes in reserve flow, prices flow, bank flow and trade flow, and bi directional causality from net flow to equity and debt flow. Whereas, bidirectional causality indicating two-way causal relationship also exists between equity flow and debt flow; and reserve flow and trade flow.

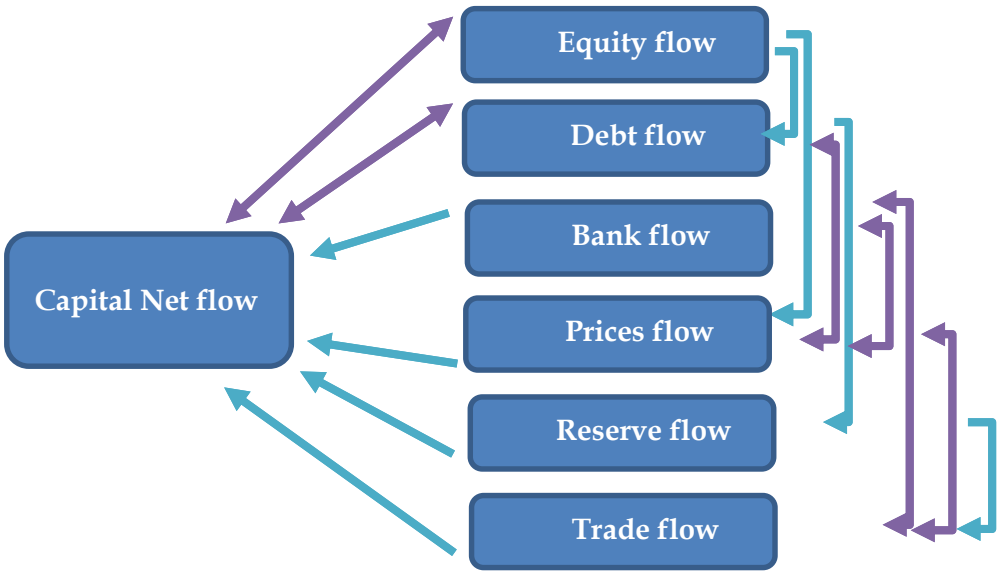


Figure 4: Pairwise Dumitrescu Hurlin Panel Causality Test for Net Flow

Pairwise Dumitrescu Hurlin Panel Causality Test for Gross Flow

The following figure adopts the DH Panel Causality Tests between capital gross flow and the various financial variables. The blue line pointing uni-directional causality runs from capital gross flow to equity flow, bank flow, reserve flow, and trade flow shows in line with the literature that capital flows are influential for financial markets and economy (Nuță et al, 2024). The purple color arrow between these variables indicates two-way causality between each pair of variables: Gross flow and debt flow; gross flow and prices flow; and, equity flow, bank and debt. This bi directional causality between capital gross flow and debt indicates reciprocal effect, which shows that capital flow and debt are interconnected and therefore explain volume about the volatility of the global economy. Between capital gross flow and prices flow demonstrate that capital movement and price level are variables in reaction to each other to back up theories that capital flow can affect price stability in financial markets.

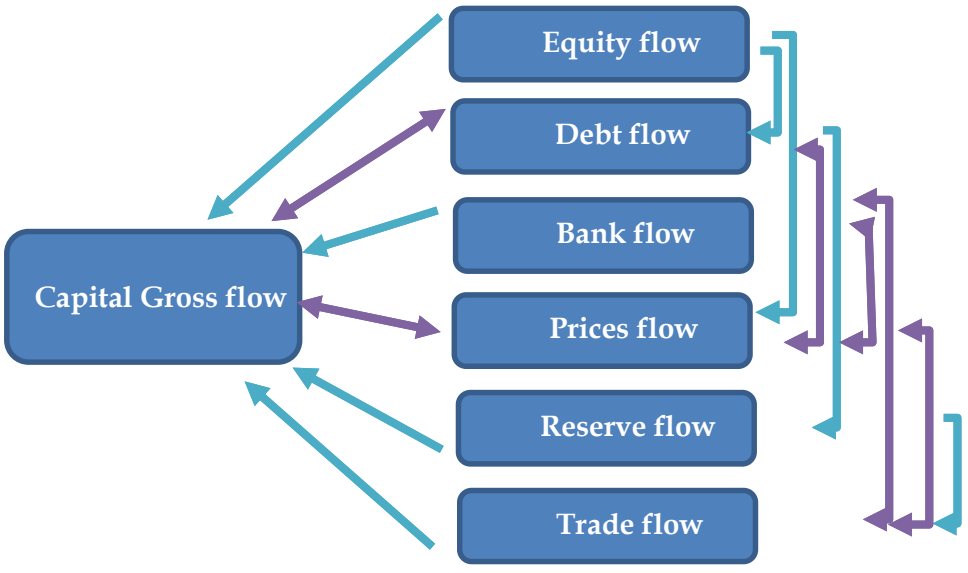


Figure 5: Pairwise Dumitrescu Hurlin Panel Causality Test for Gross Flow

Conclusion

The rising flux of global capital flows has been a subject that has always aroused interest amongst economists, policy makers and financial analyst especially in the framework of developing nations where these flows are viewed as important determinants of economic development and stability. The analysis of the determinants of gross and net capital flows shows that these processes can be determined by many factors at institutional, regional and global levels, taking into account changes in the financial environment, economic policies and macroeconomic indicators as well. Of these drivers, the most important one is Global Financial Cycle (GFC) factor; which is a measure of the impact of global asset prices due to changes in stock prices and interest rates on capital flow. Specifically, after the global financial crisis the GFC factor has got more attention as it expounds the increase of costs for countries which have a large net debt burden.

This analysis is significant for the developing countries in pointing to the value of building robust institutional arrangements aimed at improving the investment attractiveness of the host countries for mitigating the adverse consequences of the global financial shocks. The second factor within a country is financial development which also influences capital flow more so in the developing countries. The study also shows that countries with more efficient financial system are able to attract capital more efficiently and invest capital more productively more than other countries which will lead to higher growth rate of economy.

The paper also analyzes the other types of capital flows like equity and debt flow and their effects on capital inflows and outflows. Changes in equity, FDI and portfolio investment have a positive and high degree of association with capital inflow, suggesting that investors have interest in growth oriented economic markets. This fact underlines the idea of open investment regime that encourages foreign investors to invest in domestic economy and in a number of industries. But at the same time, the study reveals the drawbacks of the debt flows particularly concentrating on the GFC factor. Debt flows can be a valuable source of funding for infrastructure and other sustainable investment needs, but they also open up needs for increased risk, particularly if the country has to contend with a sudden build-up of global financial conditions. This was especially apparent during the recent global financial crisis where most developing countries saw a sharp reversal in capital flows leading to economic distress.

Moreover, the study explores bank flows, price flows and reserve flows as important sources of explaining the dynamics of capital. Empirical result reflects that crowding-out effect causing bank flows to have negative correlation with capital flows. This effect can be seen when domestic financial resources are mobilized possibly to the detriment of mobilizing foreign capital. This result indicates that although having well-developed financial systems domestically is necessary, it should not be at the expense of international investments. Moreover, prices flows through incidence of inflation also effecting the capital inflows. Consequently, though reserves are considered as a factor that gradually strengthens over time and protects an economy against potential shocks, but large amount of reserve can lower investors' confidence. This irony suggests that while reserves form an important mechanism of upholding the economic stability, but their utilization has to be highly sensitive not to convey wrong indications to the market place.

In conclusion, this study gives a detailed account of the motivation of the gross as well as the net capital flows with a special emphasis on the conditions that developing

countries are liable to encounter. The results underline the importance of balanced approach to capital mobility, where on the one hand there is an opportunity to tap into the benefits that the FDI bring and on the other hand, there is a need to sort out the negative implications that are associated with it. Targeting higher levels of institutional quality and financial development, as well as maintaining macroeconomic stability are policy options in developing countries in order to create incentives for sustainable capital inflows. At the same time, it needs to be cautious about debt flows and how global conditions can bring volatilities along with capital flows to the country. If these challenges are to be met, then the developing countries will be better placed to realize the potential of capital flow for the growth and development as well as for coping with conditions of global financial shocks. This comprehensive treatment is effective in presenting the restraints of capital movements to the global economy especially in the developing countries; it will form a good source of information for policy makers, potential investors as well as the academic and business readership.

Recommendations

Some policy lessons can be drawn from this study. First is to encourage equity and debt market development to enhance the efficiency and transparency to attract and sustain capital flows. Secondly, it suggests reforms to reduce the negative impact of bank flows on capital movement, like improving credit allocation and financial regulation. Control of inflationary pressures to stabilize the adverse effect of price flows on capital movements. Lastly, promote trade policies that facilitate export growth and balance trade deficits.

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