
โครงการแข่งขันตอบปัญหาและนำเสนอบทความวิจัยทางเศรษฐศาสตร
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# Capital flows to emerging market economies: a study of unconventional monetary policy and unconventional monetary policy normalization


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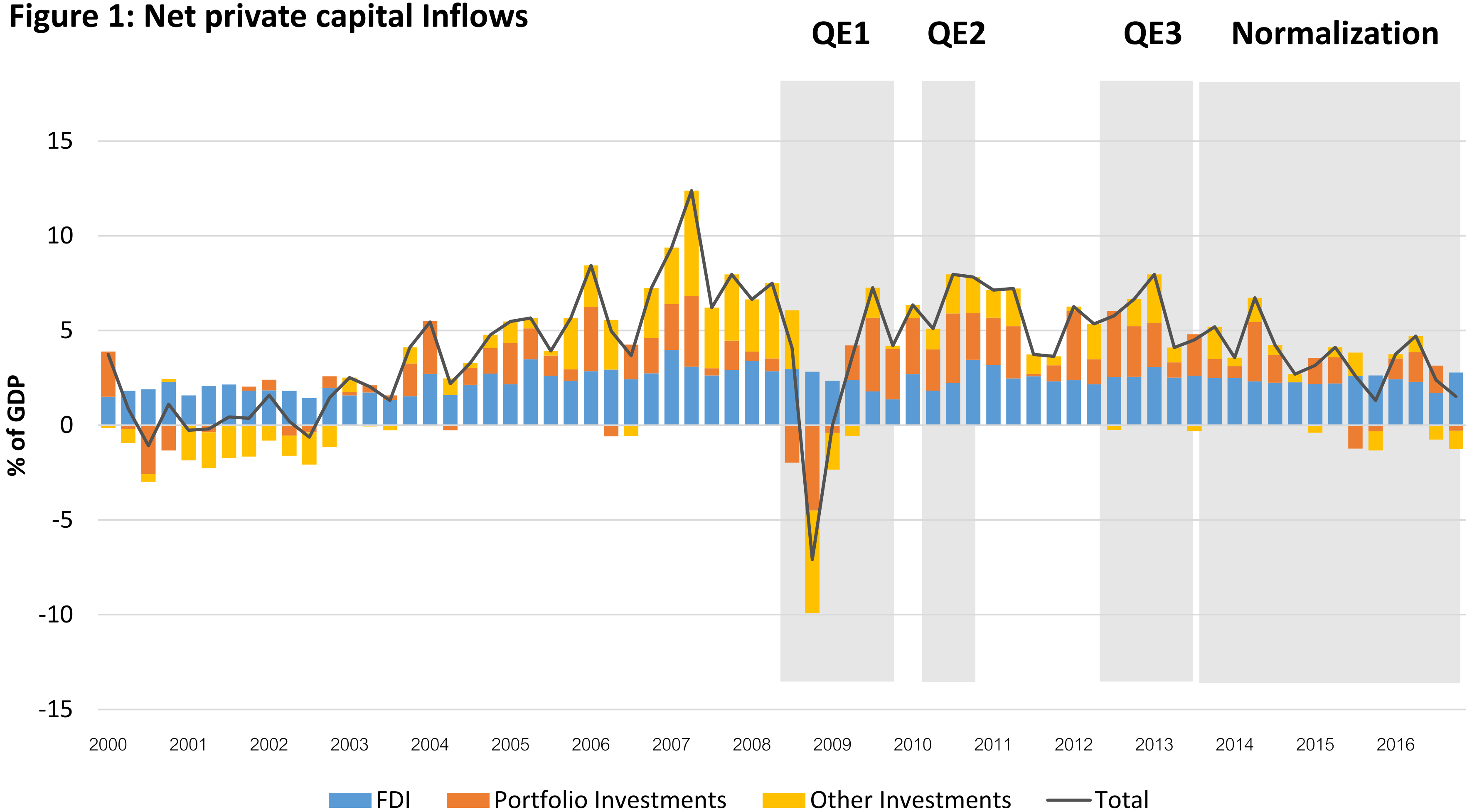
# Introduction

**Figure 1: Net private capital Inflows**




* Net private capital flow of 14 EMEs is weighted by the percentage share of the world calculated from GDP based on purchasing power parity (PPP). Data for PPP are available from IMF World Economic Outlook Database.

# Literature Review

Reviewing related 9 papers

1. Different conclusions on the impact of capital flows determinants
2. Similar conclusions on the effect of the unconventional monetary policy

## Research Gap

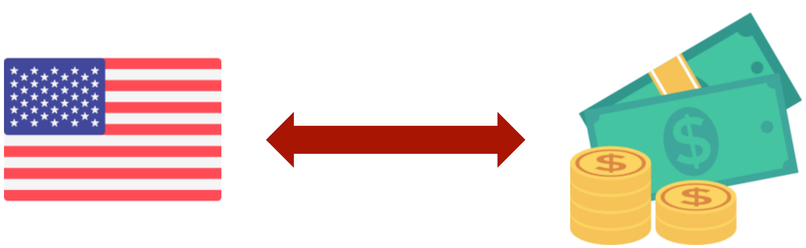
- The asymmetric size of policy impact on the net total capital flow has been less mentioned.
- The effect of policy on each flow composition

# Motivation & Research Question

## Motivations

- Speculative and volatile capital flows
- Policy challenges
- The issue of normalization

*"Phase II of Fed's policy: normalization is coming"*



## Research Questions

1. Sensitivity change

   *"Do main determinants affect the capital flowing to EMEs differently between the pre-crisis and the post-crisis periods?"*

2. If QE leads to capital inflows and normalization leads to capital outflows,

   *"Do they have the same size of effect?"*

3. Capital flows decomposition

   *"Were the components of capital flows affected with the same magnitude?"*

# Data & Methodology

## Country list for panel data model

| | |
|---|---|
| Argentina | Mexico |
| Brazil | Philippines |
| Chile | Poland |
| Colombia | Russia |
| Indonesia | South Africa |
| South Korea | Thailand |
| Malaysia | Turkey |

## Methodology

1. Baseline Model
2. Structural break test
3. Extended Model with QE variables
4. Decomposition of capital flows

## Estimation Techniques

1. Pooled OLS
2. Fixed Effects
3. Random Effects

# Baseline Model

$$CF_{it} = \alpha_0 + \beta_1 X_{it} + \beta_2 VIX_t + (\gamma_0 + \gamma_1 X_{it} + \gamma_2 VIX_t)\ PCRS_t + v_i + \varepsilon_{it}$$

Capital Flows
(net flows ex. FDI)

Chicago Board Options Exchange
Market Volatility Index

Post-crisis
Dummy variable

Control Variables

$$X_{it} = \begin{bmatrix} rGDP_{it} - rGDP_t^{AE} \\ r_{it} - r_t^{US} \\ CA_{it} \\ REER_{it} \\ Rating_{it} \end{bmatrix}$$

Country Fixed
Effect

$$v_i = \sum_{i=1}^{n-1} \alpha_i D_i$$

**Note**

FDI is excluded due to
1. Relatively stable
2. Likely depends on other country-specific factors

| Q1:2001 | Q3:2009 | Q2:2009 | Q3:2016 |
|---|---|---|---|
| Pre-crisis | crisis | Post-crisis | |

# Results: Structural Break Tests

## KEY FINDINGS

1. The real GDP growth differential, the VIX index and the status of current account are the main determinants of capital flows.

2. Structural break test shows that the interaction term are jointly different from zero, confirming the change in determinants' behaviors after crisis.

3. Capital flows determinants have been less sensitive after the crisis. Lower coefficient of VIX indicates searching for higher yield behavior.

4. Country's credit rating is also one of significant variables.

# Extended Model with QE variables

$$CF_{it} = \alpha_0 + \beta_1 X_{it} + \beta_2 VIX_t + (\gamma_0 + \gamma_1 X_{it} + \gamma_2 VIX_t)\, PCRS_t + USMP_t + v_i + \varepsilon_{it}$$

where $$USMP_t = \begin{bmatrix} QE1 \\ QE2 \\ QE3 \\ QET \end{bmatrix}$$

| Variable | Description | Expected impact |
|---|---|---|
| qe1 | dummy variable equal to 1 for the entire duration of QE1 policy (2008Q4 – 2010Q1) | + |
| qe2 | dummy variable equal to 1 for the entire duration of QE2 policy (2010Q3 – 2011Q1) | + |
| qe3 | dummy variable equal to 1 for the entire duration of QE3 policy (2012Q3 – 2013Q4) | + |
| qet | dummy variable equal to 1 for the entire after actual announcement of phase I tapering (2013Q4 – 2016Q3) | - |

# Results: Structural Break Tests

## KEY FINDINGS

1. The result contradicts to some literatures that there will be diminishing effect of QE when the new QE is used.

   QE1 → Targeted at calming down the market right after the crisis

   QE2 → Aimed at boosting the domestic economy

   Hence, our results show the stronger effect of QE2.

2. QE3 does not significantly affect capital flows due to the fact that investors get used to the situation and the yield spread is relatively stable.

3. The coefficient of QE tapering is relatively lower than that of QE expansion, implying the asymmetric impact of the monetary policy.

# Decomposition of Capital Flows

$$CF_{it} = \alpha_0 + \beta_1 X_{it} + \beta_2 VIX_t + (\gamma_0 + \gamma_1 X_{it} + \gamma_2 VIX_t)\, PCRS_t + v_i + \varepsilon_{it}$$

Capital Flows

Portfolio Flows

Debt instrument (Bond)

Equity securities (Stock)

Other Flows: trade credits, loans, currency and deposits, use of Fund credit, loans from the Fund

Note: Due to the unavailability of data of other flows' composition. Hence, other flows have been grouped into a single dependent variable.

# Results: Structural Break Tests

## KEY FINDINGS

1. Country's credit ratings are significant for debt instruments (bond flows and other flows), indicating the probability of default risk.

2. Also, the growth differential is an important factor for debt instrument as it is related to an ability to pay back the sovereign debt.

3. VIX index affects all components of capital flows.

# Results: Structural Break Tests

| QE episodes | Total CF | Portfolio | Bond | Equity | Other |
|---|---|---|---|---|---|
| QE1 | ✓ | ✓ | ✓ | ✓ | ✗ |
| QE2 | ✓ | ✓ | ✗ | ✗ | ✓ |
| QE3 | ✗ | ✗ | ✗ | ✗ | ✗ |
| Normaliza-tion | ✓ | ✓ | ✓ | ✗ | ✗ |

## KEY FINDINGS

4 Portfolio flows have been affected from the policies than other flows.

# Policy Recommendations

**ISSUE 1**

Large and volatile money with the purpose of short term speculation

- Economic fluctuation
- Negative effect on economic growth

**ISSUE 2**

Normalization policy has been implemented in AEs.

- Sudden stop
- Financial crisis

**Key challenges to policy makers**

- Developing an appropriate policy response
- Balancing the real effect of policies
- Smoothing the adjustments

| Signaling market | Raising interest rates | Domestic reformation | Temporary capital control |
|---|---|---|---|
| Signaling through the statement or the speech of central bank | Raising the interest rate through the monetary policy | Investing in infrastructure and increasing government transparency | Imposing the control on the outflows and removing the restriction on the inflows |
| ↓ | ↓ | ↓ | ↓ |
| Calming down and restoring market confidence | Attracting more investors and smoothing the adjustment | Boosting the economy and increasing country's attractiveness | Tapering the outflows and preventing the occurrence of sudden stop |

# Conclusion

## Research questions

1. Sensitivity change

   *"Do main determinants affect cap flow to EMEs differently In pre and post crisis?"*

2. If QE leads to capital inflows and normalization leads to capital outflows,

   *"Do they have the same size of effect?"*

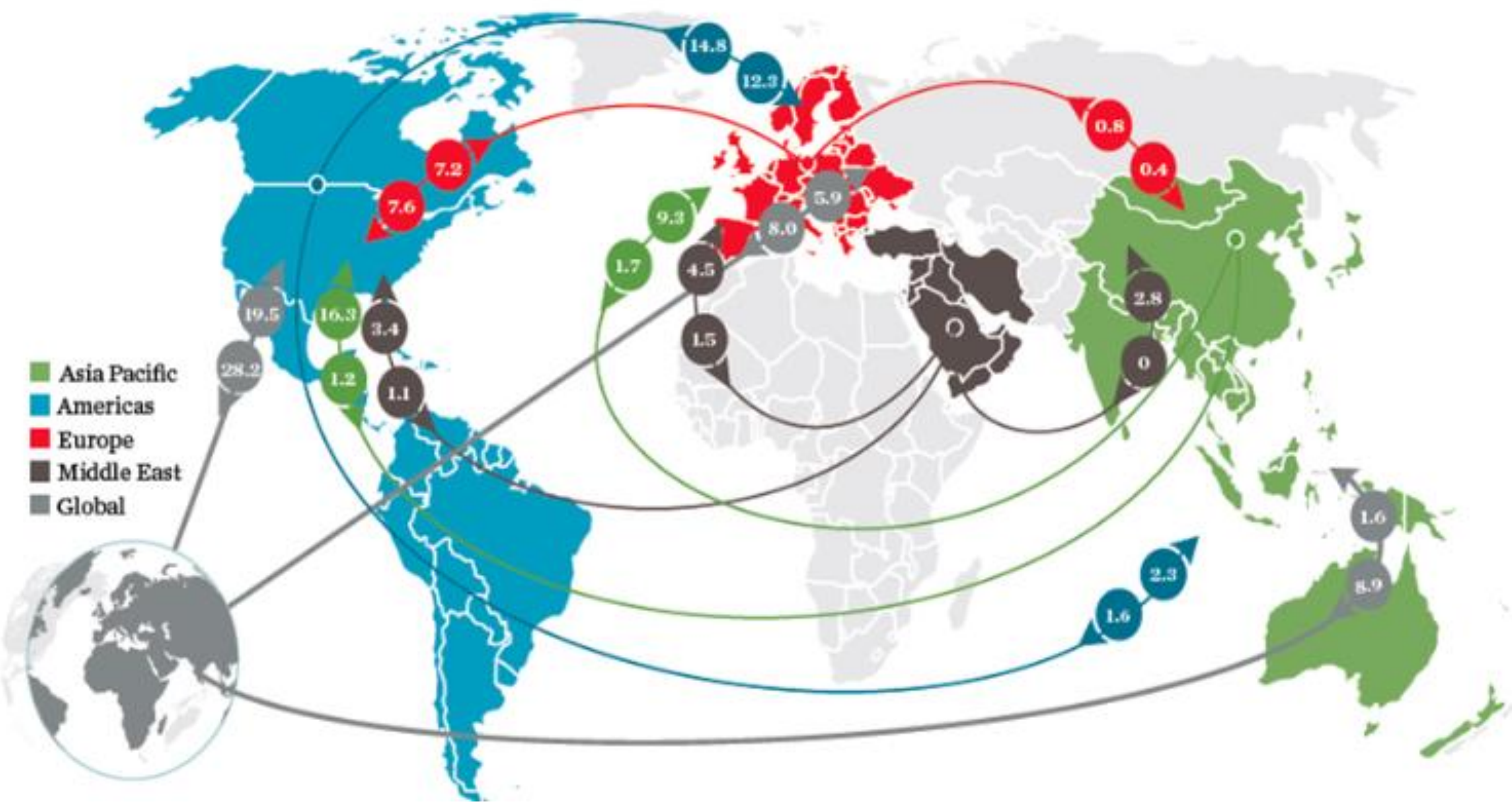
3. Capital flows decomposition

   *"Do the components of capital flows get the same size of effect?"*

## Key findings

| Structural Break test | Asymmetric effects | Decomposition |
| --- | --- | --- |
| Capital flows become less sensitive to the determinants in the post-crisis period | QE expansion tends to have a stronger effect on capital flows | The effect of U.S. policy varies across each composition. |

# THANK YOU



Asia Pacific
Americas
Europe
Middle East
Global
14.8
12.3
7.2
7.6
0.8
0.4
9.3
1.7
5.9
8.0
4.5
1.5
2.8
0
19.5
16.3
3.4
28.2
1.2
1.1
1.6
8.9
2.3
1.6