The Impact of Net Private Capital Flows on Foreign Exchange Market Pressure in Jamaica

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Motivation

- Recurrent periods of instability in Jamaica's FX Market
- EMP provides a way to gauge conditions in the foreign exchange market and is an indication of the degree of disequilibrium in the domestic money market.
- NPC flows represent the most significant source of the country's CAD financing. We are unclear, however, of the nature of the link between the various components and EMP
- The link could, therefore, provide insight into the need for policy targeted to specific components

Structure

- Definitions & Stylized Facts
- Literature Review & Methodology
- Results
- Summary and Conclusion

Definitions & Stylized Facts

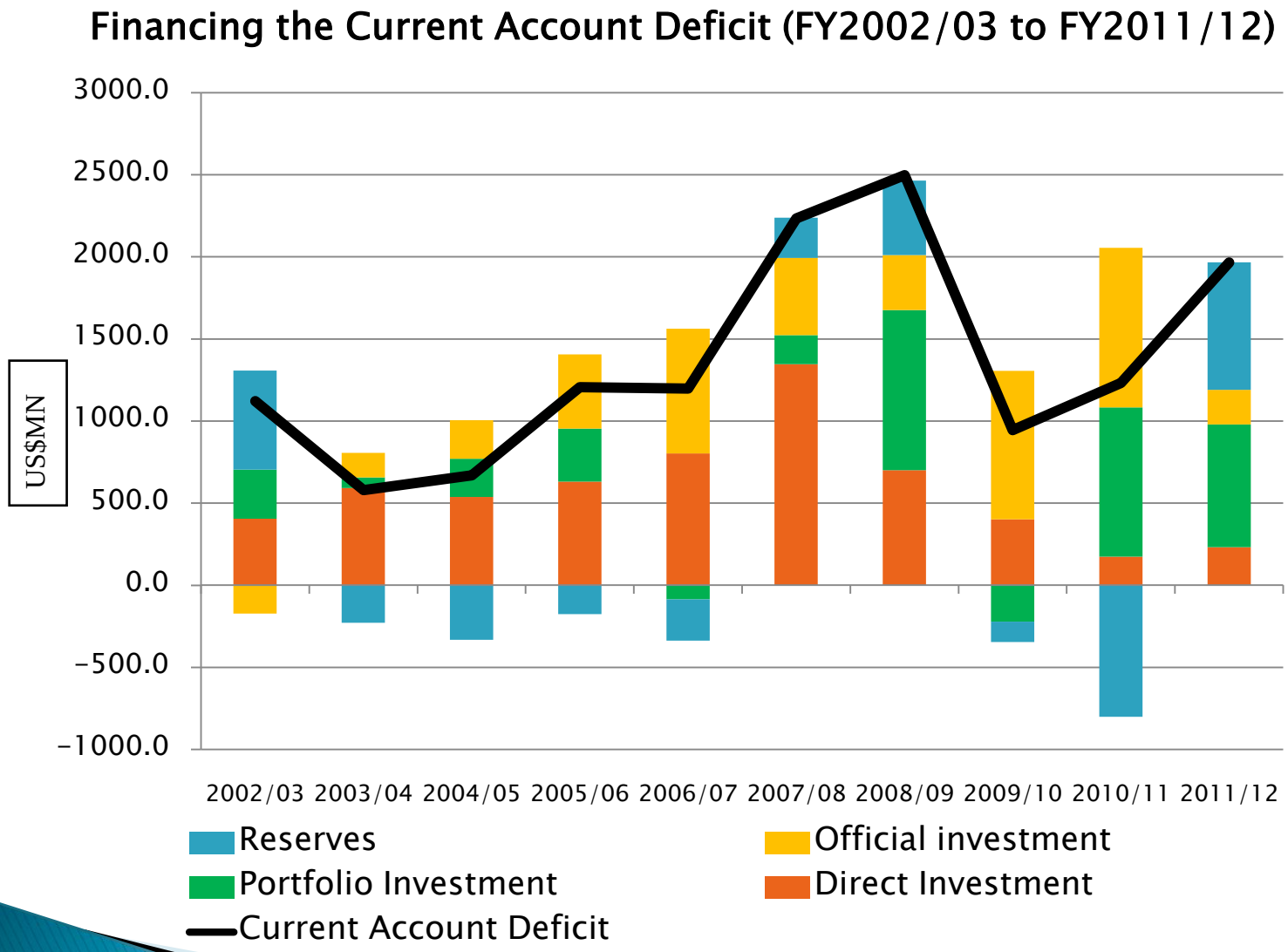
- EMP Index
- NPC

Definitions

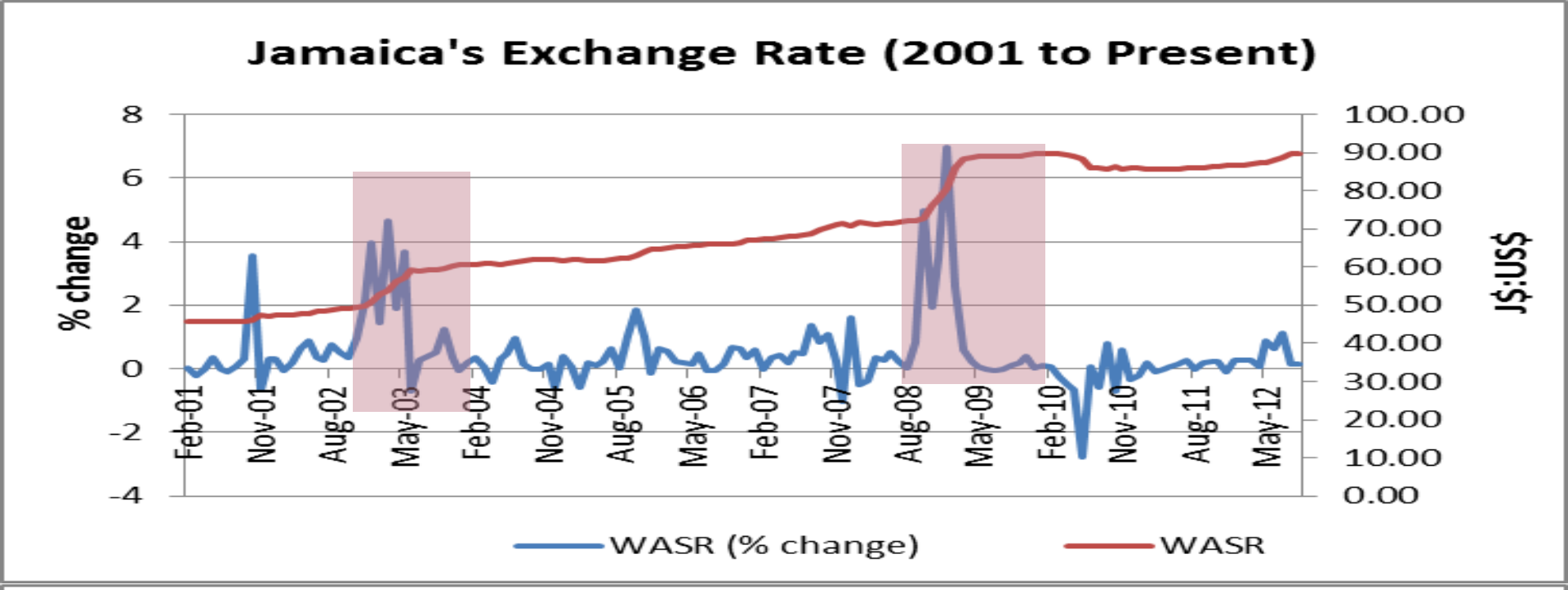
- EMP measures the degree of disequilibrium based on the changes in the exchange rate, the interest rate differential and changes in the level of reserves

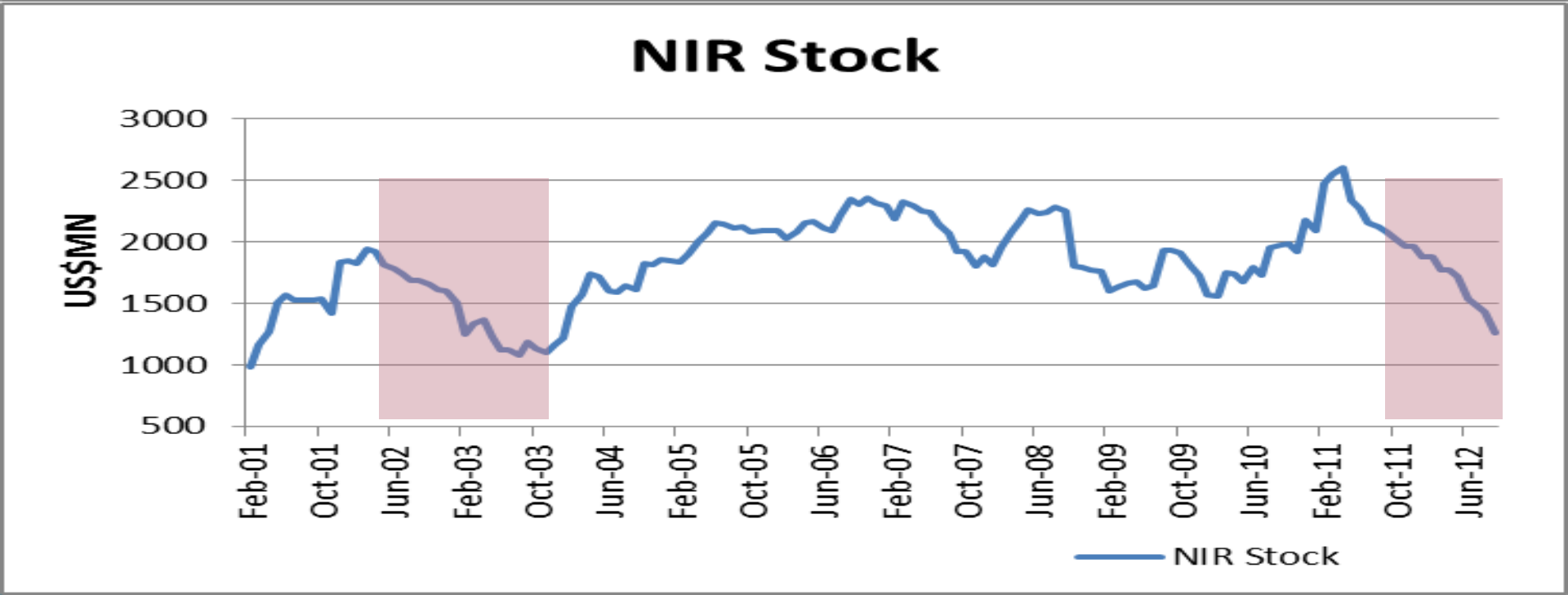
- NPC flows refer to the sum of FDI, portfolio investment (PI) and other private investment

Stylized Facts



- Between 02/03 and 07/08, NPC accounted for 71.7% of CAD financing
- Fell to 24.0% between 08/09 and 11/12


Jamaica's Exchange Rate (2001 to Present)
% change
J$:US$
8
6
4
2
0
-2
-4
100.00
90.00
80.00
70.00
60.00
50.00
40.00
30.00
20.00
10.00
0.00
Feb-01
Nov-01
Aug-02
May-03
Feb-04
Nov-04
Aug-05
May-06
Feb-07
Nov-07
Aug-08
May-09
Feb-10
Nov-10
Aug-11
May-12
WASR (% change)
WASR


NIR Stock
US$MN
3000
2500
2000
1500
1000
500
Feb-01
Oct-01
Jun-02
Feb-03
Oct-03
Jun-04
Feb-05
Oct-05
Jun-06
Feb-07
Oct-07
Jun-08
Feb-09
Oct-09
Jun-10
Feb-11
Oct-11
Jun-12
NIR Stock

Literature Review & Methodology

- Various measures of EMP
  EMP Models
  EMP Absoption

Literature Review and Methodology

Computation of EMP:

- EMP based on Girton-Roper (1977)
  - $EMP_t = e - r$
- EMP based on Eichengreen (1995)
  - $EMP_t = \propto \Delta e_t + \beta\Delta(i_t - i_t^*) - \gamma\Delta r_t$

Literature Review and Methodology

Models of EMP:

- Girton-Roper (1977)
  - $e - r = d - y - p* + m$
- Pollard (1997)
  - $r - e = -a - c + m^{*} + Q + n_1 y - n_2 y^{*} - sd$
- Stavarek (2010)
  - $EMP_t = \beta_0 + \beta_1 d_t - \beta_2 y_t - \beta_3 s_t^* + \beta_4 m + \beta_5 n_t + \beta_6 q_t - \beta_7 k_t + u_t$

EMP Absorption

- Most authors also tested the composition of exchange market pressure by including the following variable:
  - $a = \frac{(e-1)}{(r-1)}$
  - A significant positive coefficient implies that more pressure is absorbed by reserve losses while a significant negative coefficient implies that the monetary authority absorbs more pressure by currency depreciation. An insignificant coefficient implies that the monetary authority is not sensitive to components of EMP.

Methodology (Cont'd)

- The VAR model is given as:
  - $Y_t = \Pi_i Y_{t-i} + \varepsilon_t$

Where,

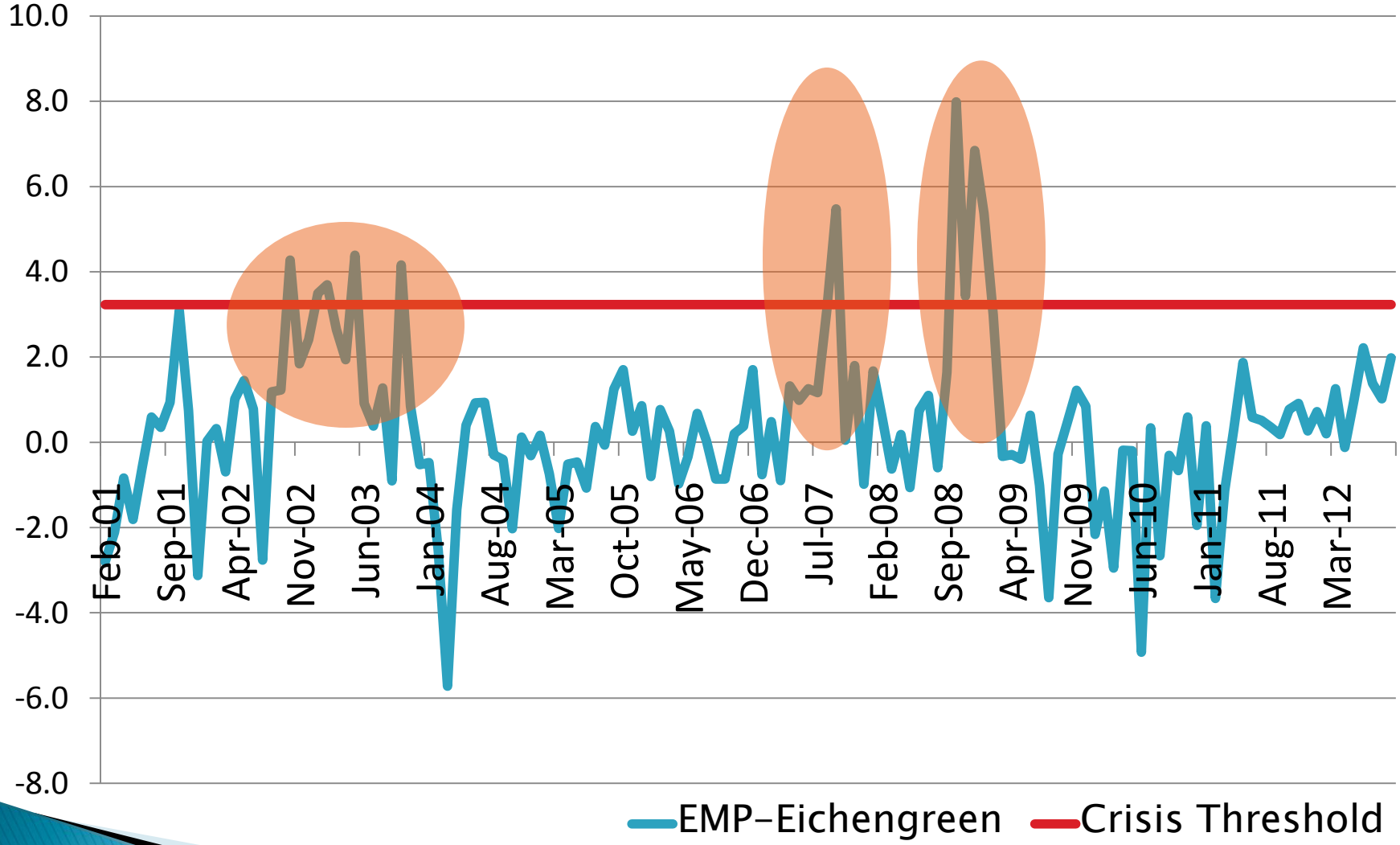
$Yt =$ (EMP, FDI, PI, Official_Invest, EMP_absorp, $\triangle$Deposits, PPP_overval)

- Study uses the Eichengreen (1995) EMP measure and includes NPC as independent variable in line with Stavarek (1995).

Results

- EMP Index
  Impulse Responses
  Var Decomp

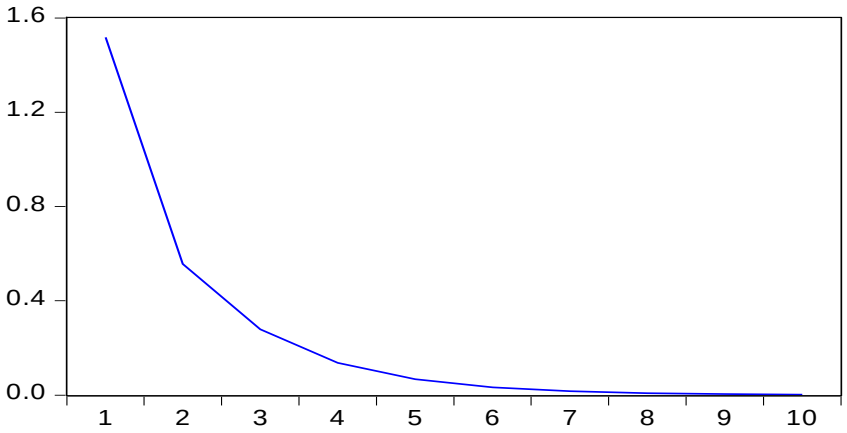
EMP Index for Jamaica- Eichengreen (1995)



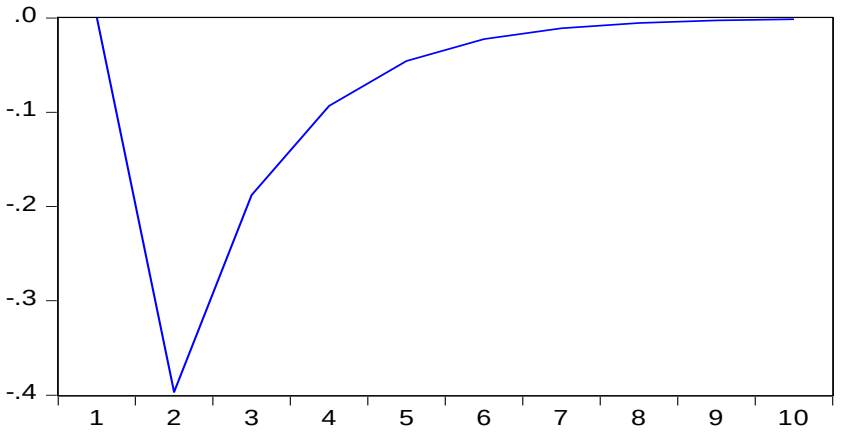
Results

Response to Cholesky One S.D. Innovations

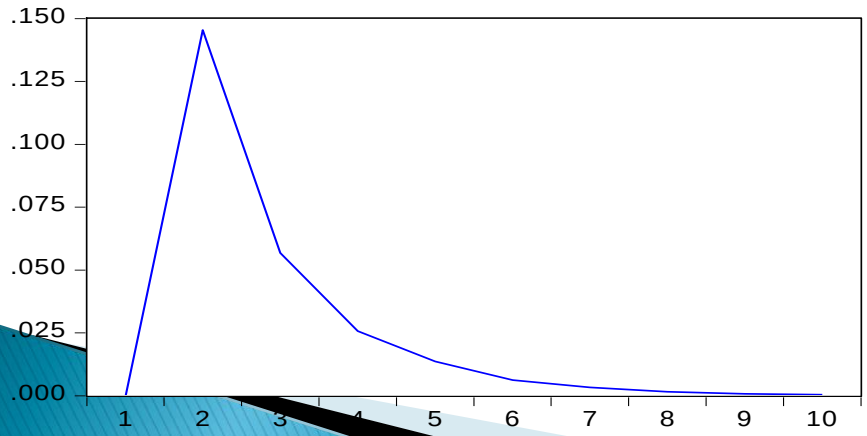
Response of EMP_EICHEN to EMP_EICHEN



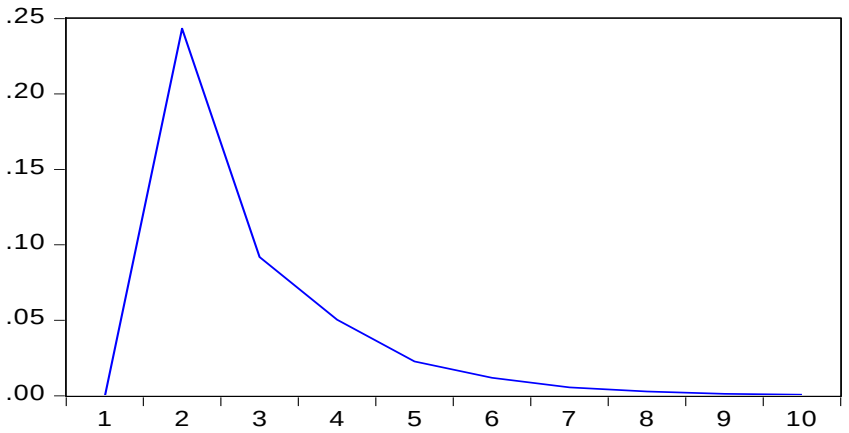
Response of EMP_EICHEN to FORCAP(1)



Response of EMP_EICHEN to EMP_ABSORP



Response of EMP_EICHEN to DEPOSITS_PC_CHG



Variance Decomposition

Period	S.E.	EMP	k	a	ρ
1	1.523364	100.0000	0.000000	0.000000	0.000000
2	1.694293	92.21388	5.602353	0.306469	1.877302
3	1.728423	91.15998	6.478651	0.331211	2.030157
4	1.736216	90.91445	6.675615	0.333843	2.076089
5	1.737968	90.86086	6.720112	0.334937	2.084087
6	1.738369	90.84840	6.730185	0.335081	2.086338
7	1.738460	90.84562	6.732484	0.335134	2.086766
8	1.738481	90.84497	6.733005	0.335142	2.086879
9	1.738486	90.84483	6.733124	0.335144	2.086902
10	1.738487	90.84480	6.733151	0.335145	2.086908

Summary and Conclusion

- Portfolio Investment is a significant determinant of EMP while FDI is not
- The lingering effect of lagged EMP points to a significant degree of herd behaviour and cautiousness on the part of investors
- Stabilizing the volatility associated with PI is critical given the finding that these flows impact exchange market pressure negatively
- The impact of the pull factors which affect confidence such as the fiscal deficit and GDP growth are of critical importance
- Since EMP feeds on itself, orderly movement in exchange rate is critical to achieving the BOJ's inflation objective