
# Capital Controls and Currency Crises: A More Disaggregated Political Economy Analysis

Eric M.P. Chiu
*National Chung-Hsing University*
and
Thomas D. Willett
*Claremont Colleges*

# Introduction

- Capital surges and sudden stops have restored interest in capital controls.
- But can they help reduce currency crises?

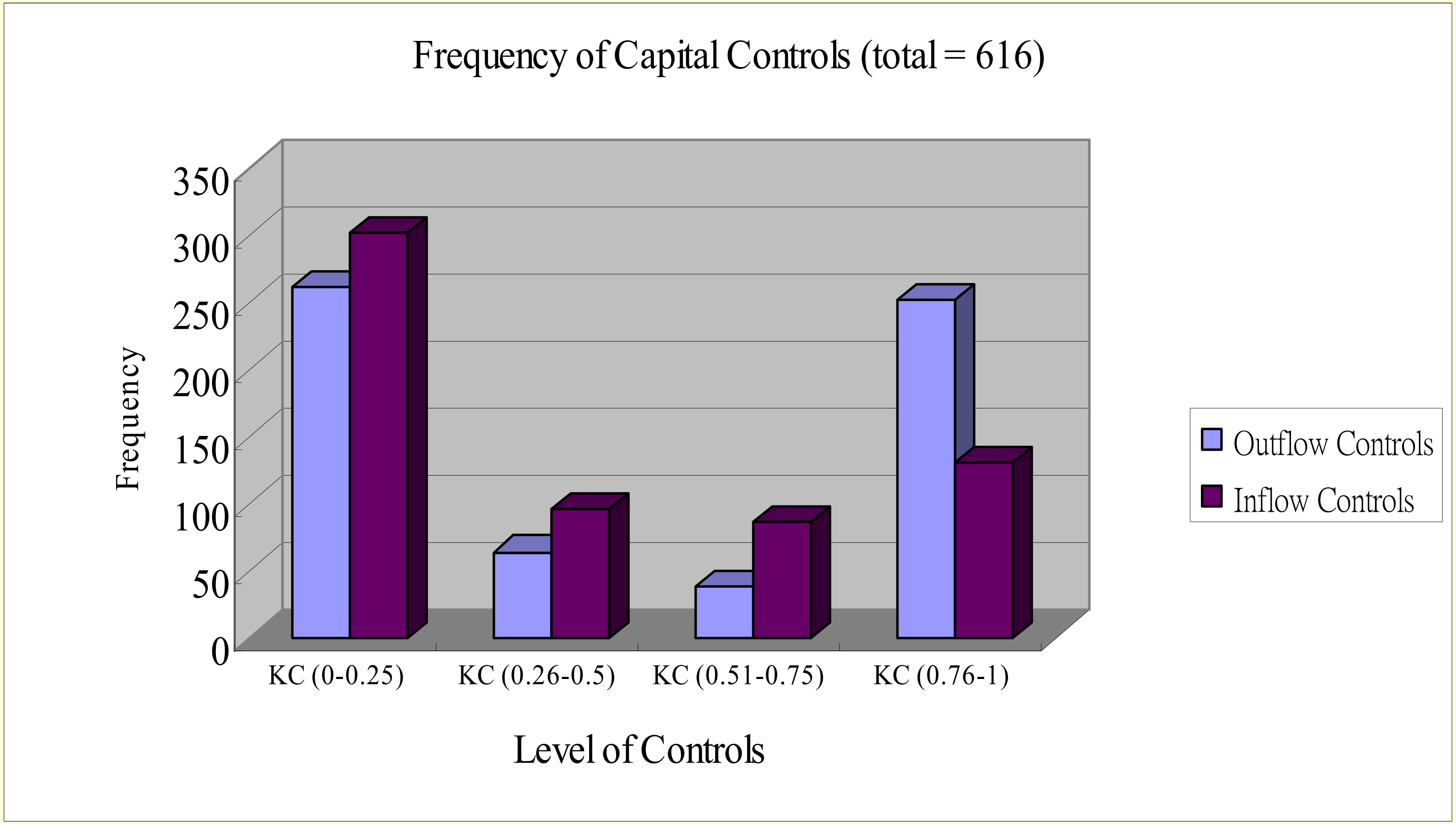
# Puzzle

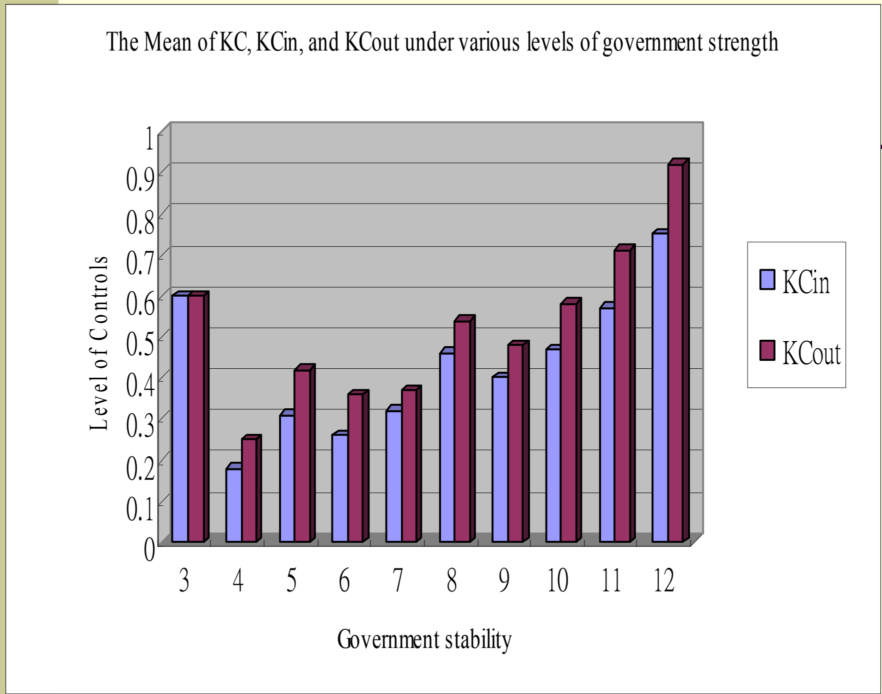
- Many economists are skeptical about the effectiveness of controls, but some prominent studies have found positive rather than zero or negative relationships between controls and crises (See Eichengreen, Rose, and Wyplosz 1996; Leblang 2003; Glick and Hutchison 2005)

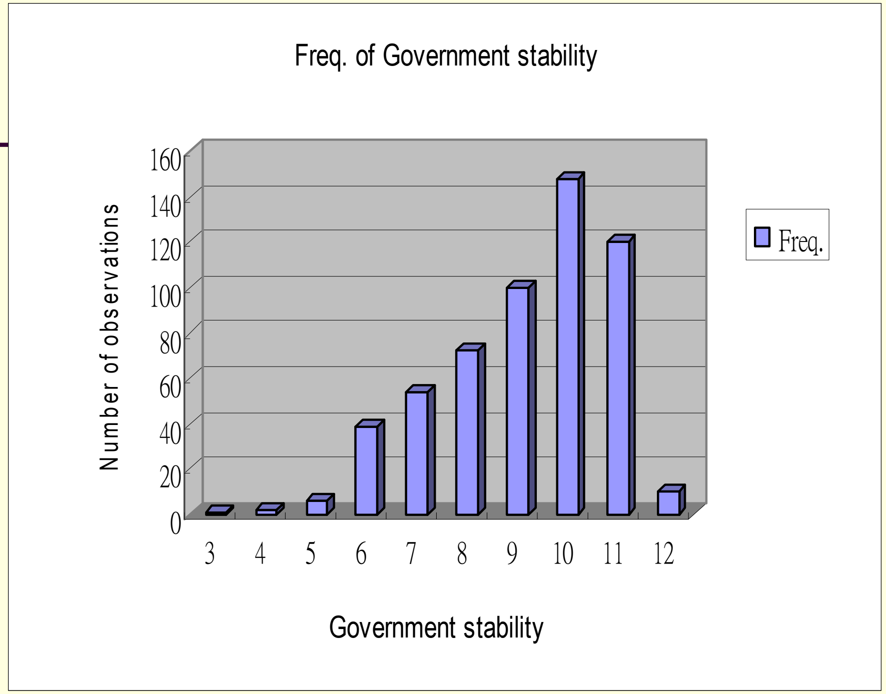
# Some possible explanations

- Signaling hypothesis
- Omitted variables
- Need more disaggregated approaches:
  1. 0 and 1 measures are too crude
  2. Distinguish between controls on capital *inflows* and *outflows* (Potchamanawong et al (2008) find positive effects for controls on *outflows* and negative for controls on *inflows* for a limited set of countries. Here we use the much larger data set by Schindler (2009), which measures the extent of controls, but not the intensity a la Quinn)
  3. The effects of controls may vary with the *political strength (government stability)*

# Hollowing Out of the Middle






1. Contrary to our expectations, stronger governments usually have more controls.

2. Controls on inflows and outflows are fairly highly correlated.

# Main purposes

- To investigate the interrelationships among political strength, capital controls, and currency crises, as well as their interaction effects.
  - New capital control data set by Schindler (2009)
  - The interaction effect between political strength and capital controls

# Hypotheses

- *H1: Weak governments make currency crises more likely.*
- *H2: There is also an interactive effect with controls on capital outflows such that the weaker the government, the more likely are strong controls on capital outflows to have a positive association with currency crises.*
- *H3:  Controls on capital inflows are associated with fewer currency crises.*

# Sample & Data

- The data set comprises annual observations from 1995 to 2005 on 56 countries, including 42 emerging markets economies, and 14 low-income developing countries.
- *International Country Risk Guide (ICRG); Database of Political Institutions (DPI); International Financial Statistics (IFS); World Development Indicators (WDI)*

# Model specification

- A panel probit model is defined as:

$$prob[Crisis_{i,t} = 1] = \Phi\,[\beta_1 + \beta_2 Strength_{i,t-1} + \beta_3 KCout_{i,t-1} + \beta_4 KCin_{i,t-1}$$

$$+ \beta_5 (Strength_{i,t-1} \cdot KCout_{i,t-1}) + \beta_6 (Strength_{i,t-1} \cdot KCin_{i,t-1}) + \beta_7 X_{i,t-1} + \varepsilon_{i,t}] \quad (1$$

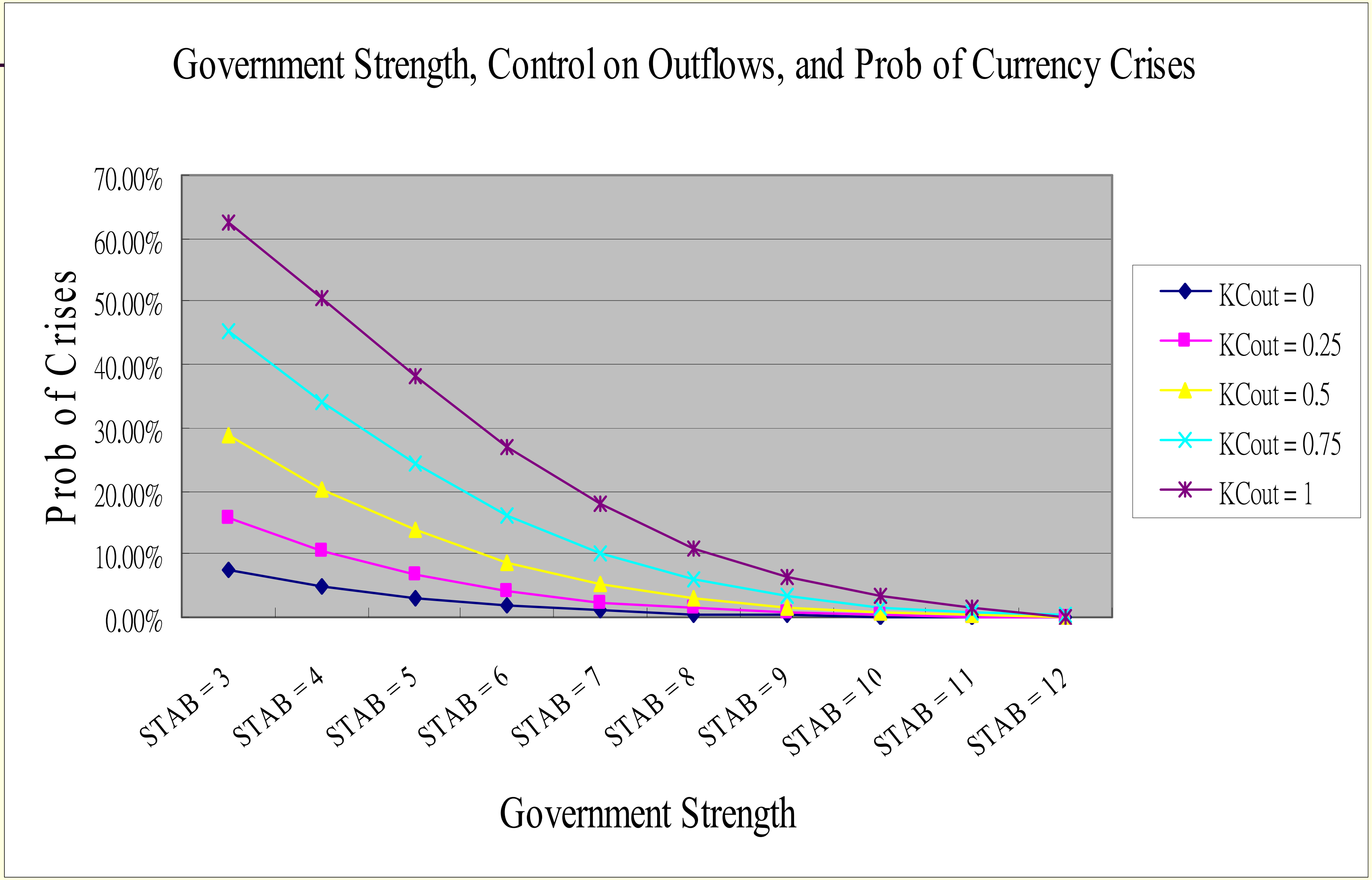
- A one-year lag is used for all independent variables to avoid the endogeneity problem.

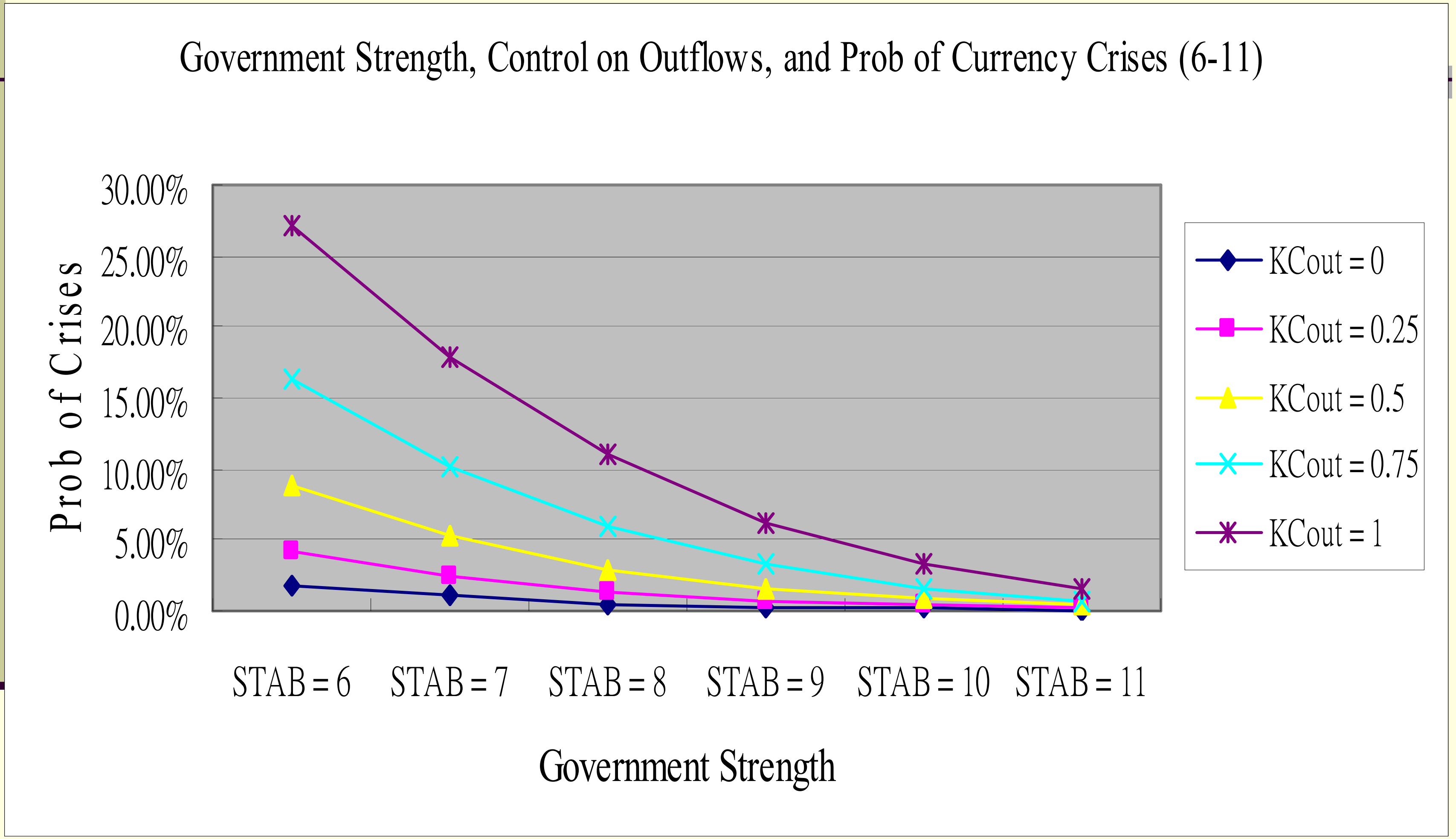
# List of Variables

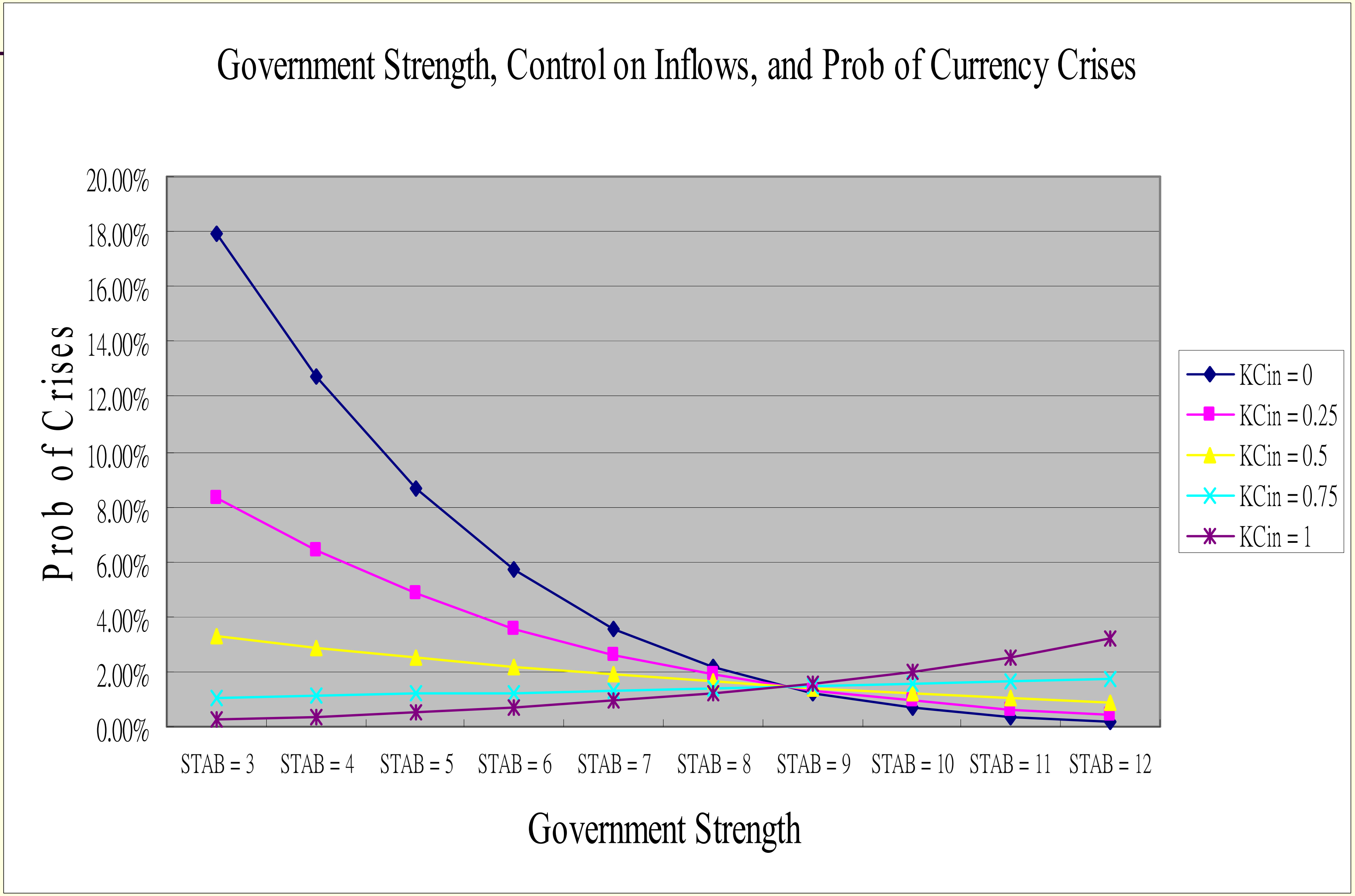
- Y: Crisis dummies 0 and 1
- *Strength*: government stability from 1-12
- *KCin*: Controls on inflows from 0 – 1 continuously
- *KCout*: Controls on outflows from 0 – 1 continuously
- X: control variables including:
  - Lending boom
  - M2/Reserve
  - Current Account/GDP
  - Real Effective Exchange Rate
  - Real GDP Growth
  - Election

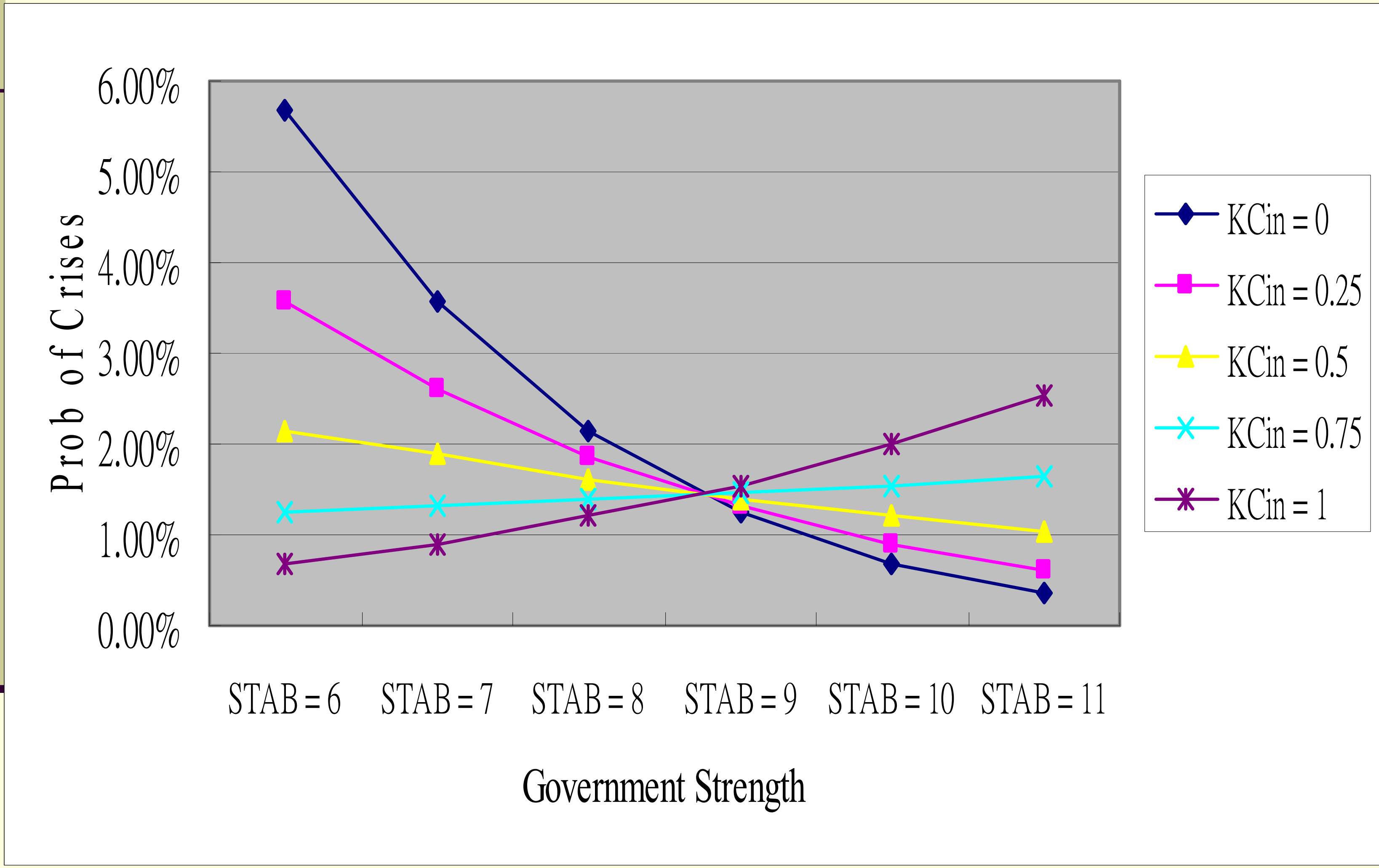
# Empirical Results

| | (1) Pooled | (2) Pooled | (3) Equal | (4) Equal |
|---|---|---|---|---|
| Stab $_{t-1}$ | - | -0.221** | - | -0.229* |
| | | (-2.05) | | (-1.78) |
| KCout $_{t-1}$ | 0.945** | 2.032* | 1.290* | 1.608 |
| | (2.12) | (1.65) | (1.99) | (1.04) |
| KCin $_{t-1}$ | -0.555 | -2.821** | -1.578 | -4.907** |
| | (-0.91) | (-2.05) | (-1.58) | (-3.16) |
| Stab*KCout $_{t-1}$ | - | -0.0893 | - | -0.0428 |
| | | (-0.87) | | (-0.27) |
| Stab*KCin $_{t-1}$ | - | 0.323* | - | 0.410** |
| | | (1.87) | | (2.30) |
| *N* | 475 | 463 | 441 | 426 |


Government Strength, Control on Outflows, and Prob of Currency Crises
Prob of Crises
70.00%
60.00%
50.00%
40.00%
30.00%
20.00%
10.00%
0.00%
STAB = 3
STAB = 4
STAB = 5
STAB = 6
STAB = 7
STAB = 8
STAB = 9
STAB = 10
STAB = 11
STAB = 12
Government Strength
KCout = 0
KCout = 0.25
KCout = 0.5
KCout = 0.75
KCout = 1


Government Strength, Control on Outflows, and Prob of Currency Crises (6-11)
Prob of Crises
30.00%
25.00%
20.00%
15.00%
10.00%
5.00%
0.00%
STAB = 6
STAB = 7
STAB = 8
STAB = 9
STAB = 10
STAB = 11
Government Strength
KCout = 0
KCout = 0.25
KCout = 0.5
KCout = 0.75
KCout = 1


Government Strength, Control on Inflows, and Prob of Currency Crises
Prob of Crises
20.00%
18.00%
16.00%
14.00%
12.00%
10.00%
8.00%
6.00%
4.00%
2.00%
0.00%
STAB = 3
STAB = 4
STAB = 5
STAB = 6
STAB = 7
STAB = 8
STAB = 9
STAB = 10
STAB = 11
STAB = 12
Government Strength
KCin = 0
KCin = 0.25
KCin = 0.5
KCin = 0.75
KCin = 1


6.00%
5.00%
4.00%
3.00%
2.00%
1.00%
0.00%
Prob of Crises
STAB = 6
STAB = 7
STAB = 8
STAB = 9
STAB = 10
STAB = 11
Government Strength
KCin = 0
KCin = 0.25
KCin = 0.5
KCin = 0.75
KCin = 1

# Main Findings

- Weak government increases crisis propensities (H1)
- Controls on outflows are positively associated with the probabilities of crises, the weaker the government is (H2)
- Controls on inflows are generally more effective in preventing crises than controls on outflows (H3)
- Surprises:
  - Upward slope of graphs of high controls on inflows with increasing government strength
  - Some cases of crisis probabilities with controls in outflows being higher than for controls on inflows

# Sensitivity Tests

- Using equal weights for defining crises.
- Using middle-income countries only. (emerging market economies)
- Incorporating government stability without interacting with capital controls.

# Conclusions

- Important to distinguish between the effects of controls on capital *inflows* and *outflows* and take government stability into account along with interaction effects.
- For future research, we can:
  - Switch to financial crises
  - Incorporate exchange rate regimes
  - Look at the effects of changes of controls instead of levels of controls

# Thank You !

Your comments will be highly appreciated.