

Flexing Your Muscles: Effects of Abandoning Fixed Exchange Rates for Greater Flexibility

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Motivation

- What happens when country abandons a fixed exchange rate regime, but from a position of strength, not weakness?
 - Inverse of usual “currency crisis” situation
 - Tremendous relevance: China

Empirical Orientation

- Identify 51 “Flexings” – situations where country abandoned fix and could have expected its exchange rate to appreciate
- Empirical Question: What Happened?
 - Short, unpretentious, policy-relevant paper

Answer

- Tremendous Heterogeneity
 - Few apparent causes/determinants of flexes
 - No big growth effect *on average*
- Patterns Emerge
 - Growth falls more for countries with high investment rate
 - Ditto rapidly growing trade
- Conclude: China may be right to fear the flex

Definition of Flexing (1)

- Shift out of Fixed Exchange Rate
 - Use Reinhart-Rogoff (with Ilzetzki) fine (15-way) exchange rate regime classification
 - Exit from: 1) no separate legal tender; 2) pre-announced peg or currency board arrangement; 3) pre-announced horizontal band narrower than or equal to +/-2%; and 4) *de facto* peg
 - 1946m1-2007m9, 218 countries
 - *De facto* not *de jure*

Definition of Flexing (2)

- Examine Exchange Rate Changes over 3 months after exit
 - Require appreciation or small (<5%) depreciation
 - Motivation: reasonably expect absence of crisis
 - Examine US\$(official, black-market), also SDR
 - Ignore High-Frequency Considerations
 - Longer/Shorter Horizon doesn't matter much
 - Changing 5% threshold doesn't matter much
 - Review, Check each observation

51 Flexings

Australia 1974	Iraq 1982	Malta 1972	Singapore 1973
Botswana 1980	Ireland 1979	Mauritania 1974	South Africa 1972
Canada 1970	Israel 1970	Mexico 1976	Spain 1974
Costa Rica 1963	Italy 1973	Morocco 1973	Sri Lanka 1968
Costa Rica 1971	Jamaica 1983	Mozambique 2004	Sri Lanka 1990
Finland 1973	Japan 1973	Nepal 1978	Suriname 1974
France 1971	Kuwait 1975	Netherlands 1971	Sweden 1973
Germany 1969	Liberia 1998	New Zealand 1973	Switzerland 1973
Germany 1973	Libya 1971	Nicaragua 1993	Tunisia 1974
Greece 1966	Lithuania 2003	Paraguay 1960	Turkey 1961
Haiti 1985	Malawi 1973	Peru 1967	Turkey 1972
Hong Kong 1972	Malaysia 2005	Philippines 1970	UK 1972
Iran 1974	Malaysia 1975	Portugal 1973	

Determinants of Flexes

- Causes of Exits may influence outcomes
 - Hence must examine determinants first
 - Little theory (Grilli); reasonable to examine overheating/inflation/asset price bubbles
- Estimate Probit models, attempt to link flexes to macro/financial variables of interest
 - Smoothed over time into 3-year averages
 - (5-year averages similar)
- Models work poorly in practice
 - Many variants
 - Strong exception: size matters (intuitively)

Flex Determinants: Bivariate Panel Probits, Time FE, Country RE

GDP Growth	.33	M2 growth	.60
Consumption/GDP	.16	Reserves/M2	.39
Investment/GDP	.07*	Reserves/GDP	.27
Government spending/GDP	.71	Trade/GDP	.74
GDP Inflation	.44	Current Account/GDP	.23
Consumption growth	.95	Export growth	.32
Investment growth	.34	Import growth	.54
Government Spending growth	.62	Log Population	.00***
Domestic Credit growth	.66		

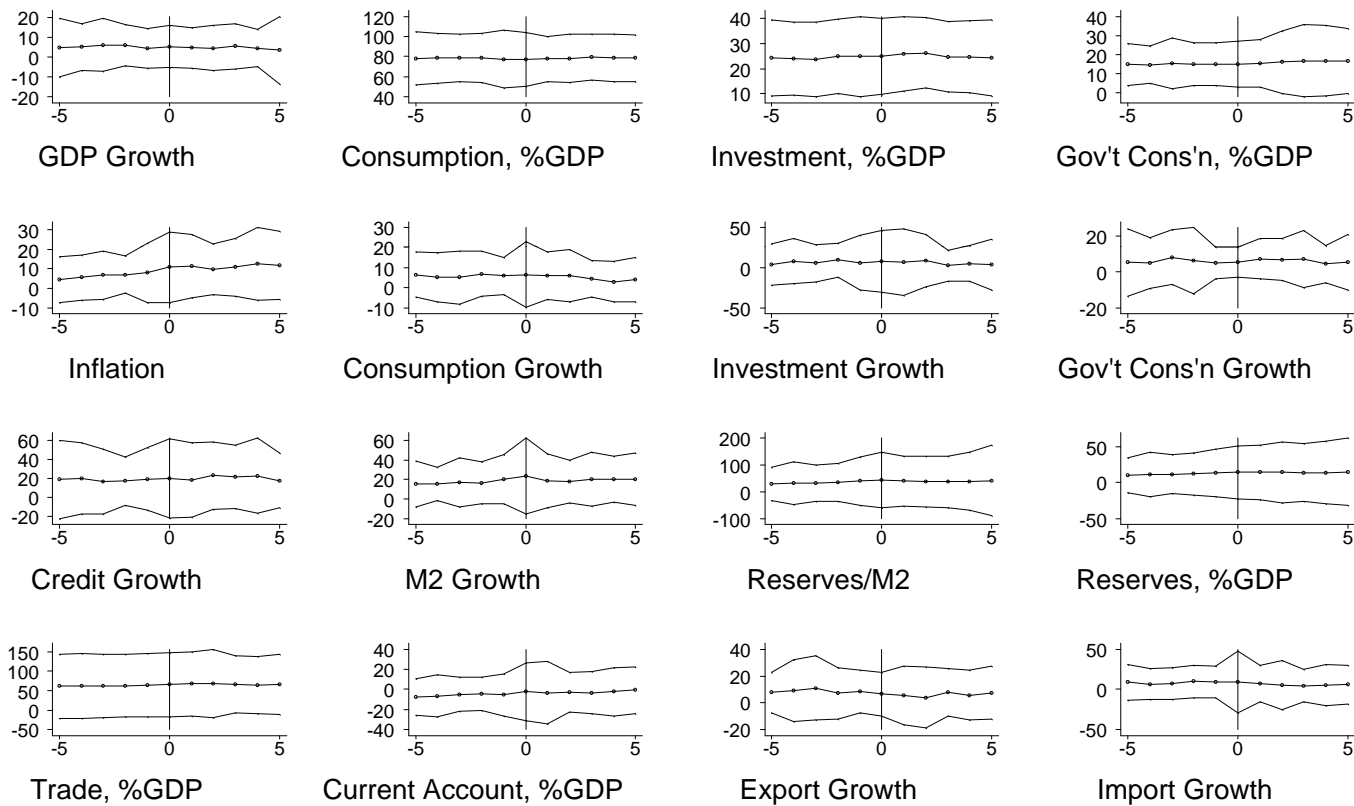
Flex Determinants: Multivariate Panel Probits, Time FE, Country RE

Consumption /GDP	-.003 (.006)
Investment /GDP	.011 (.010)
GDP Inflation	-.007 (.008)
Log Population	.081 (.058)
Trade /GDP	.002 (.003)

So, How Important is Selection Bias?

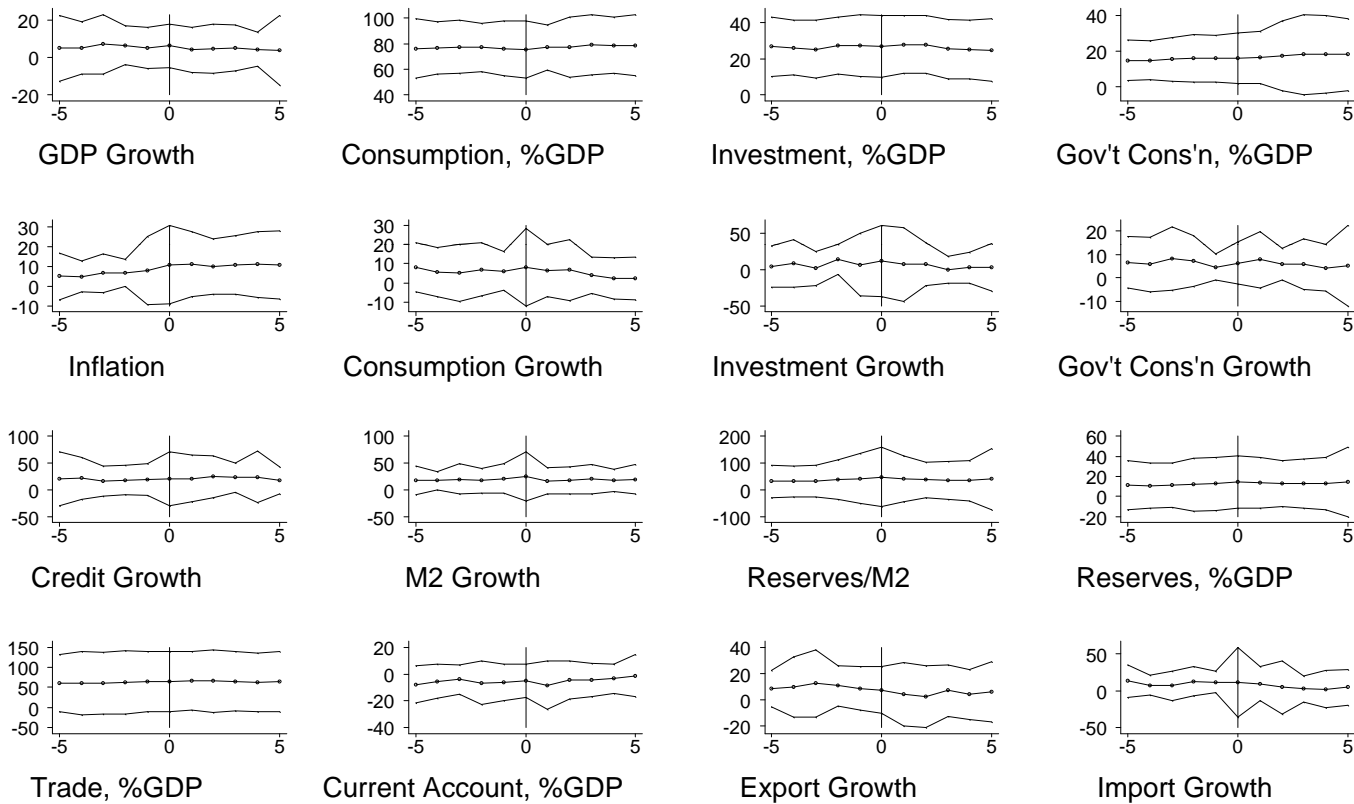
- Seems Not Very, at least in practice
 - If flexes are random, can examine flexes without worrying much about selectivity
- Hence can proceed on to event studies
 - Mostly WDI macro data
 - Choose wide variety of macro/financial indicators
 - Focus on China-relevant characteristics (e.g., C/Y, I/Y)
 - Guided by case studies
 - (Have looked at others without success)

Default Event Study



Means and +/- 2se CI; GDP series spliced.
Annual Movements around (51) Exits

Sensitivity Analysis

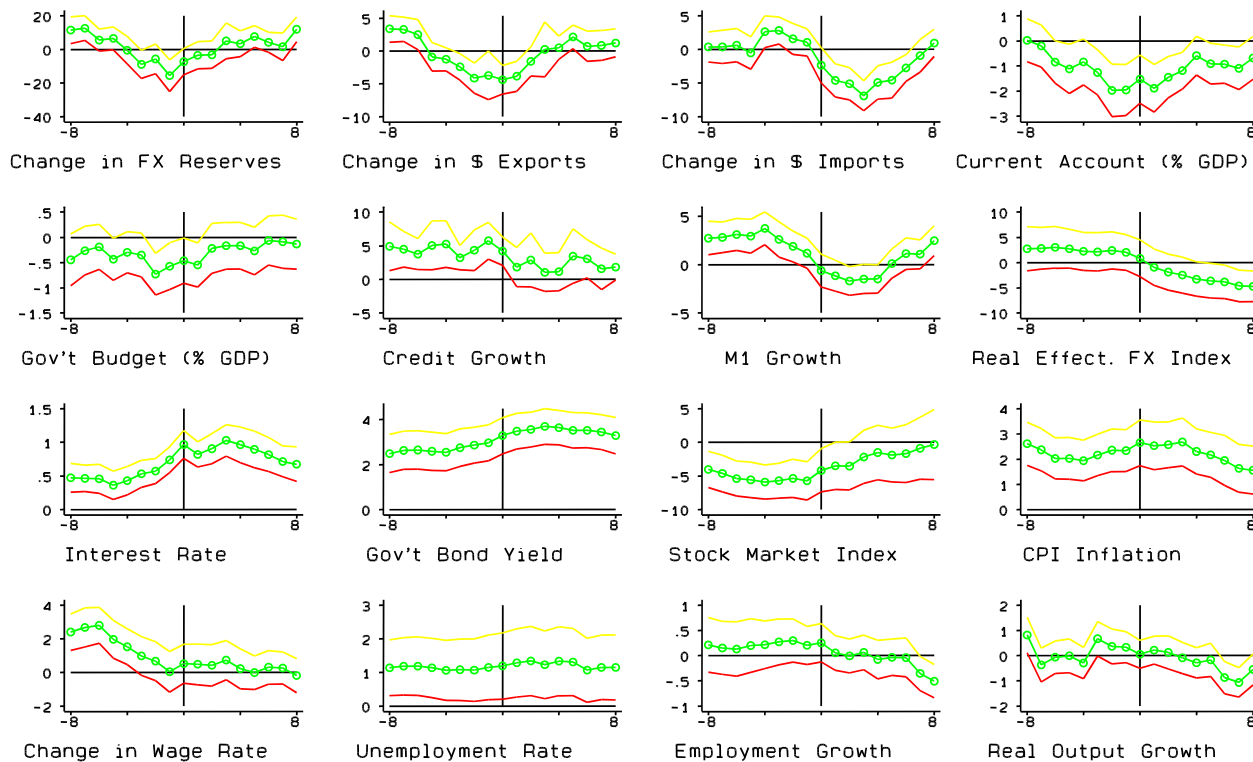


Means and +/- 2se CI; GDP series spliced.

Annual Movements around (32) Depreciation-Free Exits

Devaluations (Contrast)

Deviation of Differentials from Tranquillity; Samples not Comparable
Industrial Country Panel, 1959-1993



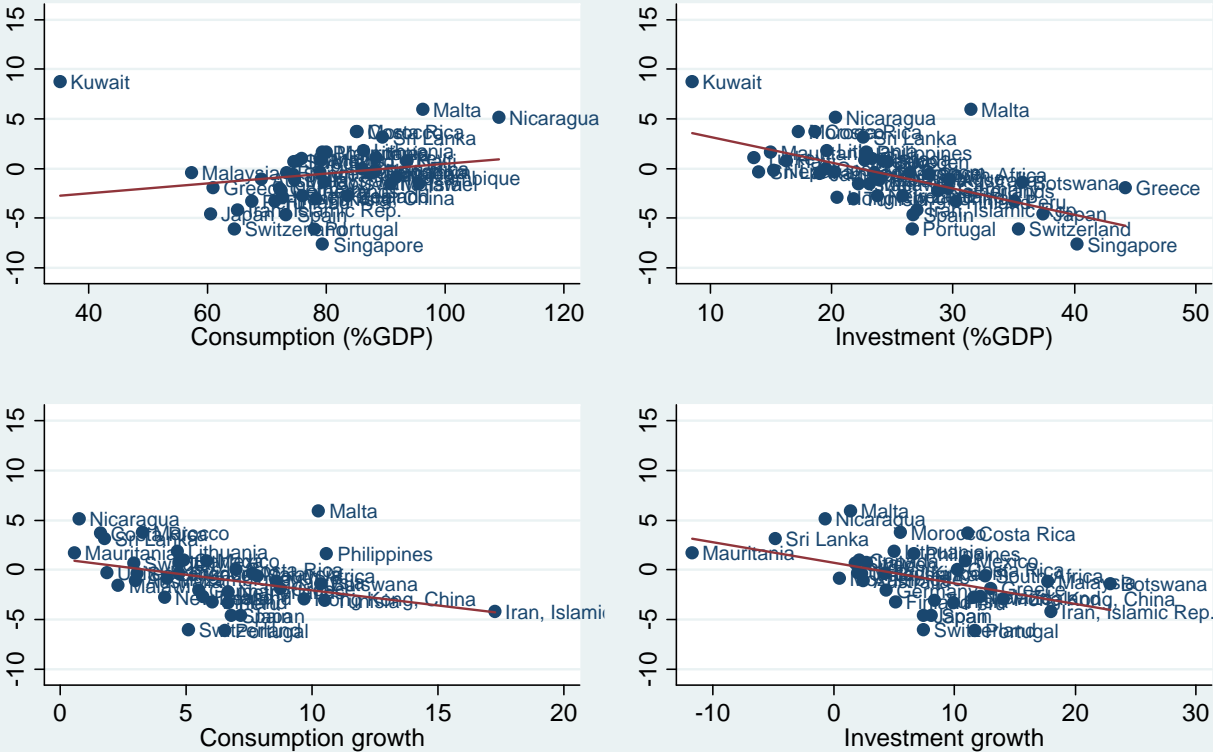
Mean plus two standard deviation band
Movements 8 Quarters Before and After (81) Devaluations

Few Apparent Trends

- Flexes are *not* “all alike”
 - Contrast to devaluations (Eichengreen et al) and currency crashes (Frankel-Rose)
- Big message: flexes are heterogeneous
 - Consistent with more detailed case studies
 - But univariate event studies can mask covariation
 - We look for big obvious ones, with Chinese-specific characteristics of interest

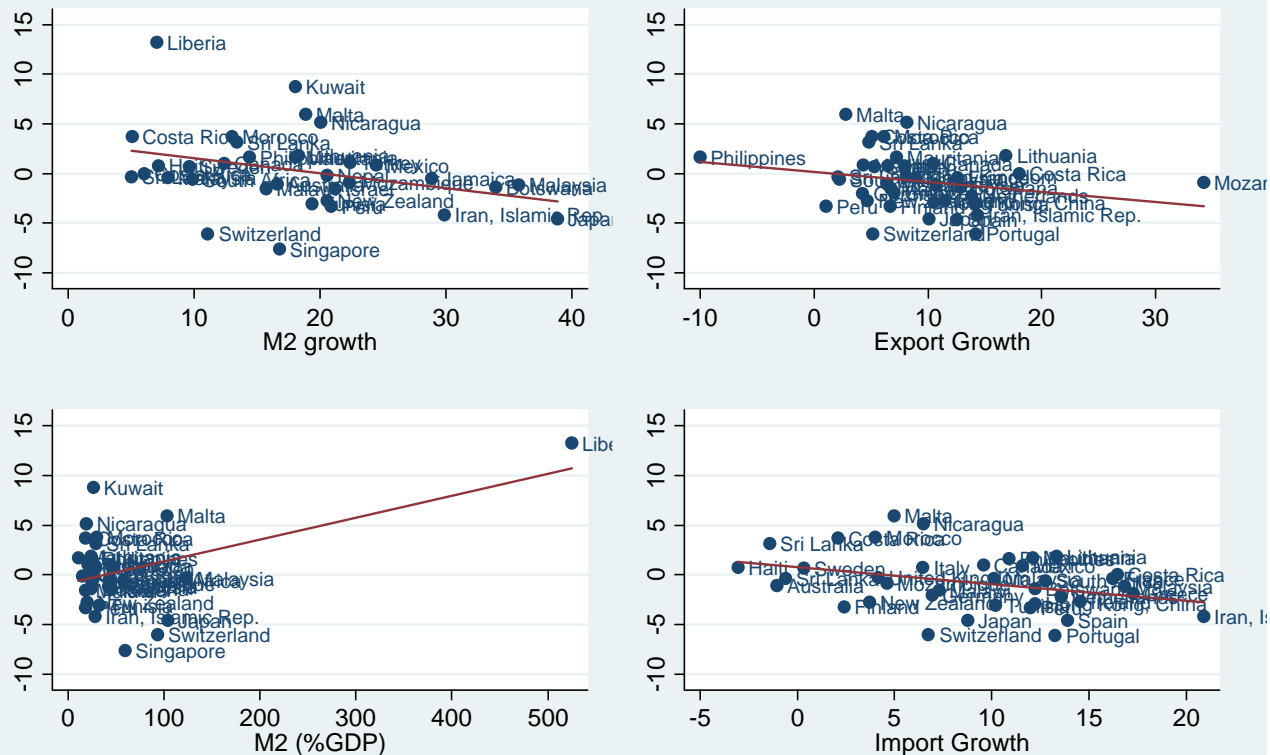
Pre-Conditions of Flexes and Growth

Growth Rates before/after (51) Exits and Pre-Conditions
 3-year averages of WDI data



Pre-Conditions, continued

Growth Rates before/after (51) Exits and Pre-Conditions
3-year averages of WDI data



Some Non-Trivial Covariation

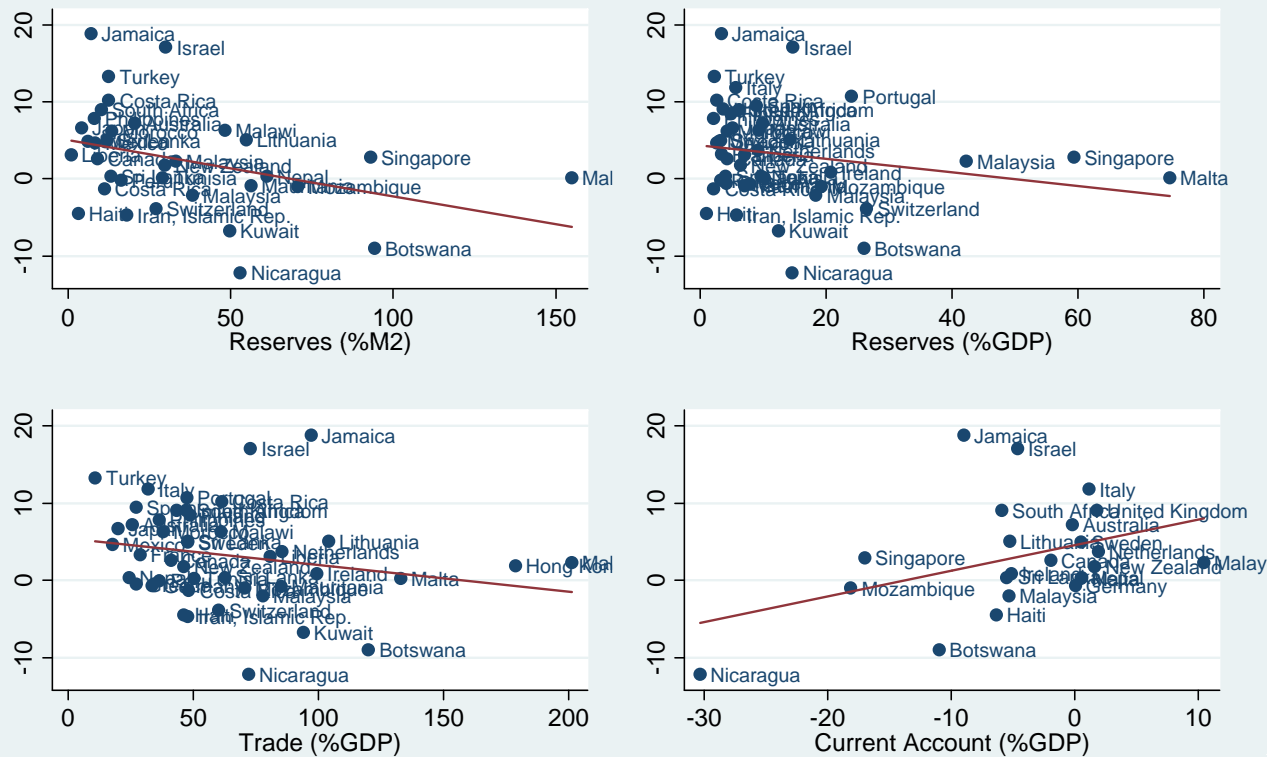
- Particularly strong effect on change in GDP growth rates of:
 - Investment (rates, growth)
 - Trade (growth)
- Can be detected statistically

Bivariate Impact on Change in GDP Growth Rates, Flexes

Consumption/GDP	0.05 (0.6)	M2 growth	-0.15** (-2.3)
Investment/GDP	-0.26*** (-3.9)	Reserves/M2	0.00 (0.0)
Government spending/GDP	0.10 (1.3)	Reserves/GDP	-0.02 (-0.4)
Consumption growth	-0.3** (-2.5)	Trade/GDP	0.01 (1.1)
Investment growth	-0.21*** (-3.7)	Export growth	-0.10* (-1.7)
Government Spending growth	-0.08 (-0.5)	Import growth	-0.17*** (-3.0)
Inflation	-0.09 (-0.6)	Current Account/GDP	-0.02 (-0.2)
Domestic Credit growth	-0.05 (-0.8)		

Pre-Conditions and Inflation

Inflation Rates before/after (51) Exits and Pre-Conditions
3-year averages of WDI data



Any Other First-Order Fears?

- Crisis incidence potentially important
- Different types of crises
 - Different measures of each type
- Most deliver little

Flexes and Banking Crises

	Before Flexes	After Flexes	Total
Non-Crises	93	132	225
Crises	1	4	5
Total	94	136	230

Five-year periods before/after flexes

Test of Equality: $\chi^2(1) = .9$; p-value = .3.

Crises taken from Bordo et al.; other measures deliver similar results.

Flexes and FX Crises

	Before Flexes	After Flexes	Total
Non-Crises	83	123	206
Crises	11	13	24
Total	94	136	230

Five-year periods before/after flexes

Test of Equality: $\chi^2(1) = .3$; p-value = .6.

Crises taken from Bordo et al.; other measures deliver similar results.

Caveats

- Can't go too far with only 51 observations
- Analysis all reduced-form
- Especially weak evidence of determinants of flexes
 - Hints that credit booms precede flexes
- Accordingly, caution appropriate
 - Short, policy-oriented, unpretentious paper

Conclusion

- Little evidence of major effects after flexing
- Still, some evidence consistent with Chinese caution. Since 1999, for China:
 - Investment > 40% GDP
 - Export Growth > 20%
 - Import Growth > 15%
 - Chinese values are extreme for flexers!
 - All associated with bigger post-flex slowdowns