Why did Asian countries fare better during the global financial crisis than during the Asian financial crisis?

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Outline of presentation

• Introduction
• Macroeconomic performance: stylized facts
• Empirical framework
• Key findings
• Concluding observations
Introduction

• The global crisis has substantial medium-term ramifications for developing Asia
  – Slower growth and heightened volatility

• But the global crisis had relatively limited short-term effect on Asia
  – Asia was not immune, but growth remained healthy and Asia did not suffer financial crisis

• At the same time, over-confidence is unwarranted
  – After all, Asia suffered a devastating crisis of its own in 1997-1998 → a game-changer for the region
Introduction

• Our central objective is to analyze and compare the performance of East Asia during global crisis versus Asian crisis
  
  – There were large capital outflows from the region during both crisis, but the impact was noticeably different
  
  – The big question is why?

• This is hardly a new issue, but our paper adds to the literature by taking a more rigorous, in-depth look
  
  – Examine the role of a common set of factors → economic fundamentals and policies
Stylized facts: East Asia-5 as a whole

• We have to first understand the actual stylized facts of the crises in 5 countries hit hardest by AFC
  – This is required for a meaningful comparative analysis

• We look at behavior of some key macro variables
  – Real GDP: recession milder, recovery quicker in GFC
  – Exchange rate: depreciation sharper in AFC
  – Exports: rebound in AFC, collapse in GFC
  – Investment: collapsed in AFC, held up well in GFC
  – Fiscal and monetary policy: moved in opposite directions
Fig 1 Real GDP growth rate

percent year over year

Average (1996Q1-2002Q4)  Average (2007Q1-2012Q2)
Fig 2 Exchange rate

index

- Average (1996Q1-2002Q4)
- Average (2007Q1-2012Q2)
Fig 3 Real export growth rate
Fig 4 Investment rate

percent

0.40
0.35
0.30
0.25
0.20
0.15
0.10
0.05
0.00

96Q1/07Q1 97Q1/08Q1 98Q1/09Q1 99Q1/10Q1 00Q1/11Q1 01Q1/12Q1 02Q1/13Q1

Average (1996Q1-2002Q4)  Average (2007Q1-2012Q2)
Fig 5 Growth rate of government expenditures

Average (1996Q1-2002Q4)  Average (2007Q1-2012Q2)
Fig 6 Short-term interest rates

Percent

Average (1996Q1-2002Q4)  Average (2007Q1-2012Q2)
Stylized facts: East Asia 5 as a whole

• Overall, internal structural problems contributed considerably to the outbreak of the Asian crisis and robust external demand helped the five countries export their way out of the crisis.

• In contrast, the global crisis was largely an external crisis from the viewpoint of the five countries, which enjoyed relatively strong internal fundamentals in 2007–08.

• Another important difference between the two crises was the stance of fiscal and monetary policy.
Stylized facts: Individual EA5 countries

- We take a more in-depth look by dissecting the fundamentals of individual countries
  - Output gap prior to both crises, but much bigger in AFC
  - Avg inflation was relatively high prior to both crises
  - Investment rate much higher prior to AFC
  - Current account deficit widened prior to AFC
  - External debt grew rapidly prior to AFC
  - Exchange rate depreciated much more in AFC
  - FX reserves grew rapidly since AFC
  - Financial imbalances were larger in AFC
Stylized facts: Individual EA5 countries

• Different fundamentals in AFC vs. GFC had major implications for monetary and fiscal policy
  – Prior to AFC, there was no scope for easing monetary policy. In contrast, prior to GFC, there was plenty of scope for monetary expansion.
  – Fiscal consolidation became inevitable after AFC. On the other hand, EA5 countries had ample fiscal space prior to GFC.

• In sum, EA5 countries had stronger fundamentals prior to GFC, which enabled them to implement appropriate macroeconomic policy
Fig 7 Output deviation from trend, 1994-2012

percent


-12 -8 -4 0 4 8 12

Indonesia
Republic of Korea
Malaysia
The Philippines
Thailand
Fig 8 Share of investment in GDP, 1994-2012

percent


Indonesia  Republic of Korea  Malaysia  The Philippines  Thailand
Fig 9 Current account balance as share of GDP, 1994-2012

percent


Indonesia
Republic of Korea
Malaysia
The Philippines
Thailand
Fig 10 Ratio of total external debt to GDP, 1994-2012
Fig 11 Nominal exchange rate depreciation, 1997-98 and 2008-9
Fig 12 Gross FX reserves, 1994-2012

billions of US dollars
Fig 13 Credit to GDP, percent deviation from trend, 1994-2012

Indonesia
Republic of Korea
Malaysia
Thailand
Fig 14 Stock market, percent deviation from trend, 1994-2012
Fig 15 Property prices, percent deviation from trend, 1994-2012
Empirical framework

• We perform a more in-depth comparative econometric analysis of AFC and GFC
  – Quarterly data from 1990Q1 – 2011Q4
• First, we run a panel probit regression on the likelihood of a crisis
  – Crisis is currency crisis as in Reinhart and Rogoff (2011)
• Second, we identify economic factors determining the depth of a crisis
• Third, we identify what economic fundamentals determine recovery from a crisis
How can depth of a crisis and recovery from a crisis be measured?
Empirical framework

• There are a number of economic variables considered in the early-warning literature that signal a crisis.

• For our purposes, we consider economic variables that are identified to be most significant in recent studies.
  – Pierre-Olivier Gourinchas and Maurice Obstfeld (2012)
  – Jeffrey A. Frankel and George Saravelos (2010) --- review of more than 80 papers
Empirical framework

• Based on the 2 studies, we choose the following 7 explanatory variables for probit analysis of a crisis.
  – foreign reserves/GDP
  – five-year average of real exchange rate appreciation
    ▪ The real exchange rate is the real effective exchange rate against OECD countries where trade shares are used as weights.
  – credit/GDP
    ▪ Following Gourinchas and Obstfeld (2012), domestic credit measured in domestic currency comes from the IMF’s *International Financial Statistics*.
      o The credit-to-GDP ratio is calculated by dividing domestic credit by nominal GDP in domestic currency
Empirical framework

- Based on the 2 studies, we choose the following 7 explanatory variables for probit analysis of a crisis.
  - five-year average growth rate of real GDP
  - current account balance/GDP
  - five-year average of the inflation rate
  - export share of GDP
    - Export share of GDP is exports divided by GDP
Empirical framework

• We run both bivariate and multivariate panel regressions.

• For likelihood of crisis, we use panel probit estimation with random effects. For depth of crisis and recovery from crisis, we use pooled ordinary least square regressions.

• All explanatory variables are lagged by one year.

• For depth of a crisis and recovery from crisis, we add measures of fiscal policy and monetary policy.
  – Monetary policy: M2 growth rate or interest rate change
  – Growth rate of real government expenditures
Key empirical results

• Determinants of crisis

  – All seven explanatory variables are statistically quite significant as early indicators of a crisis.

  – For the global crisis, only four variables—real exchange rate appreciation, domestic credit expansion, the real GDP growth rate, and the export share of GDP—are significant.

    ▪ This suggests that the impact of the global crisis seems to be more closely related to capital inflows.
Key empirical results

• Depth of crisis

– In general, a crisis is deeper if the pre-crisis inflation rate is higher, pre-crisis domestic credit expansion is larger, the pre-crisis real GDP growth rate is higher, the interest rate increases during the crisis, and/or the growth rate of real government expenditures decreases during the crisis.

– For the global crisis, besides the policy variables, higher credit expansion, higher real exchange rate appreciation before a crisis, and a higher pre-crisis real GDP growth rate make the recession deeper.
Key empirical results

• Recovery from crisis
  – In general, policy variables such as monetary and fiscal expansions are quite significant in explaining quick recovery from a crisis. There is some evidence that the recovery is faster when the export share is higher.
  – For the global crisis, policy variables continue to be significant in explaining the fast recovery. We also found some evidence that higher foreign reserves, a higher real GDP grow rate, and a current account surplus led to a faster recovery.
Key empirical results

• Fundamentals were much stronger during the global crisis than during the Asian crisis.
  – Ratio of foreign reserves to GDP was higher
  – Pre-crisis real exchange rate appreciation was lower
  – Credit expansion was lower
  – Current account surplus was larger
  – Pre-crisis inflation rate was lower
  – Export share was larger

• Policy was more appropriate for reviving demand and growth
  – Interest rates fell and real government expenditure rose after 2008 GFC
Concluding observations

• Overall, the empirical analysis yields a number of important and interesting findings.
  – First, economic fundamentals exert a significant influence on the likelihood of crisis.
    ▪ Foreign exchange reserves, real exchange rate appreciation, domestic credit, pre-crisis real GDP growth, the current account, inflation, and export shares
  – Second, economic fundamentals significantly affect the depth of a crisis
    ▪ Inflation rate, domestic credit expansion, and the precrisis GDP growth rate
  – Third, the policy stance during the crisis matters
    ▪ Countercyclical expansionary monetary and fiscal policy can mitigate the impact of a crisis and contribute to a more robust recovery.
  – To sum up, the evidence strongly suggests that economic fundamentals and macroeconomic policy matter a lot in staving off a crisis, cushioning its blow, and laying the foundation for recovery.
Concluding observations

• The overarching policy implication for Asian policymakers is to do more of the same—pursue the sound policies and robust fundamentals that have served the region well in the past.

• Fundamentals have improved since the Asian crisis
  – For example, Asia’s healthy current account balances and foreign exchange reserve levels are a response to the severe shortage of US dollar liquidity the region suffered during the Asian crisis.

• Furthermore, the expansionary stance of both fiscal and monetary policy during the global crisis was far more appropriate than the contractionary stance during the Asian crisis.