

Regional Monetary Cooperation in Asia

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Motivation and objectives

- The global financial crisis, which was originated in US financial institutions, seemed to erode confidence of the US\$ and, in turn, to give depreciating impacts to the US\$ against the euro, the sterling pound, and the Japanese yen. However, the euro and the pound have depreciated against the US\$ during the crisis and the fiscal crisis in some countries of the euro zone have had depreciating impacts on them.
- How has the global financial crisis affected on Asian currencies? We can find asymmetric responses of Asian currencies to the global financial crisis.
- Misalignments of intra-regional exchange rates among Asian currencies have adverse effects on trade and FDIs in the context of established production network in Asia.
- How will Asian countries establish a regional monetary cooperation while they learn European experiences?

Contents

- Asymmetric responses of Asian currencies to the global financial crisis
- Coordination failure in currency policy among East Asian countries
- Effects of the Chinese yuan on neighboring countries
- Regional monetary cooperation in East Asia
- A roadmap toward AMU

Depreciating euro and pound during and after the global financial crisis

- Moderate appreciation of the US\$ and sudden depreciation of the euro and the pound since the Lehman Brothers Shock in 2008.
- The Lehman Brothers Shock clearly exists counter-party risk in inter-bank markets especially in Europe.
- European financial institutions who damaged their balance sheet due to loss of securities backed by the subprime mortgage cannot finance the US\$ liquidity.
- Some of European countries occurred housing bubbles like the US.
- The fiscal crisis in Greece and Ireland have brought about depreciation of the euro and the pound in 2010.

Movements of euro and pound against US\$



Weighted average of Asian currencies

- AMU and AMU Deviation Indicators
(see <http://www.rieti.go.jp/users/amu/index.html>)
 - (1) AMU (Asian Monetary Unit): a weighted average of East Asian (ASEAN+3 (China, Japan, and Korea))
 - (2) AMU Deviation Indicator: position of each Asian currency against the AMU based on benchmark period (2000-2001)
- AMU has been appreciating against a currency basket of the US\$ and the euro over time since 2005.
- AMU has been appreciating against the US\$ since May 2009 after it depreciated against the US\$ from April 2008 to April 2009.
- AMU has had twice appreciation against the euro during and after the global financial crisis.

AMU Shares and Weights of each currencies

Table 2. AMU shares and weights of East Asian Currencies

(revised in 10/2011****, benchmark year=2000/2001)

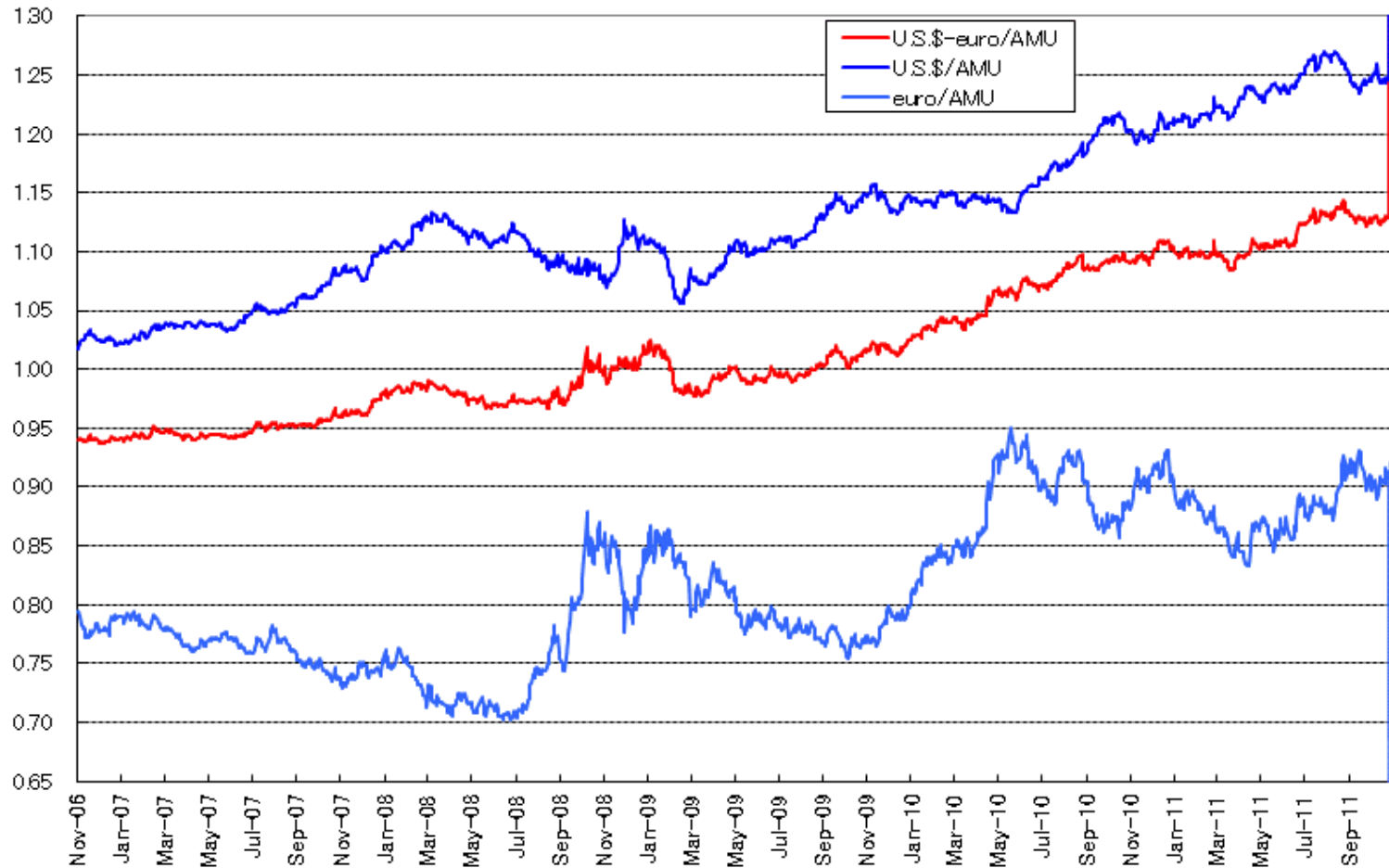
	Trade volume* %	GDP measured at PPP**, %	Arithmetic average shares % (a)	Benchmark exchange rate*** (b)	AMU weights (a)/(b)
Brunei	0.35	0.12	0.23	0.589114	0.0040
Cambodia	0.18	0.16	0.17	0.000270	6.2017
China	27.14	49.84	38.49	0.125109	3.0765
Indonesia	5.42	5.25	5.34	0.000113	472.2701
Japan	21.89	26.30	24.10	0.009065	26.5817
South Korea	13.46	7.87	10.66	0.000859	124.1471
Laos	0.14	0.08	0.11	0.000117	9.4017
Malaysia	7.21	2.21	4.71	0.272534	0.1729
Myanmar	0.42	0.24	0.33	0.159215	0.0208
Philippines	2.08	1.97	2.03	0.021903	0.9247
Singapore	12.27	1.45	6.86	0.589160	0.1165
Thailand	6.53	3.11	4.82	0.024543	1.9639
Vietnam	2.91	1.39	2.15	0.000072	298.7892

* : The trade volume is calculated as the average of total export and import volumes in 2007, 2008, and 2009 taken from DOTS (IMF).

Movements of AMU against US\$ and euro

Figure 1. AMU in terms of the US\$-euro
(benchmark year=2000/2001, basket weight=2004-2006)

US\$-euro/AMU

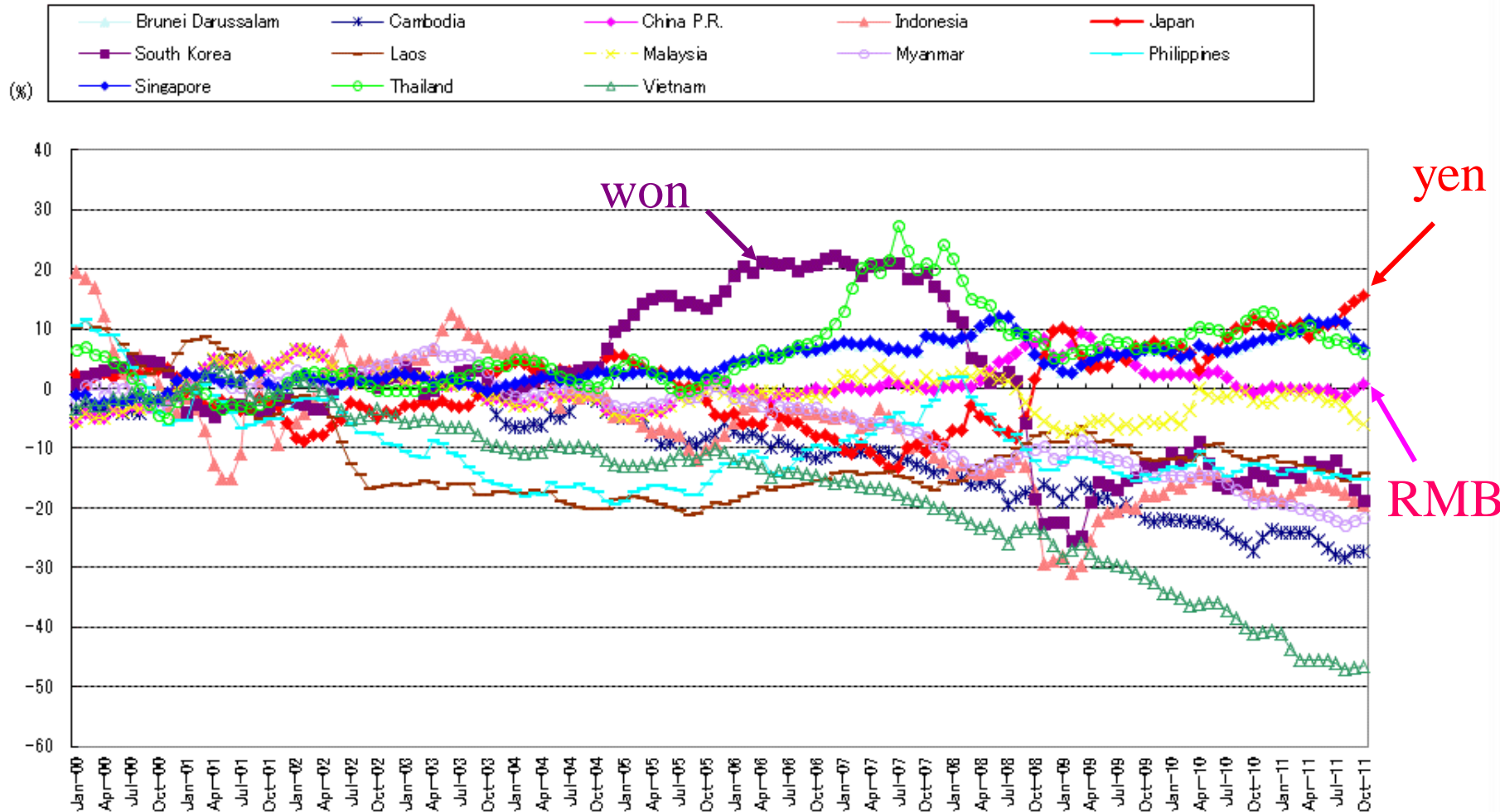


Asymmetric reactions of Asian currencies

- AMU Deviation Indicators of East Asian currencies shows their asymmetric reactions caused by the global financial crisis.
- The Japanese yen has been overvalued in terms of the AMU since October 2008.
- The Chinese yuan has been depreciating against the AMU since March 2009.
- The Korean won changed from 20% of overvaluation in October 2007 to 30% of undervaluation in March 2009. It depreciated by 50% points in terms of the AMU. It has been appreciating against the AMU since then.

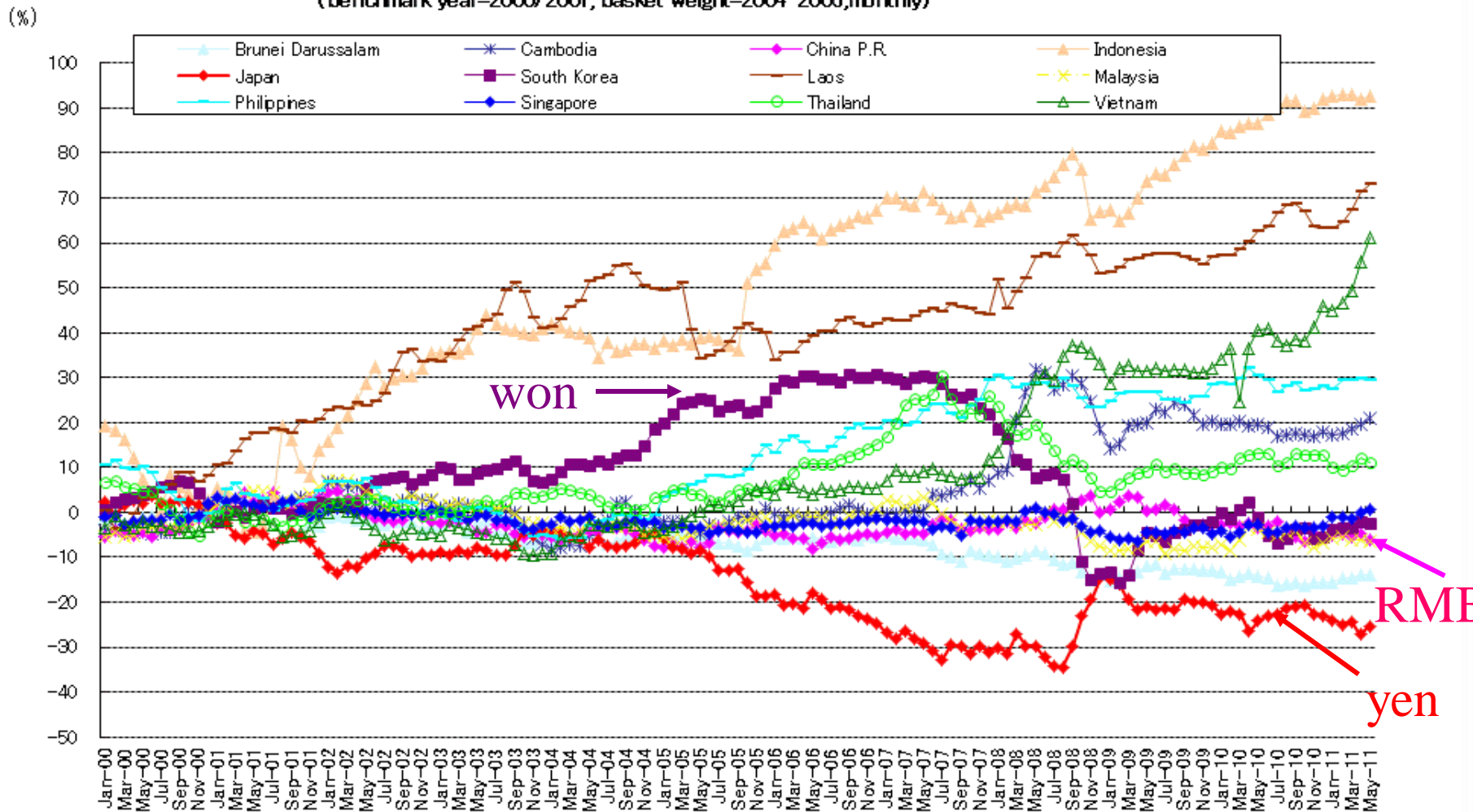
Nominal AMU Deviation Indicators

Figure 3. Nominal AMU Deviation Indicators
(benchmark year=2000/2001, basket weight=2004-2006, monthly)



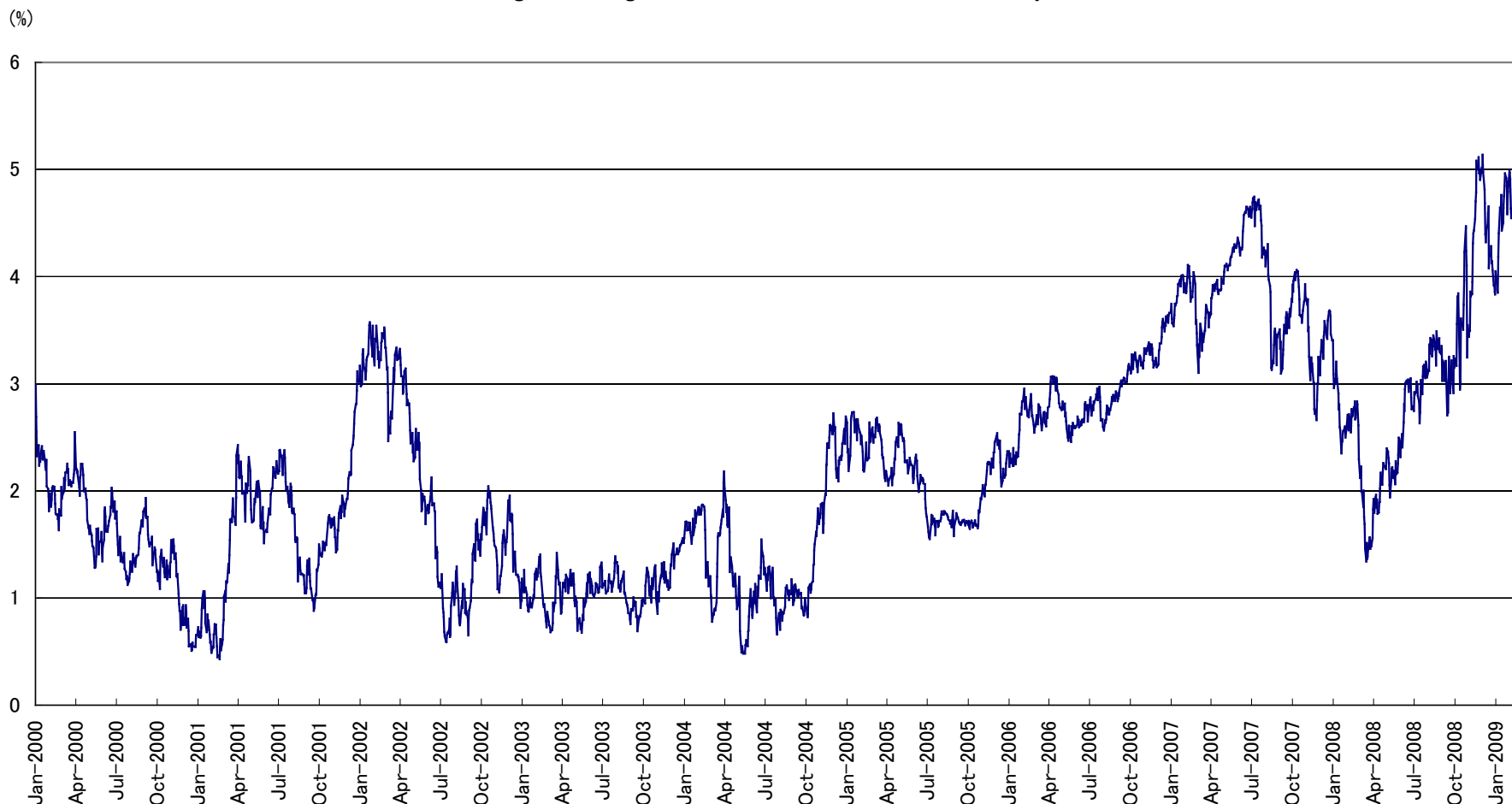
Real AMU Deviation Indicators

Figure 4. Real AMU Deviation Indicators
(benchmark year=2000/2001, basket weight=2004-2006, monthly)



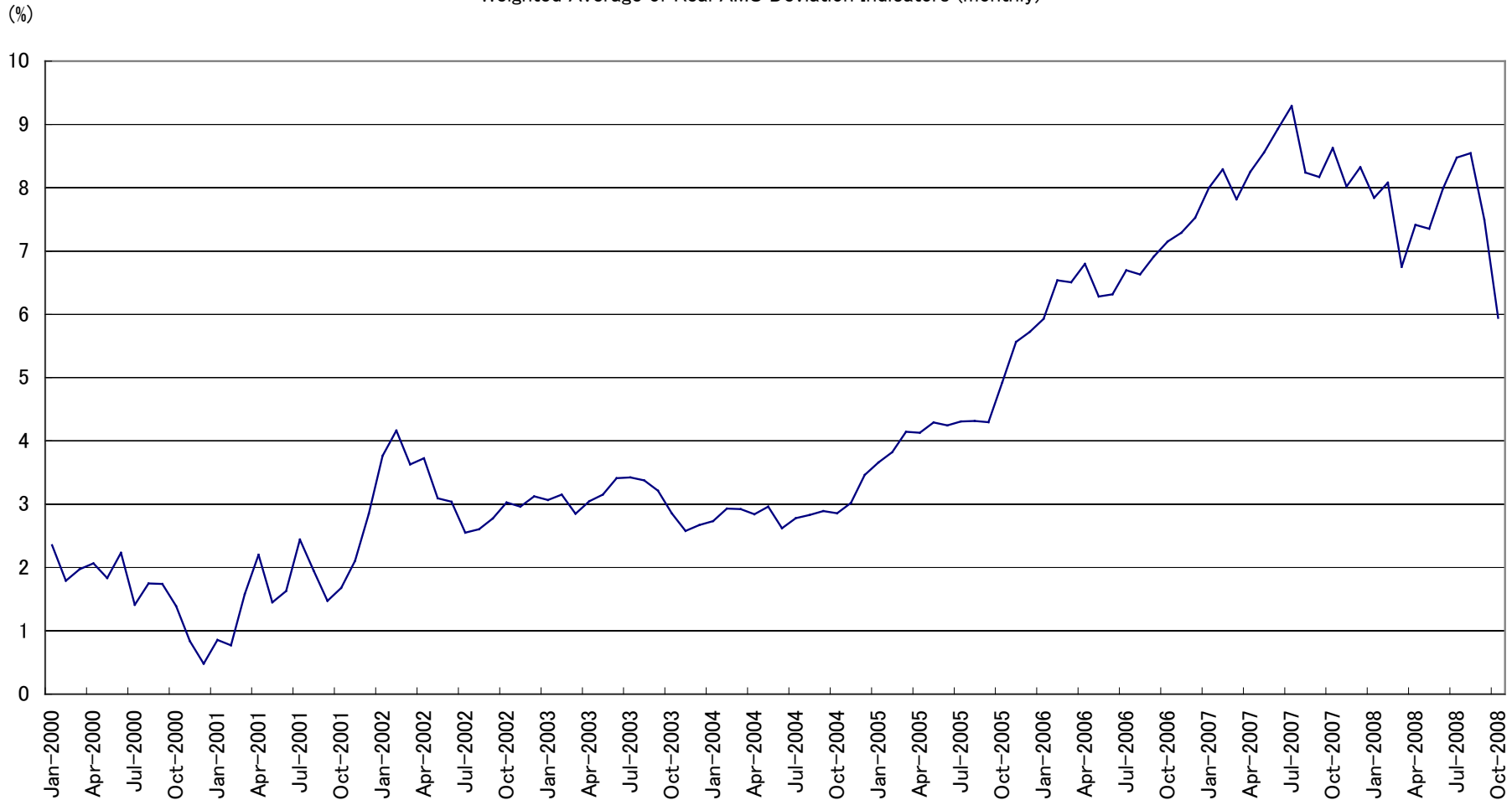
Weighted Average of Nominal AMU Deviation Indicators

Weighted Average of Nominal AMU Deviation Indicators (daily)



Weighted Average of Real AMU Deviation Indicators

Weighted Average of Real AMU Deviation Indicators (monthly)



Backgrounds of the asymmetric reactions

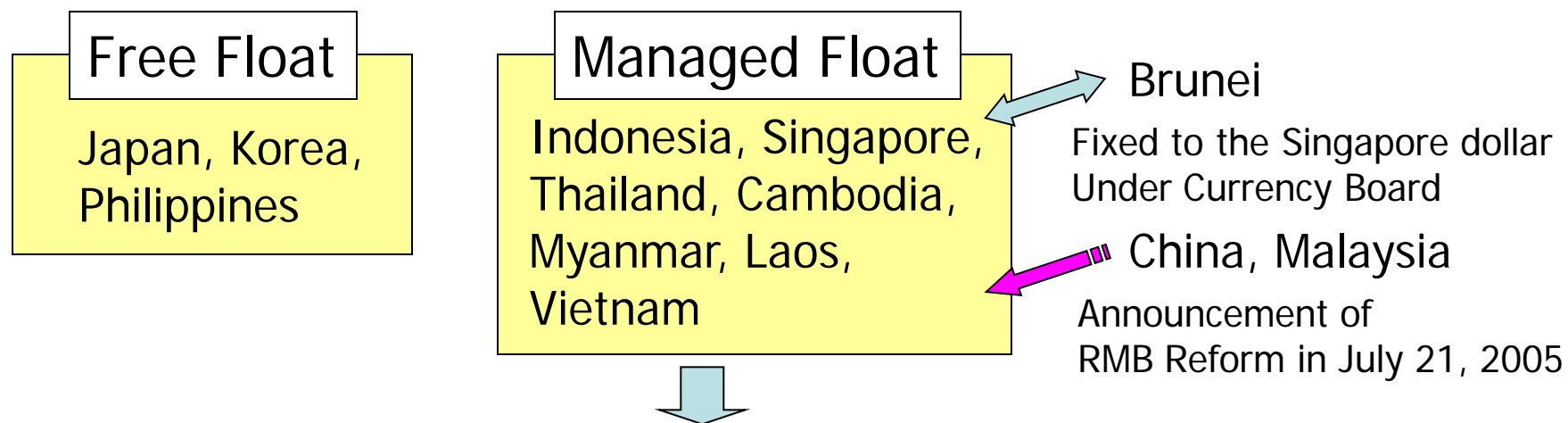
- Backgrounds of the asymmetric reactions of East Asian currencies
 - (1) Different exchange rate systems adopted among East Asian countries (“coordination failure” in currency policy (Ogawa and Ito (2002))

Japan and Korea adopt flexible rate system.
China has fixed RMB to the US\$ since July 2008 although it made announcements of adopting a managed floating rate system with reference to a currency basket.
Some of ASEAN target a currency basket.
 - (2) Active intra-regional capital flows:

US and European financial institutions conducted yen carry trades by borrowing the yen and investing in the Korean won before the global financial crisis. During the crisis they closed the yen carry trade and Korea faced sudden stops and moreover backward flows from Korea.

Exchange rate regimes in East Asia

- Officially announced exchange rate regimes



Officially announced EX rate regimes may differ from actual ones. We employ Frankel and Wei (1994)'s method to investigate actual (*de facto*) regimes employing.

Actual exchange rate regimes in East Asia (Ogawa and Yoshimi (2009))

- Frankel and Wei (1994)'s method

$$\Delta \log e^{HOME/SFR} = a_0 + a_1 \Delta \log e^{USD/SFR} + a_2 \Delta \log e^{EURO/SFR} + a_3 \Delta \log e^{JPY/SFR} + \varepsilon_t$$

$e^{i/SFR}$: EX rate of i in terms of the Swiss franc ($i = HOME, USD, EURO, JPY$).

- Full sample: 1/3/2000-2/27/2009
- Sub-sample
 - Period 1: 1/3/2000-1/13/2005
 - Period 2: 1/14/2005-7/20/2005
 - Period 3: 7/21/2005-8/7/2007
 - Period 4: 8/8/2007-9/14/2008
 - Period 5: 9/15/2008-2/27/2009

China keeps *de facto* dollar peg even after the RMB reform.

Chinese yuan	US dollar	euro	Japanese yen	Adj. R2
Full samples	0.9864 *** (0.0030)	0.0079 (0.0058)	0.0026 (0.0025)	0.988
Period 1	1.0002 *** (0.0002)	-0.0002 (0.0004)	-0.0001 (0.0001)	1.000
Period 2	0.9998 *** (0.0002)	0.0001 (0.0006)	0.0002 (0.0002)	1.000
Period 3	0.9541 *** (0.0121)	0.0125 (0.0313)	0.0279 *** (0.0108)	0.955
Period 4	0.9652 *** (0.0151)	-0.0128 (0.0251)	0.0030 (0.0122)	0.963
Period 5	0.9882 *** (0.0122)	0.0320 * (0.0165)	-0.0099 (0.0086)	0.990

South Korean won	US dollar	euro	Japanese yen	Adj. R2
Full samples	0.7843 *** (0.0293)	0.5669 *** (0.0563)	0.0529 ** (0.0242)	0.434
Period 1	0.8037 *** (0.0287)	-0.0083 (0.0643)	0.2361 *** (0.0246)	0.635
Period 2	0.5128 *** (0.0826)	0.0285 (0.2258)	0.1963 * (0.0878)	0.478
Period 3	0.7430 *** (0.0371)	0.3056 *** (0.0965)	0.0900 *** (0.0332)	0.634
Period 4	0.9392 *** (0.0761)	0.5535 *** (0.1266)	-0.0802 (0.0615)	0.576
Period 5	0.6409 *** (0.2341)	1.1006 *** (0.3161)	-0.1729 (0.1645)	0.200

Effects of the RMB on China, Japan, and Korea (Ogawa and Iwatsubo (2009))

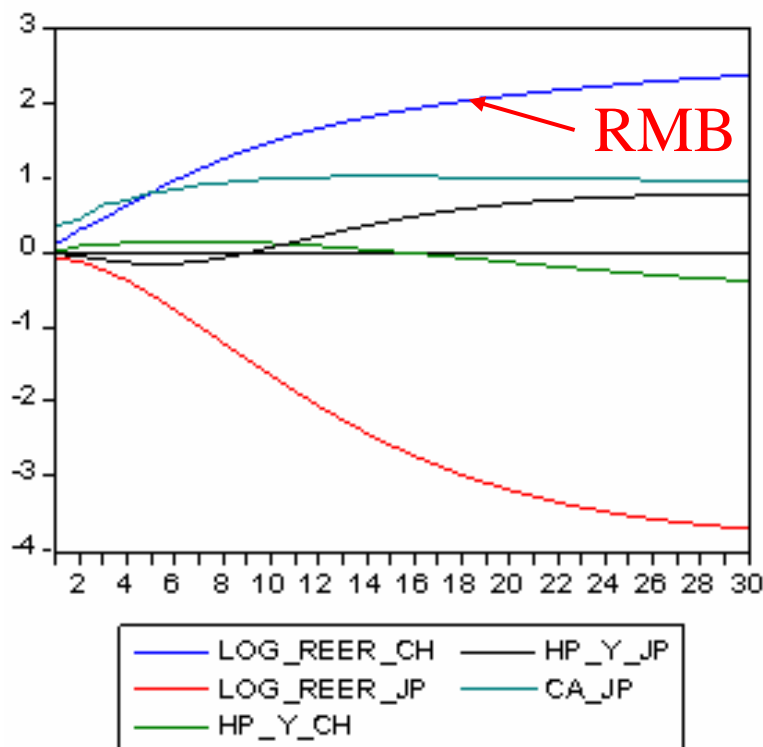
- Structural VAR models with contemporaneous restrictions based on the neo-classical and Keynesian theories are used to investigate effect of the RMB exchange rate on current account of not only China but also Japan and Korea.
- The 5-variable structural VAR models are used to analyze impulse responses to an exchange rate shock as well as an US GDP shock.
- We conduct factor decomposition of current accounts of East Asian countries by the forecast error variance decomposition.
- The sample period: 1994Q1 to 2006Q4.

Accumulated Response of Current Account of Japan and Korea to RMB

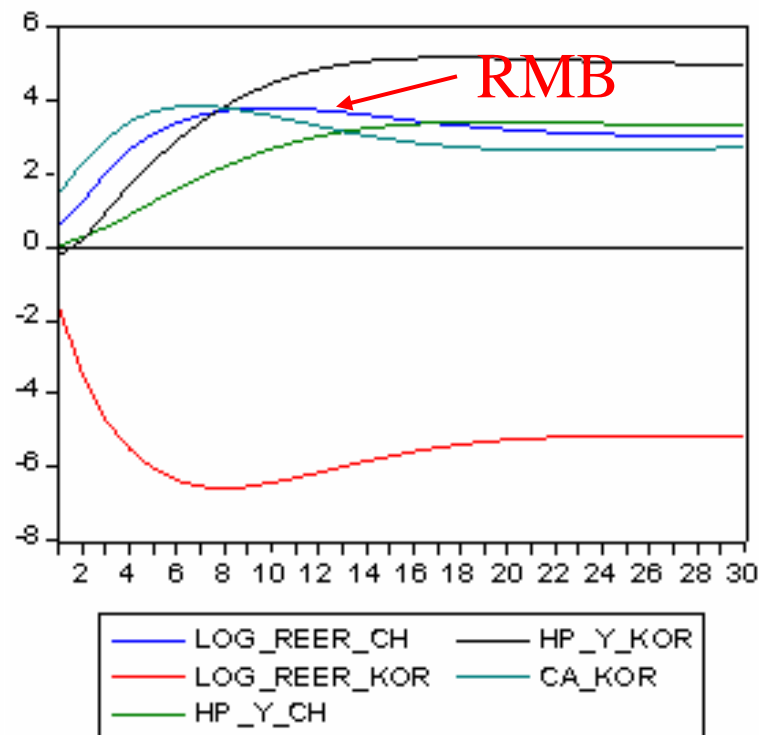
Japan

Korea

Accumulated Response of CA_{JP} to Cholesky
One S.D. Innovations



Accumulated Response of CA_{KOR} to Cholesky
One S.D. Innovations



Analytical results

- The exchange rate of RMB has a positive direct effect on positive current accounts of Japan and Korea.
 - ⇒ Revaluation of RMB would have relatively smaller contribution to reducing the current account surplus of China. GDP and, in turn, savings are more important factor for reducing the current account surplus.
 - ⇒ On one hand, revaluation of the RMB would improve current accounts of Japan and Korea and some ASEAN member countries.

Current regional monetary cooperation in Asia

- CMI (Chiang Mai Initiative) was established by ASEAN+3 Financial Ministers in 2000.
 - (1) Network of bilateral currency swap arrangements for crisis management
 - (2) Surveillance process for crisis prevention (Economic Review and Policy Dialogue (ERPD) of ASEAN+3). It focused on macroeconomic variables **except for exchange rates**.
- From CMI to CMI Multilateralization (CMIM) in 2010.
 - (1) Foreign reserve pooling
 - (2) Multilateral decision-making process for implementing currency swap arrangement.

Limitation of CMI

- Limitation of CMI includes IMF link (currency swap arrangements will be implemented only after IMF decides to give financial assistance to a crisis-hit country).
- Korean government did not implement a currency swap arrangement under the CMI due to the IMF link. But it has concluded a new currency swap arrangement with US FRB and implement it promptly while BOK has concluded a currency swap arrangement in terms of yen/won with BOJ.
- The reason is why Korea experienced severe situation under the strict conditionarity of IMF.
- In 2009, IMF implemented lending policy improvement which includes creating Flexible Credit Line (FCL) as well as modernizing conditionality. The Korean government did not request IMF any financial rescue including the FCL.

Beyond the limitation of CMI

- It is necessary to reduce or eliminate the IMF link of currency swap arrangement under CMI in order that CMI should be effective for regional monetary cooperation in East Asia.
- At the same time, it is necessary to establish a secretariat who make surveillance over East Asian countries and implementation of currency swap arrangements in order that CMI should not depend on IMF's surveillance.
- Under the surveillance of CMI, intra-regional exchange rates should be focused on. For the purpose, the AMU and AMU Deviation Indicators should be used for surveillance.

Towards to the establishment of Regional Common Currency Unit

- Concepts of regional common currency unit have been addressed and discussed in East Asia.
- Especially, a Research Group of ASEAN+3 Finance Ministers Meeting have been researching a regional common currency unit.
- Several names regarding regional common currency unit have been addressed;
 - Regional Monetary Unit (RMU): ASEAN+3
 - Asian Currency Unit (ACU): ADBI, Kawai
 - Asian Monetary Unit (AMU): RIETI, Ogawa and Shimizu
 - Regional Currency Unit (RCU): Moon, Rhee, and Yoon
- Regional common currency unit might be established
 - (1) for surveillance
 - (2) for private sector transaction

A roadmap toward AMU

- An AMU for surveillance on intra-regional exchange rates can be started immediately and it will be an appropriate tool in identifying misalignment and excess volatility of intra-regional exchange rates.
- The monetary authorities would reach an agreement to define a certain kind of AMU for surveillance, announce the AMU value every day, and monitor AMU Deviation Indicators of Asian currencies in order to watch abrupt changes in intra-regional exchange rates in ERPDP of ASEAN+3.

Step-wise approach

- **The first stage** (one tool in macroeconomic surveillance) can be implemented now. The ASEAN+3 Finance Ministers' Meeting have surveillance function and will be able to make the ASEAN+3 Macroeconomic Research Office (AMRO) to use an AMU for surveillance. They can be regarded as the first stage already.
- The test of the current framework as **the second stage** (a signal in an early warning system) is whether the surveillance mechanism can pick up a warning sign of the crisis in the future.
- **The third stage** is to extend surveillance functions to some actions, such as using monetary and fiscal policy to correct the deviation in the exchange rate from the basket value. The third stage is that monetary policy coordination and jointly coordinated intervention in foreign exchange markets to keep the deviation within a band.

Conclusion

- Policy proposals for strengthening regional monetary cooperation in East Asia after the global financial crisis:
 - (1) Use the AMU and AMU Deviation Indicators to make policy dialog regarding intra-regional exchange rate stability to solve “coordination failure” of currency policy among East Asian countries in order to stabilize intra-regional exchange rates among East Asian currencies.
 - (2) Introduce surveillance over exchange rates into the surveillance process under the CMI.
 - (3) Reduce or eliminate the IMF link in order that the currency swap arrangements should be effective under the CMI.
 - (4) Give the AMRO a role of making surveillance over East Asian countries and implementation of currency swap arrangements in order that CMI should not depend on IMF’s surveillance

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