Decoupling Asia Revisited

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Outline

- Evolution of Asian Regional Integration

  - Intra-Asian Trade: the PRC's Role and Vertical Supply Networks

  - The Trade-FDI Nexus: Global Production Sharing in Asia

  - Financial Integration and Spillovers

- Business Cycle synchronization

- Macroeconomic Interdependence: Panel VAR Model and Results

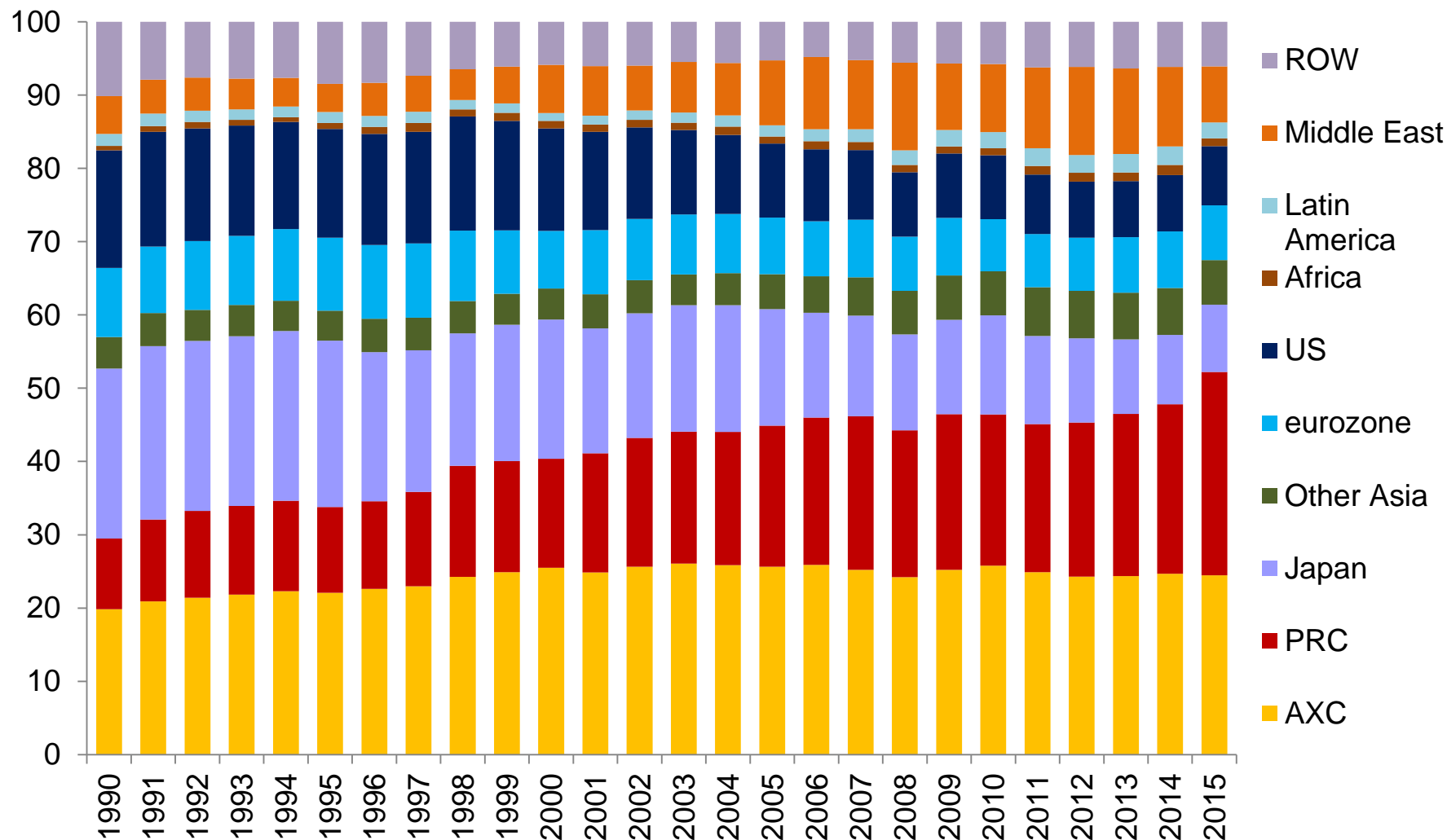# Intra-Asian Trade: the PRC's Role and Vertical Supply Networks

EEA's export market has become more diversified

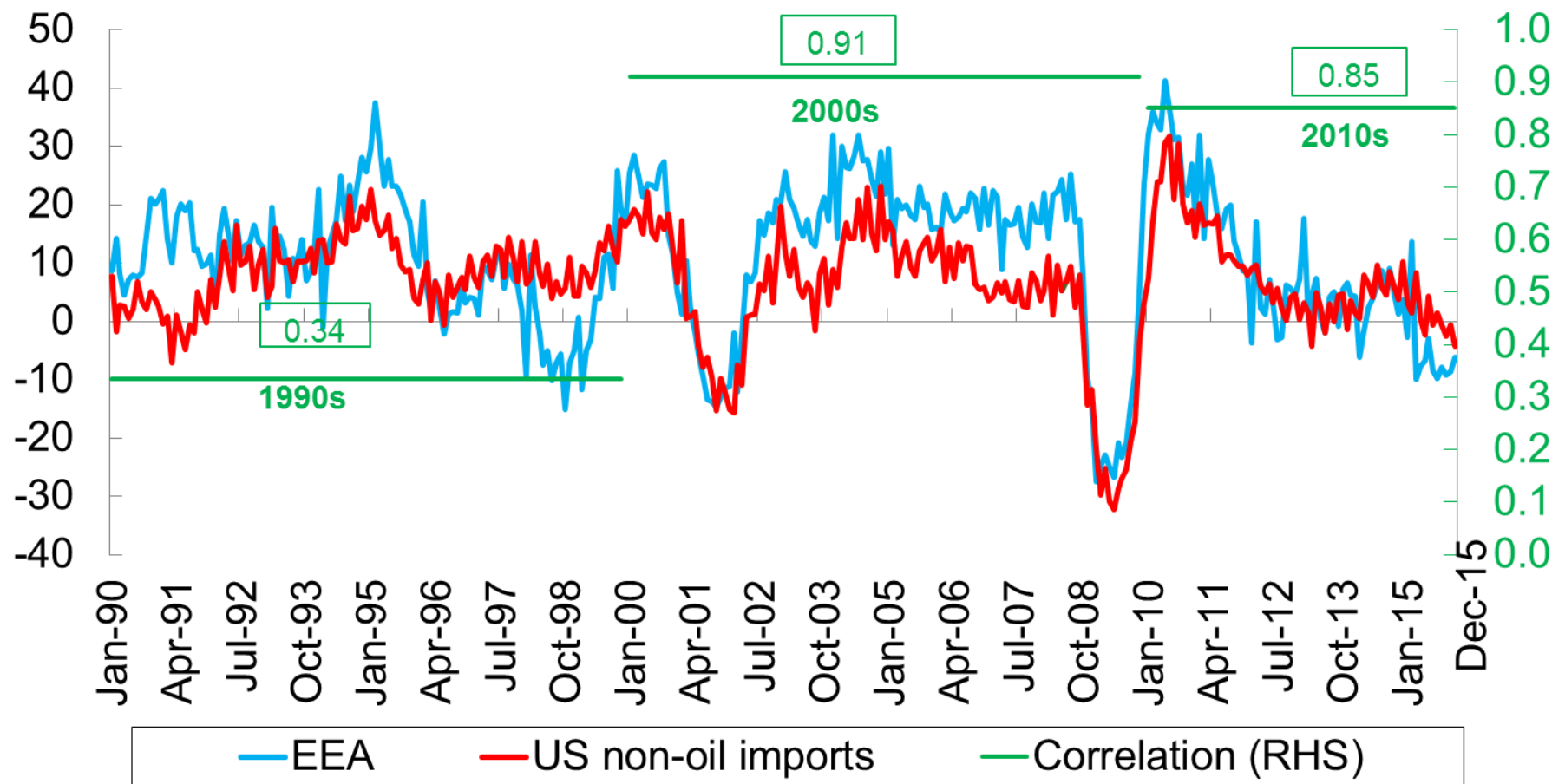**Destination of AXC's Exports** (% of AXC's total exports)
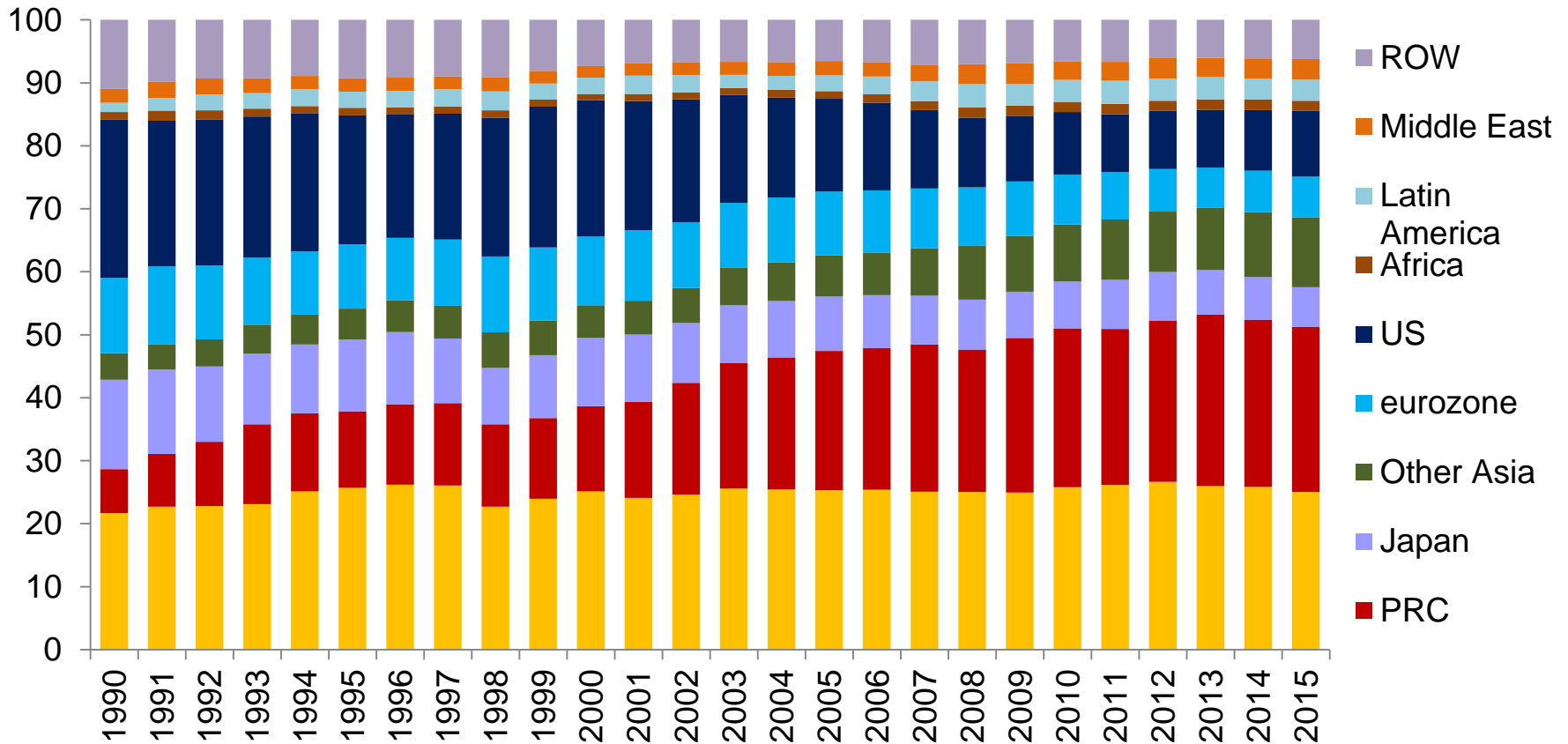
Source: *Direction of Trade Statistics*, IMF.

Sources of AXC's Imports (% of AXC's total imports)

Legend:
- ROW
- Middle East
- Latin America
- Africa
- US
- eurozone
- Other Asia
- Japan
- PRC
- AXC

Source: *Direction of Trade Statistics*, IMF.

# Correlation between growth in EEA exports and US non-oil imports

EEA = ASEAN 4 (Indonesia, Malaysia, Philippines, Thailand), NIE 4 (Hong Kong, China; Korea, Rep. of; Singapore, Taipei, PRC), and PRC
Note: non-oil imports computed by subtracting crude oil import from the total import of goods.
Source: ADB calculation using data from *International Financial Statistics,* International Monetary Fund (IMF), US Census Bureau
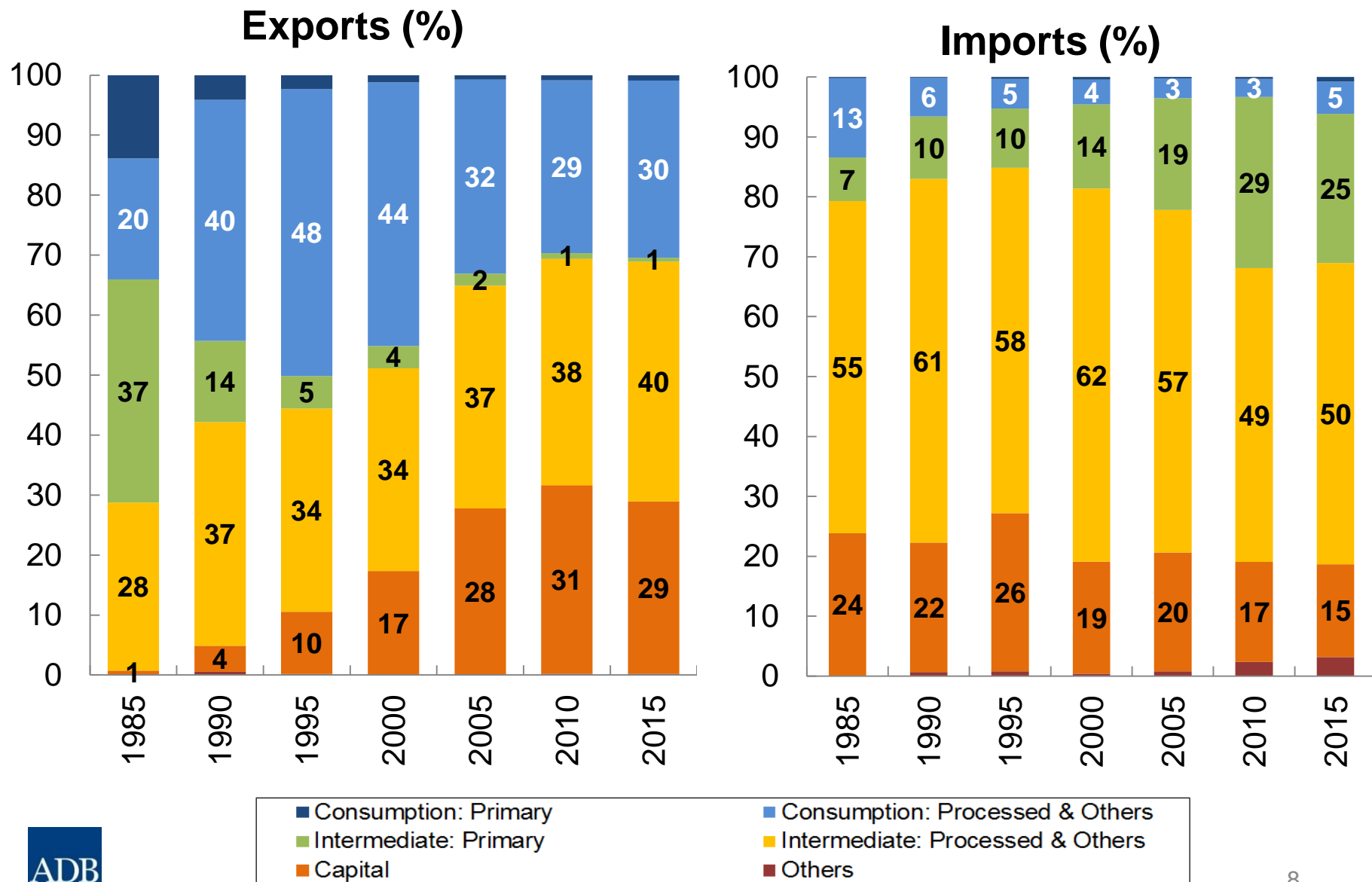
EEA Value-Added Export Decomposition, 2011
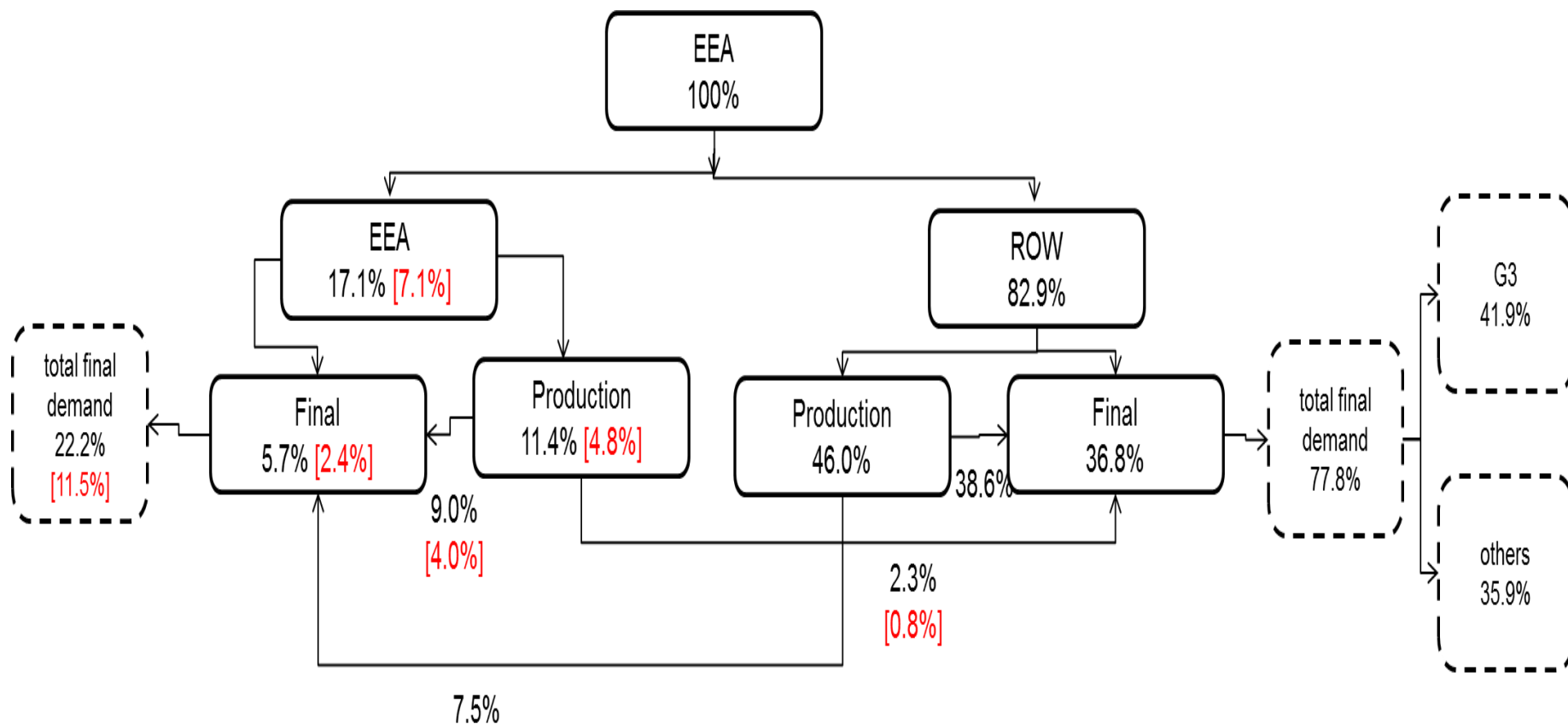
Value-added export decomposition = Domestic value-added + Returned domestic value.
Note: Except for Bangladesh, Malaysia, the Philippines, Thailand and Viet Nam IO tables, which were constructed by ADB, the rest were sourced from the World Input-Output Database (WIOD). While the WIOD and ADB IO tables have been constructed in a clear conceptual framework on the basis of officially published input-output tables in conjunction with national accounts and international trade statistics, level numbers are likely to remain different from those officially released by the respective economies.
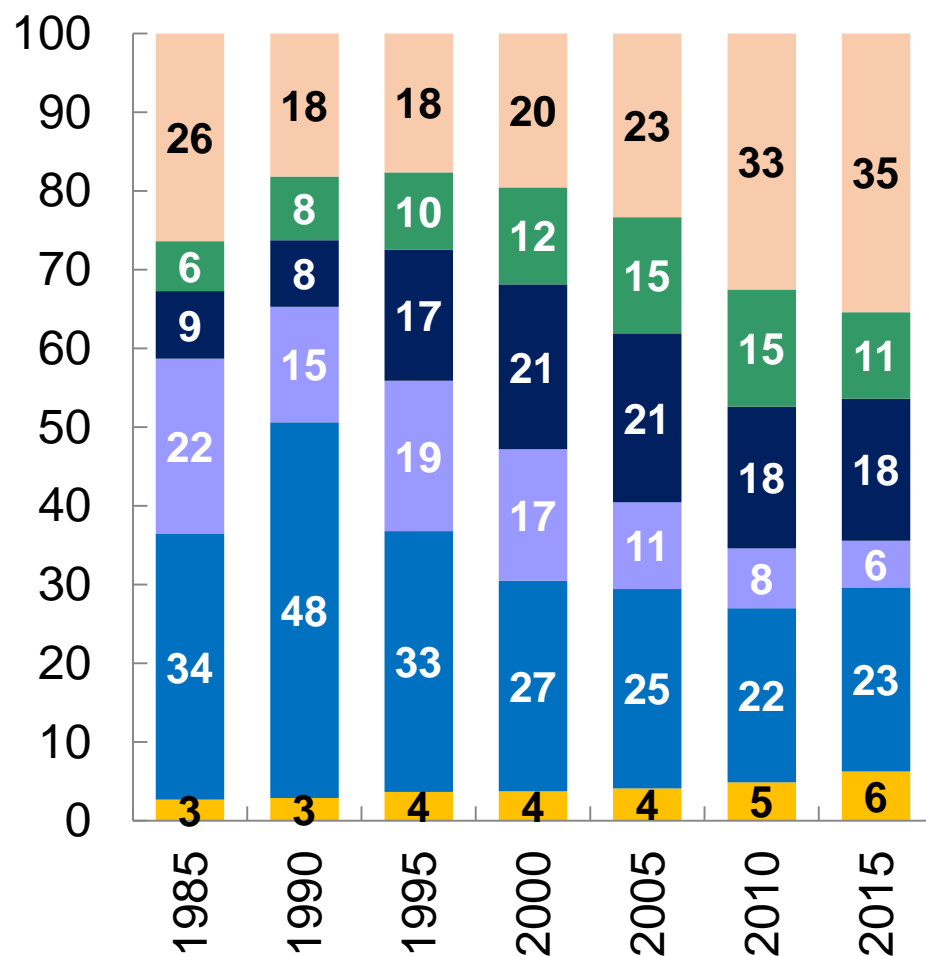Source: Asia Regional Integration Center (ARIC) calculations using data from World Input-Output (IO) Tables and ADB Multiregional Input-Output tables (ADB-MRIO), and methodology from Z. Wang, S-J. Wei, and K. Zhu. 2014. Quantifying International Production Sharing at the Bilateral and Sectoral Levels. *NBER Working Paper No. 19677*. Cambridge, MA: NBER.
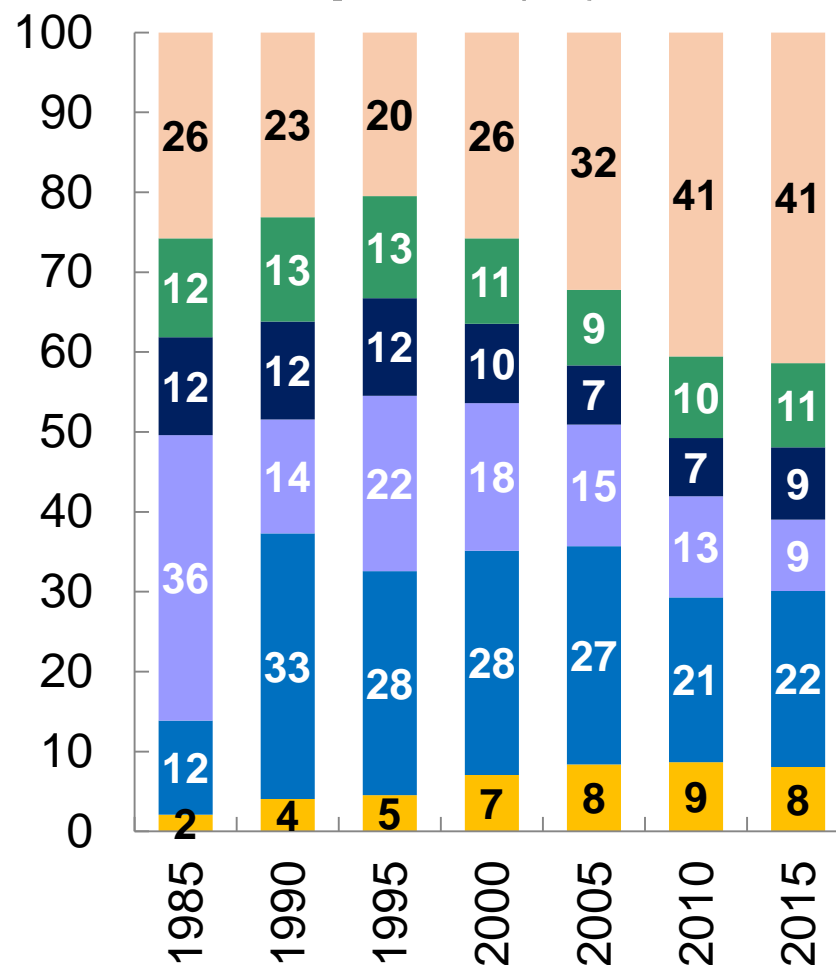
PRC's Export and Import Share By Commodity Groups

Exports (%)

	1985	1990	1995	2000	2005	2010	2015
Consumption: Processed & Others	20	40	48	44	32	29	30
Intermediate: Primary	37	14	5	4	2	1	1
Intermediate: Processed & Others	28	37	34	34	37	38	40
Capital	1	4	10	17	28	31	29

Imports (%)

	1985	1990	1995	2000	2005	2010	2015
Consumption: Processed & Others	13	6	5	4	3	3	5
Intermediate: Primary	7	10	10	14	19	29	25
Intermediate: Processed & Others	55	61	58	62	57	49	50
Capital	24	22	26	19	20	17	15

Legend:
- Consumption: Primary
- Consumption: Processed & Others
- Intermediate: Primary
- Intermediate: Processed & Others
- Capital
- Others

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PRC's Export and Import Share By Partner

Exports (%)

Imports (%)

Legend: ROW, EU, US, Japan, NIE4, ASEAN4

The Trade-FDI Nexus: Global Production Sharing in Asia

Mode of entry by sector: Intra-Asia

Number of FDI Projects
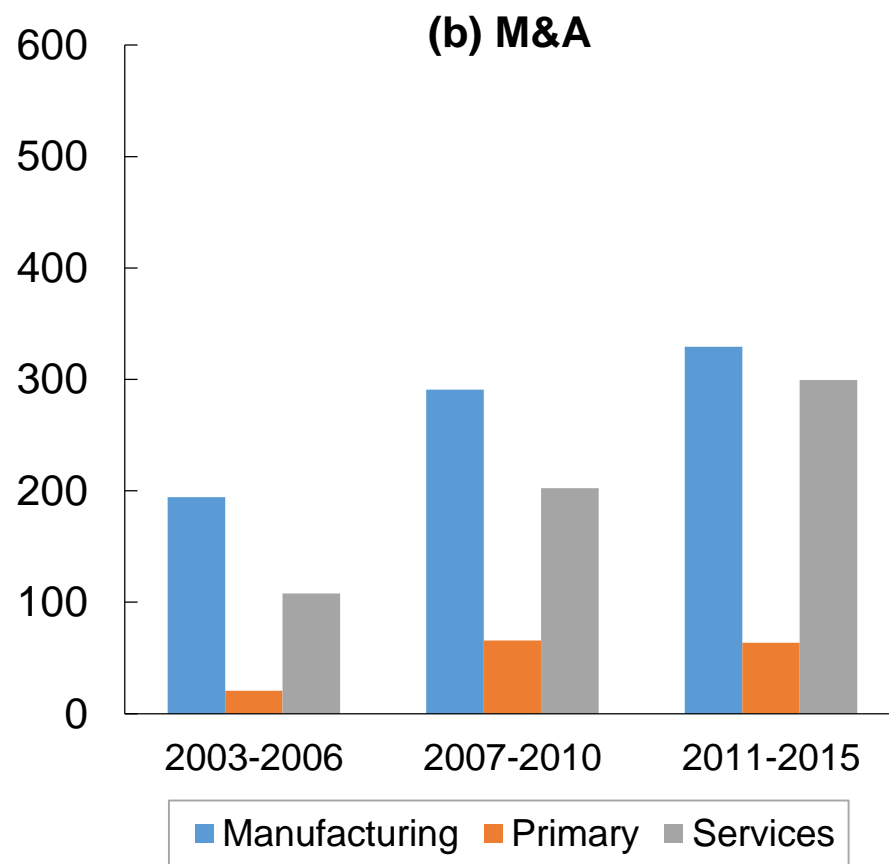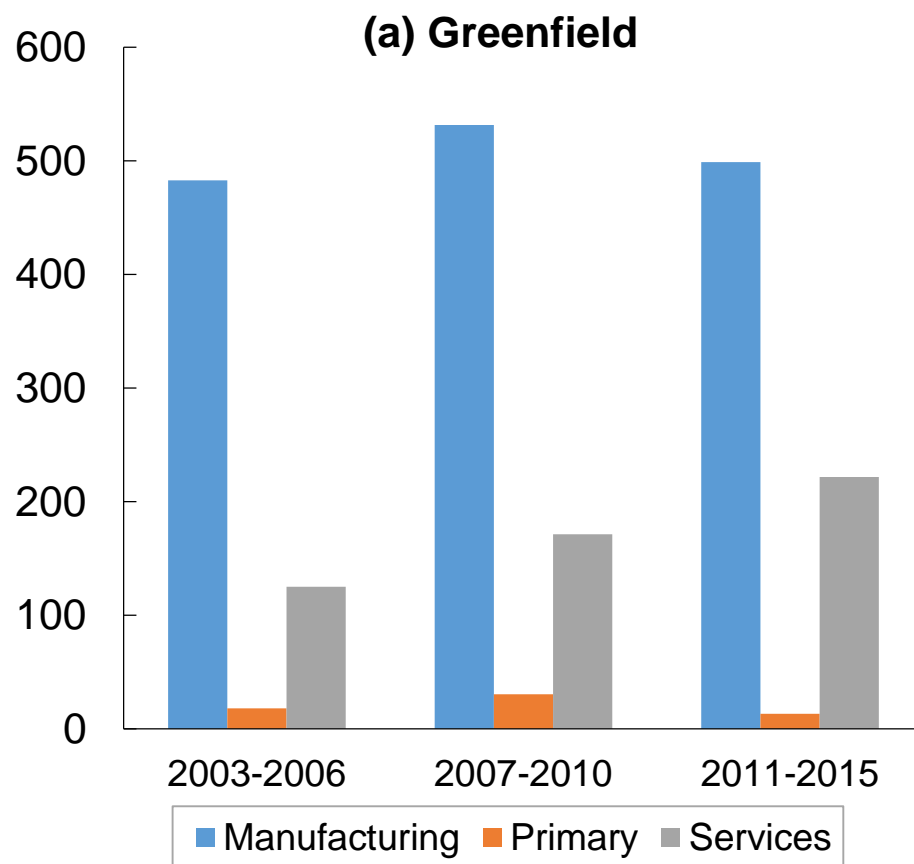
Source: ADB calculations using M&A data from Zephyr database, and fDi Markets, Financial Times.

GVC-FDI: Most Common Country Pairs

Destination Country	Origin Country	Number of Affiliates that Import and Export	Percentage of Affiliates that Import and Export
1. PRC	Japan	2260	81%
2. PRC	Hong Kong, China	1314	76%
3. PRC	United States	646	74%
4. PRC	Germany	625	76%
5. PRC	Taipei,China	401	79%
6. PRC	Korea	358	86%
7. PRC	Singapore	337	71%
8. Viet Nam	Japan	306	72%
9. Thailand	Japan	258	64%
10. Indonesia	Japan	214	53%
11. Taipei,China	Japan	212	74%
12. PRC	France	177	77%
13. Malaysia	Japan	175	78%
14. Philippines	Japan	171	69%
15. Singapore	Japan	164	54%

Source: ADB calculations using data from *Worldbase*, Dun and Bradstreet.

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Inward GVC-FDI: Selected Asian host countries by sector

Host Economies	Mining	Manufacturing	Business Services
PRC	0.005	0.980	0.014
Indonesia	0.005	0.796	0.200
Malaysia	0.020	0.955	0.022
Thailand	0.031	0.958	0.010
Viet Nam	0.005	0.989	0.006
Hong Kong, China	0.008	0.311	0.674
Korea, Rep. of	0.035	0.930	0.030
Singapore	0.019	0.682	0.276
Taipei,China	0.027	0.918	0.055
India	0.012	0.587	0.399
Japan	0.014	0.784	0.201
Australia	0.053	0.828	0.114

Source: ADB calculations using data from *Worldbase*, Dun and Bradstreet.

Financial Integration and Spillovers

Conditional Correlations of Equity Returns
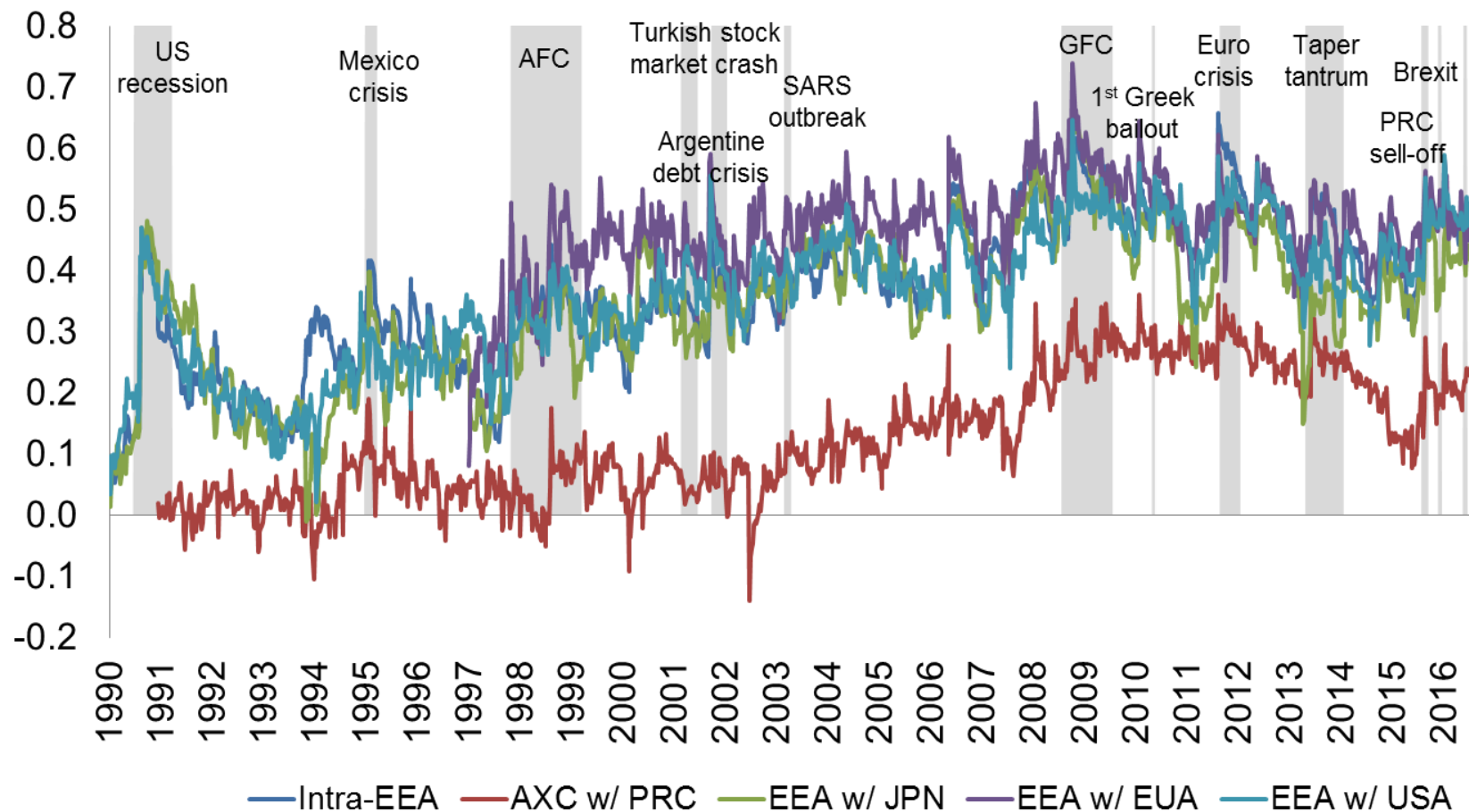
Note. Methodology based on M. Hinojales and C.Y. Park. 2011. Stock Market Integration: Emerging East Asia's Experience. In M. Devereux, et al., eds. *The Dynamics of Asian Financial Integration*. New York: Routledge.
Source: ADB calculations using data from Bloomberg.

# External shocks drive Asia's equity return volatility

Local Equity Returns

Legend: ■ Regional ■ Global

Pre-GFC: Regional 8.2, Global 35.1
Post-GFC: Regional 14.1, Global 34.2
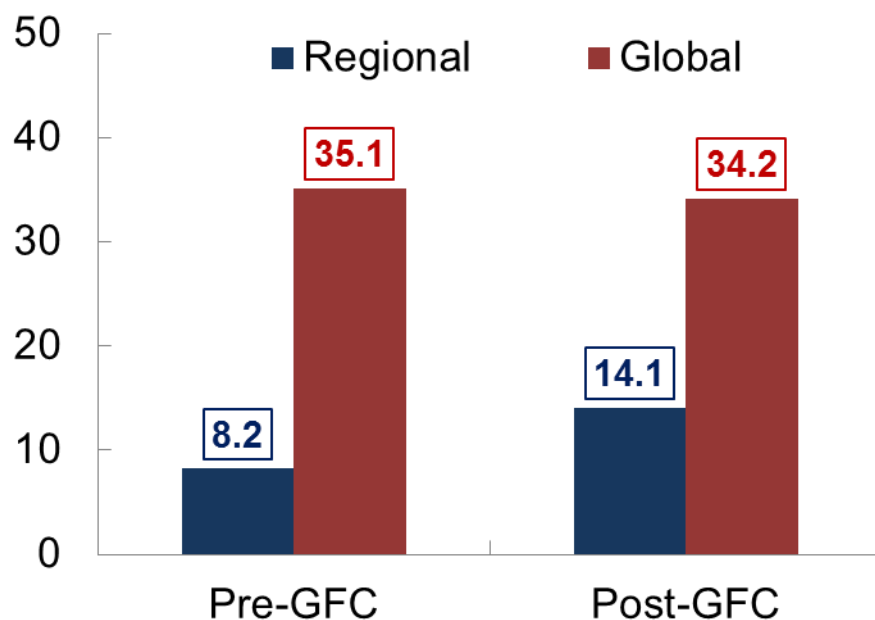
GFC = global financial crisis.
Notes: Pre-GFC = January 1999 – September 2007. Post-GFC = July 2009 to September 2016. Asia includes Australia; Bangladesh; the People's Republic of China; Georgia; Hong Kong, China; India; Japan; Kazakhstan; the Republic of Korea; the Kyrgyz Republic; Lao People's Democratic Republic; Malaysia; Mongolia; Nepal; New Zealand; Pakistan; the Philippines; Singapore; Sri Lanka; Taipei,China; Thailand; and Viet Nam.
Source: ADB calculations using Bloomberg and World Development Indicators, World Bank.

Local Bond Returns

Legend: ■ Regional ■ Global

Pre-GFC: Regional 0.9, Global 2.0
Post-GFC: Regional 9.0, Global 3.8
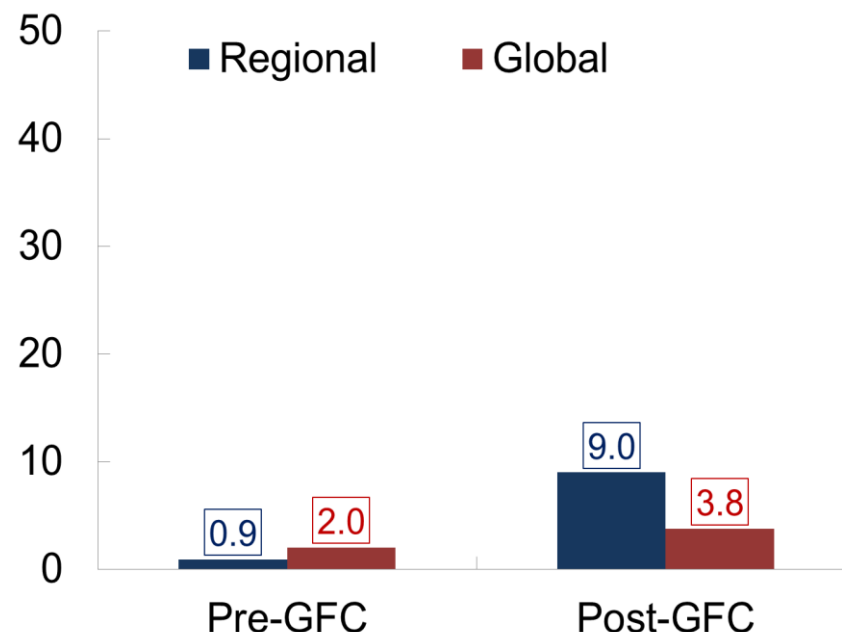
GFC = global financial crisis.
Note: Pre-GFC = July 2006 – September 2007. Post-GFC = July 2009 to September 2016. Asia includes Australia; the People's Republic of China; Indonesia; Japan; the Republic of Korea; Malaysia; Philippines; Singapore; and Thailand.
Source: ADB calculations using Bloomberg and World Development Indicators, World Bank.

Business Cycle Synchronization in Asia

Business cycle synchronization peaks during crisis times

Median Instantaneous Quasi-Correlations
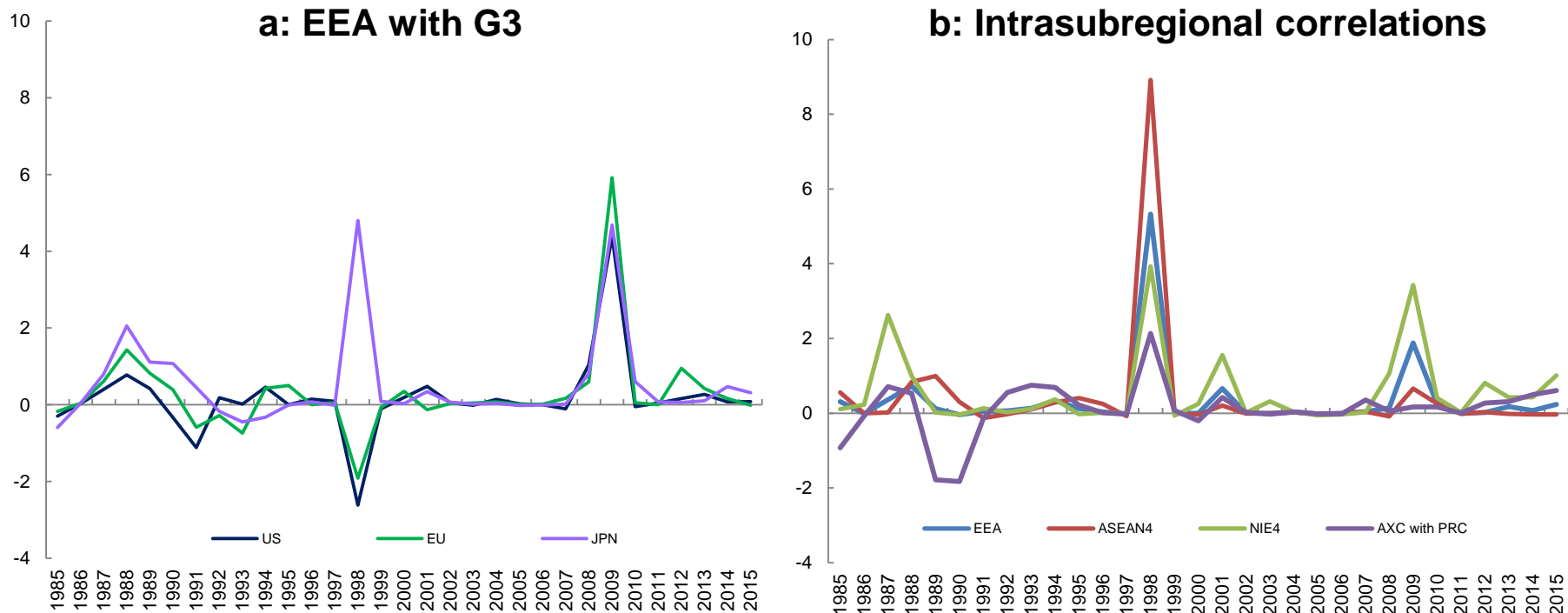
AXC = emerging East Asia excluding PRC, PRC = People's Republic of China, EU = European Union, JPN = Japan, US = United States.
Note: AXC includes ASEAN4 (Indonesia, Malaysia, Philippines, and Thailand) and NIE4 (Hong Kong, China; the Republic of Korea; Singapore; and Taipei,China). Based on the methodology of Abiad et al (2013). EEA = emerging East Asia, PRC = People's Republic of China, EU = European Union, JPN = Japan, US = United States.
Note: EEA includes ASEAN4 (Indonesia, Malaysia, Philippines, and Thailand), NIE4 (Hong Kong, China; the Republic of Korea; Singapore; and Taipei,China), and the PRC. Based on the methodology from Duval et al (2014) and Abiad et al (2013).
Source: ADB calculations using data from Oxford Economics and national sources.

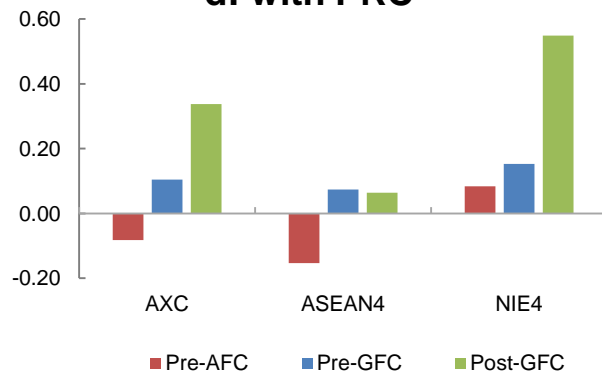# Instantaneous quasi-correlations excluding crisis periods
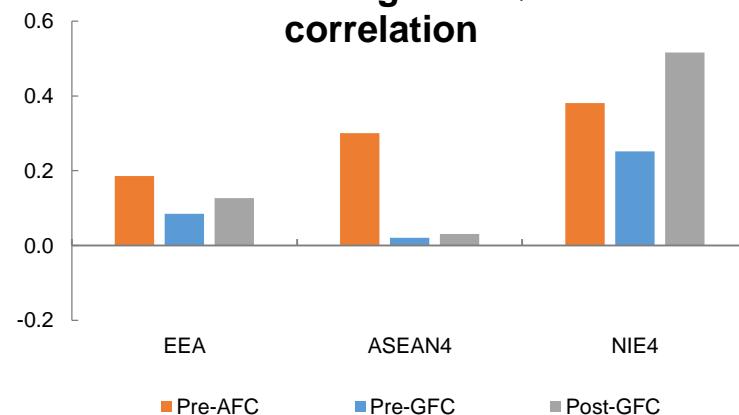

a: with US
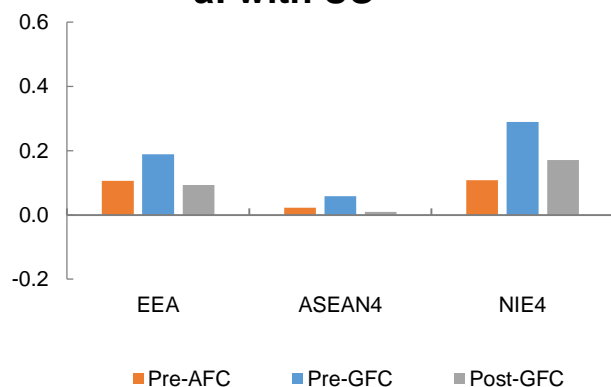
b: with EU
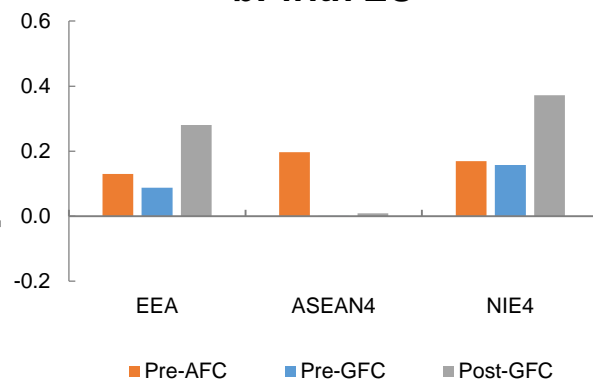
c: with JPN
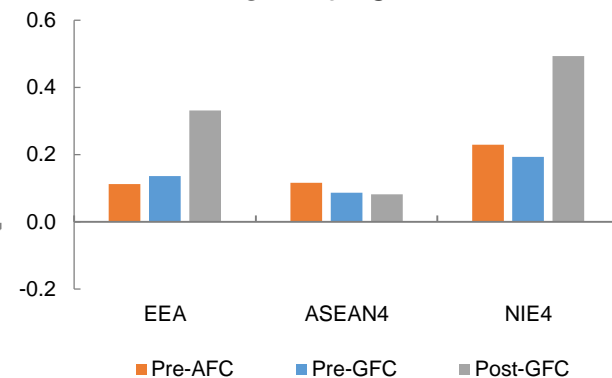
d: with PRC

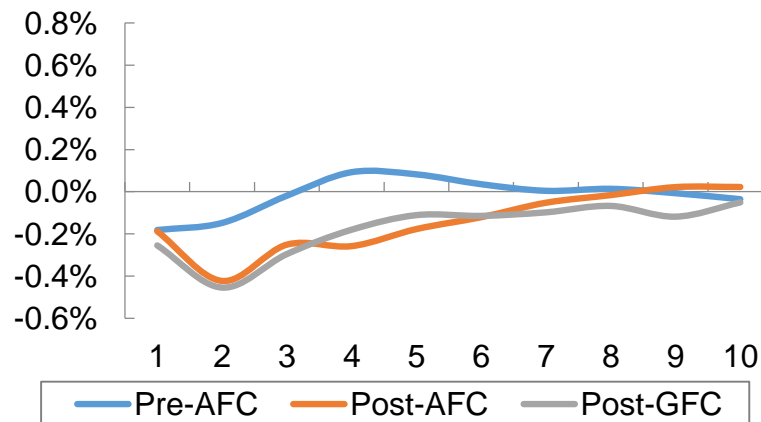**e: Intrasubregional Quasi-correlation**

Macroeconomic Interdependence:
Panel VAR Model and Results

Impulse Responses of AXC Business Cycles to External Shocks

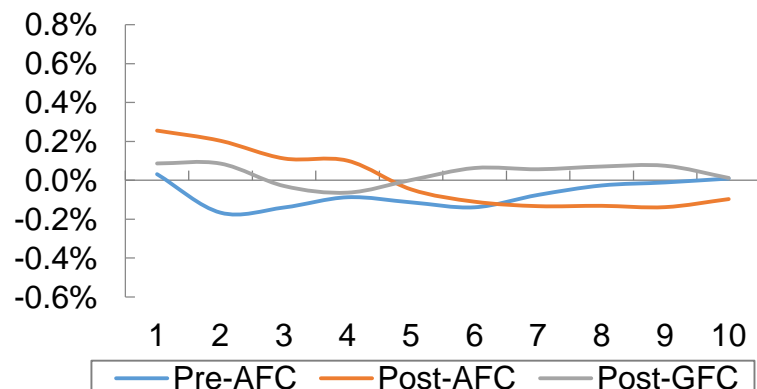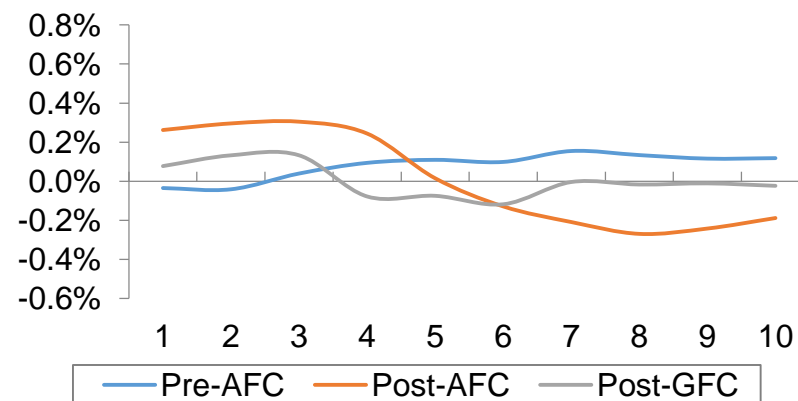**(a) Response to US Business Cycle Shock**

Pre-AFC — Post-AFC — Post-GFC
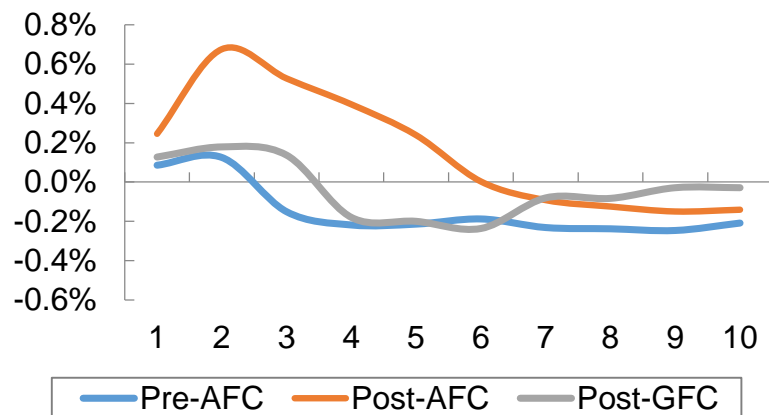
(b) Response to Higher Global Volatility

Pre-AFC — Post-AFC — Post-GFC

(c) Response to World Trade Growth Shock

Pre-AFC — Post-AFC — Post-GFC

(d) Response to PRC Business Cycle Shock

Pre-AFC — Post-AFC — Post-GFC

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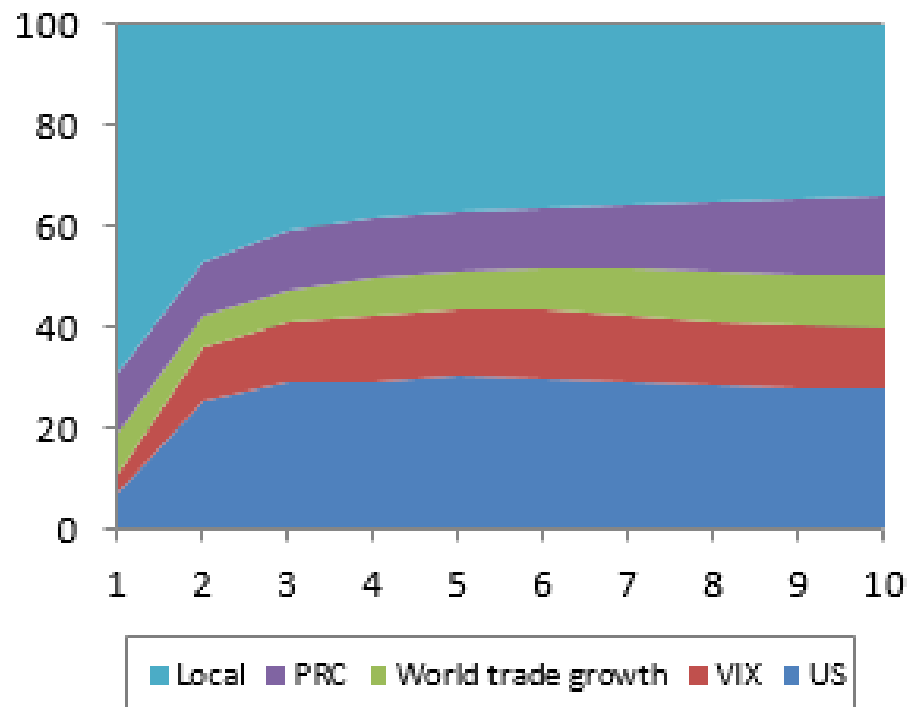# Variance Decomposition
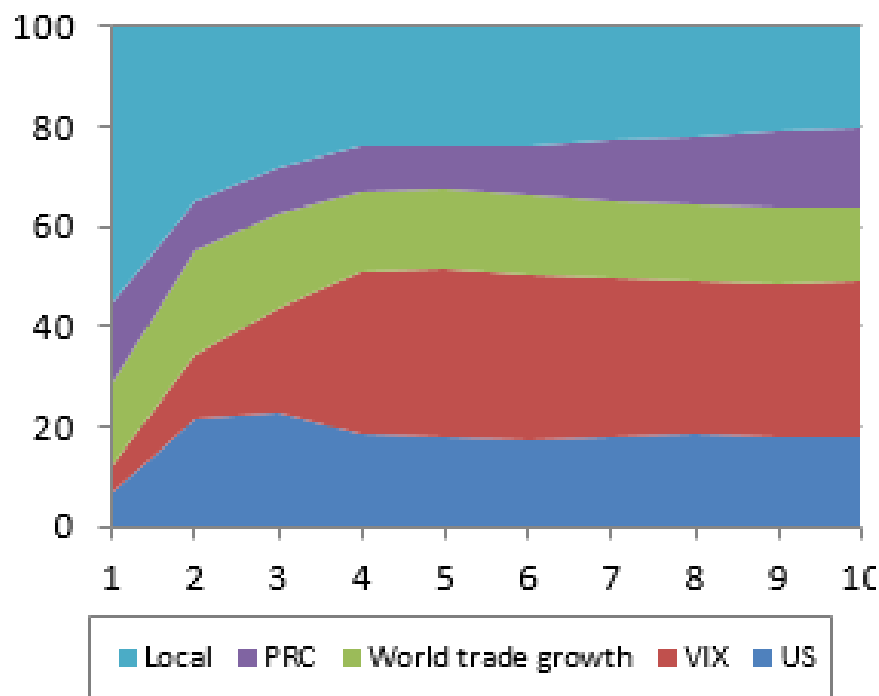# (%, x-axis = number of quarters)
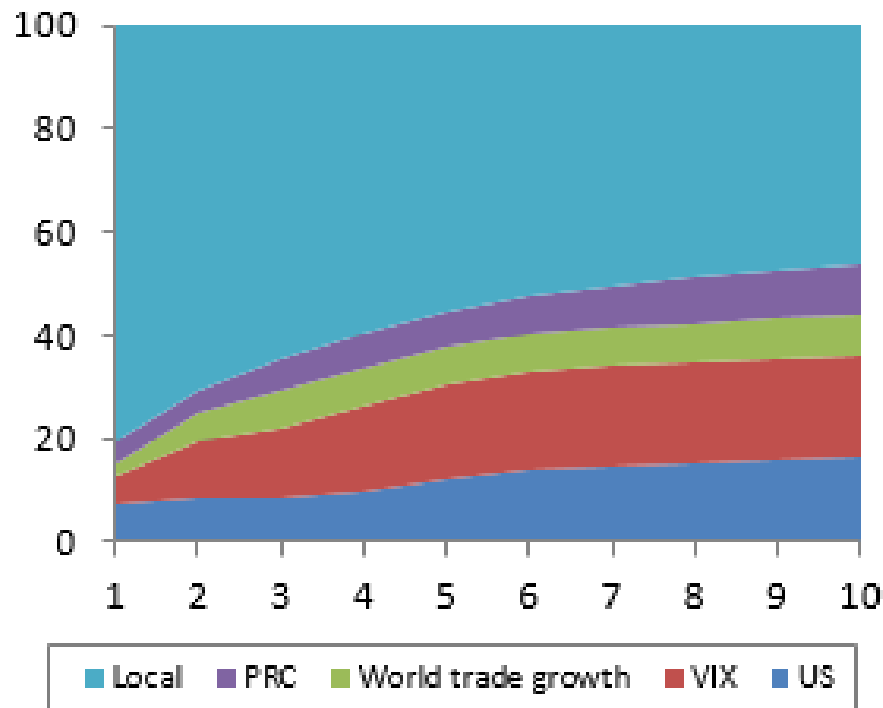
AFC = Asian financial crisis, AXC = emerging East Asia excluding the PRC, PRC = Peoples' Republic of China, US = United States.
Note: Pre-AFC covers 1987Q1 up to 1997Q1. Post-AFC covers 1999Q1 up to 2016Q2. Pre-GFC covers 1999Q1 to 2007Q3. Post-GFC covers 2009Q3 to 2016Q2. US, PRC, and individual AXC economy business cycles are based on the Hodrick-Prescott filtered seasonally adjusted GDP at constant prices.
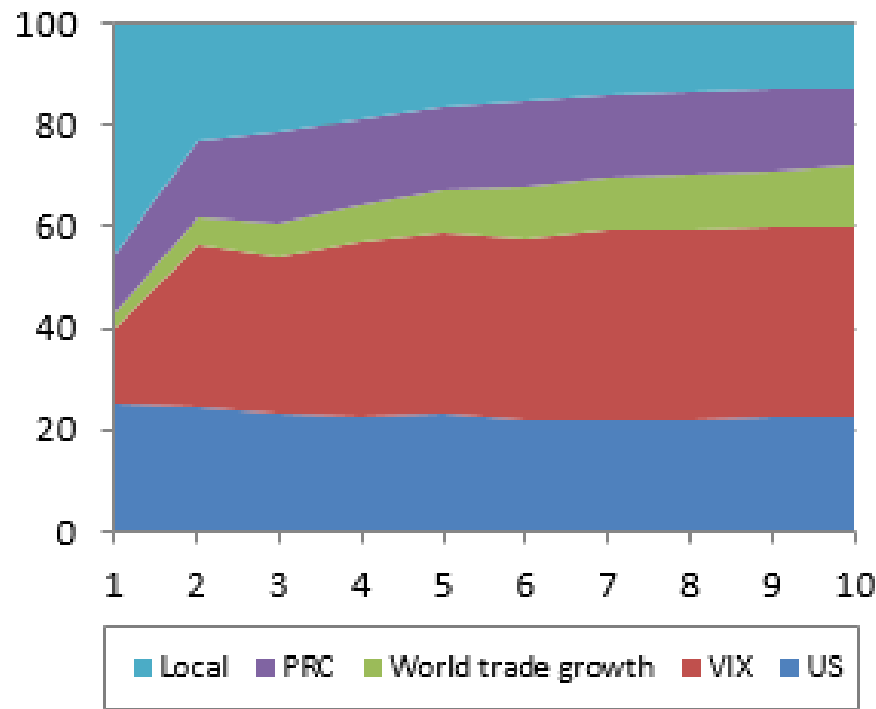Source: ADB calculations using data from Bloomberg LP; International Monetary Fund. International Financial Statistics; and Oxford Economics. Global Economic Databank. (all accessed October 2016).

Variance Decomposition
(%, x-axis = number of quarters)

(c) Pre-GFC

(c) Post-GFC

Legend: Local, PRC, World trade growth, VIX, US

AXC = emerging East Asia excluding the PRC, PRC = Peoples' Republic of China, GFC = global financial crisis, US = United States.
Note: Pre-AFC covers 1987Q1 up to 1997Q1. Post-AFC covers 1999Q1 up to 2016Q2. Pre-GFC covers 1999Q1 to 2007Q3. Post-GFC covers 2009Q3 to 2016Q2. US, PRC, and individual AXC economy business cycles are based on the Hodrick-Prescott filtered seasonally adjusted GDP at constant prices.
Source: ADB calculations using data from Bloomberg LP; International Monetary Fund. International Financial Statistics; and Oxford Economics. Global Economic Databank. (all accessed October 2016).

Thank you!