The Next Decade – Asia's Financial System in Transition:

Lessons from GFC, A-Share and Silicon Valley

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Key Points

- GFC, rise of China, technological disruptions and other mega-trends have turned finance on its head
- Debt driven model, supported by QE, is fragile, concentrated, unequal and unsustainable
- Financial business models must adapt to disruptions from tough regulations, supply chain shifts, lifestyle changes, rapid climate change, social inequities and technology
- Need to reduce excessive credit creation, promote equity over debt
- Re-booting 20th century lenses to see 21st century problems will change our way of managing financial stability and growth

Section 1 The World

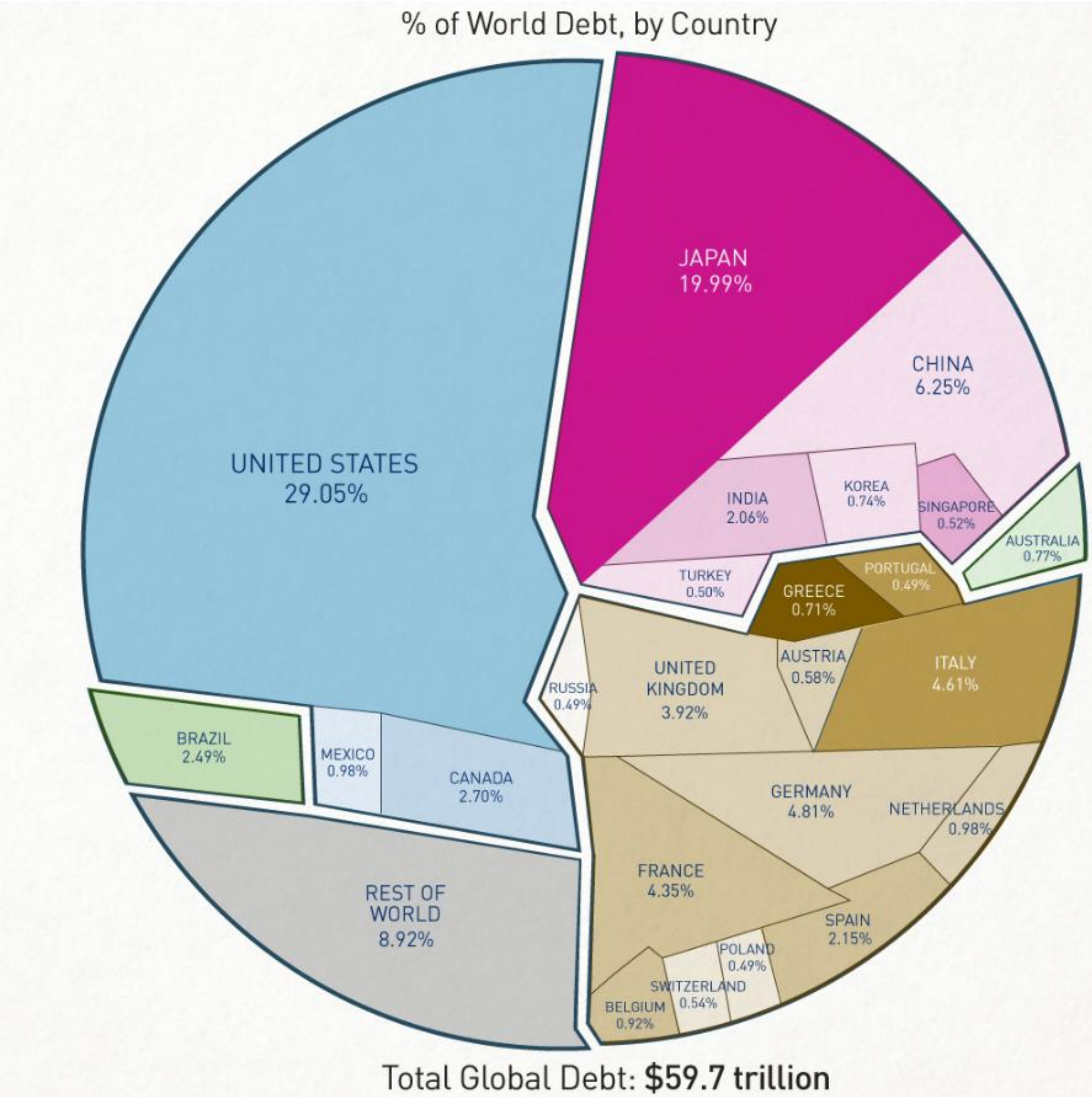
Finance in Major Transformational Challenge, Need Equity Cushion

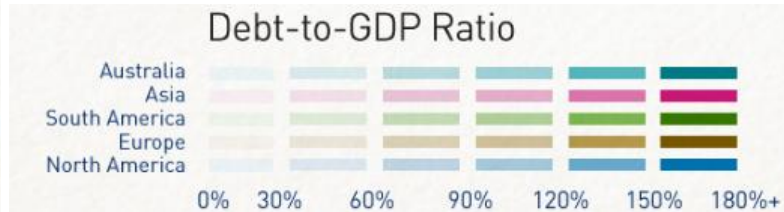
A Eureka Moment: *Can Conventional Finance Cope with Huge Uncertainties?*

Section 2 Growing Global Uncertainties

Higher risks of economic vulnerabilities from unknown unknowns

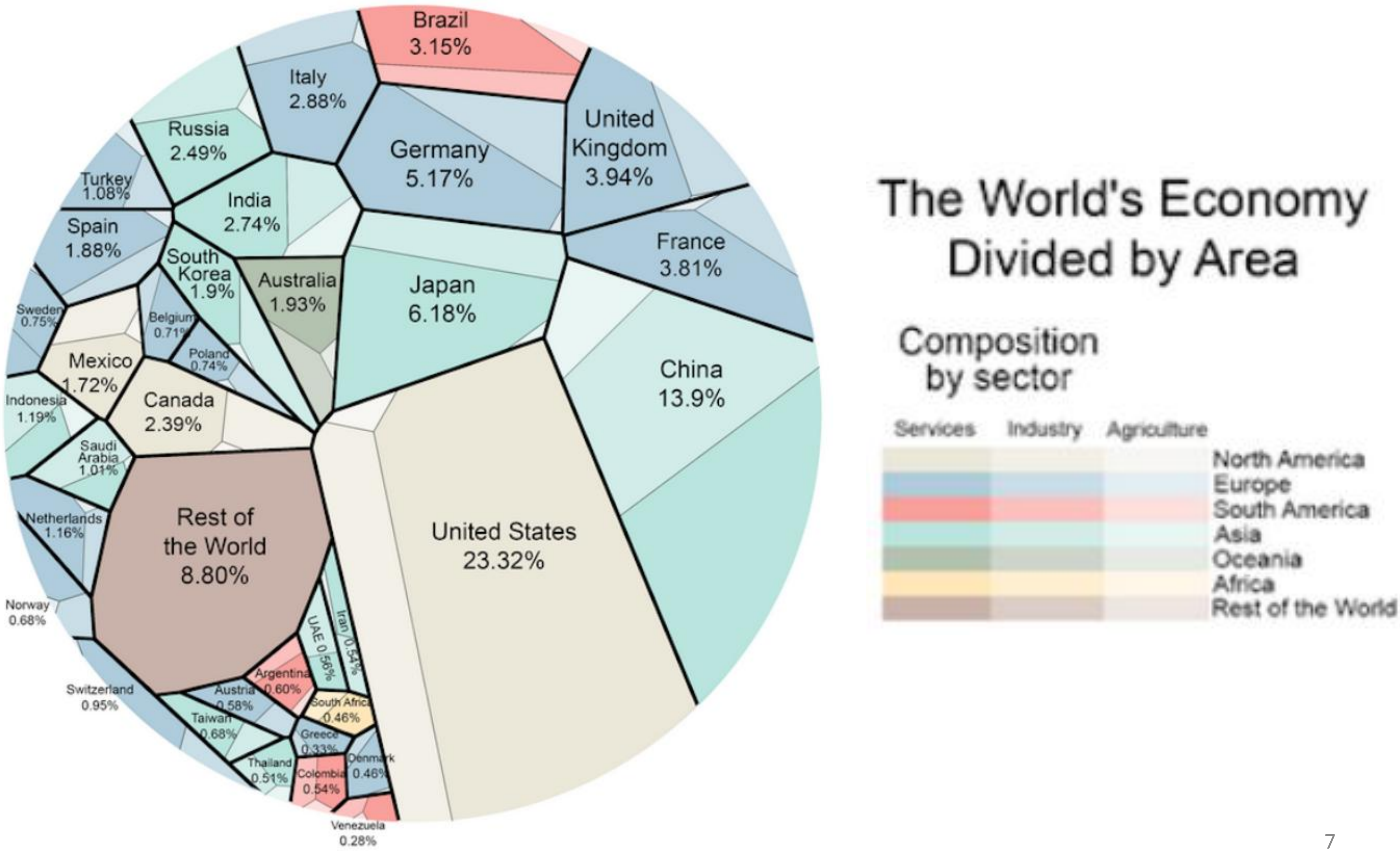
Total Global Debt of US$59.7 trn: US Alone Owes 29%





Source: Jeff Desjardins. 2015. "[$60 Trillion of World Debt in One Visualization]." *Visual Capitalist*

The World Economy in One Visualization



Source: Jeff Desjardins. 2015. "The World Economy in One Visualization." *Visual Capitalist*

Global Trends to 2030

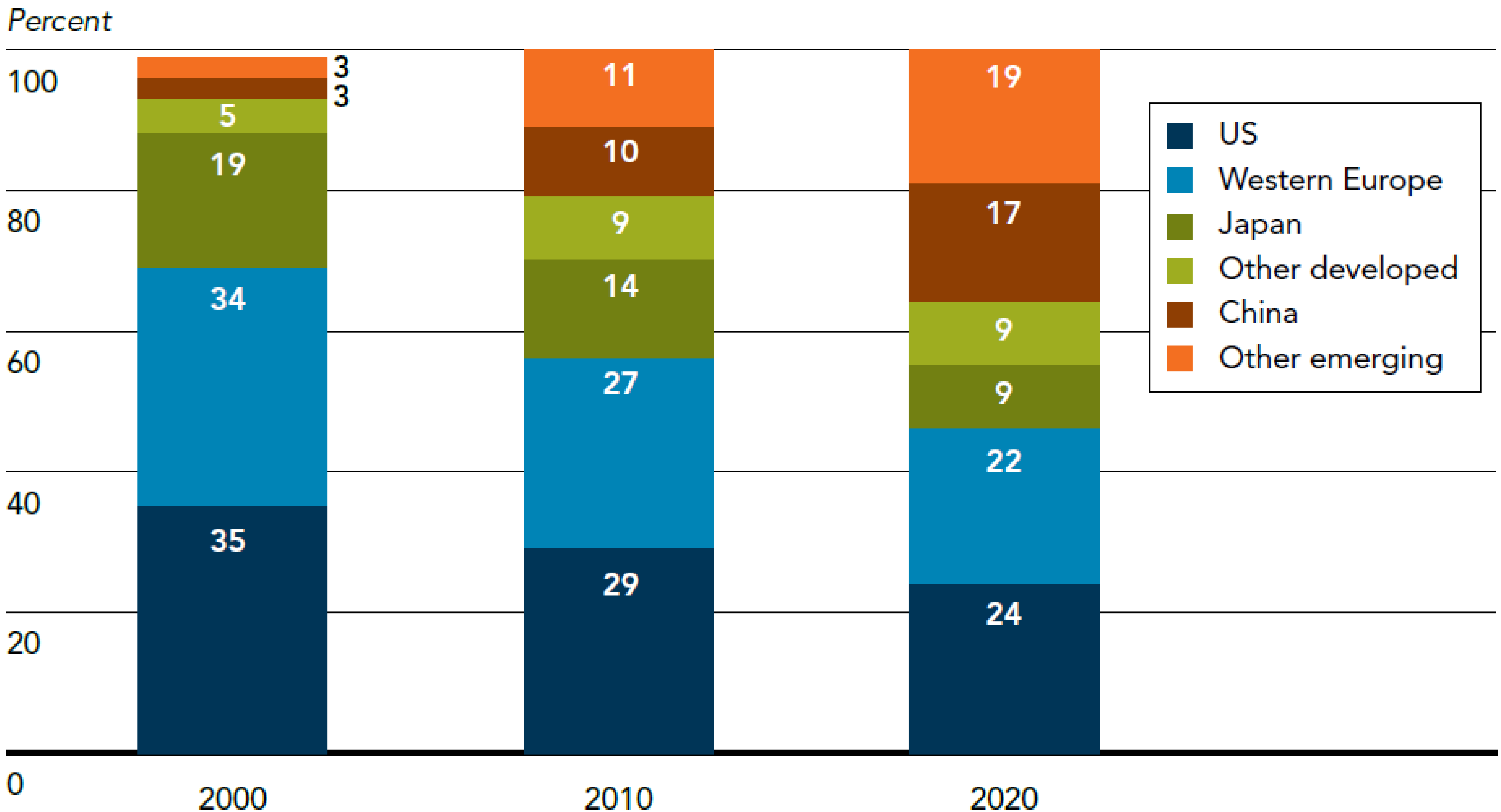
– *US National Intelligence Council* (2013)

- Slowing global growth, with EME still growing faster than AME
- Climate change risks, including food and water security
- Multipolar world – No single hegemon, multiple financial nodes and divergent development models (unlikely for a comprehensive, unitary and comprehensive approach to global governance and regulation)
- Growing potential for conflict

➔All these call for higher levels of equity cushion against unknown risks and uncertainty

EM's Share of Financial Assets to Double by 2020

Emerging Markets' share of financial assets, 2000-2020



Source: McKinsey Global Institute, The Emerging Equity Gap: Growth And Stability In The New Investor Landscape (2011).

Source: NIC. 2012. "*Global Trends 2030: Alternative Worlds*."

Six Transformative Trends:
Why We Need to Rethink Finance

1. Global Rebalancing – Multipolar Cold War 2.0
2. Demography – Dividends or Age burden?
3. Financialization and Debt Overhang – Who pays?
4. Disruptive Technology – Jobs and Creative Destruction
5. Climate Change – Water, Food & Energy Stress
6. Governance – Democracy, Market or State?

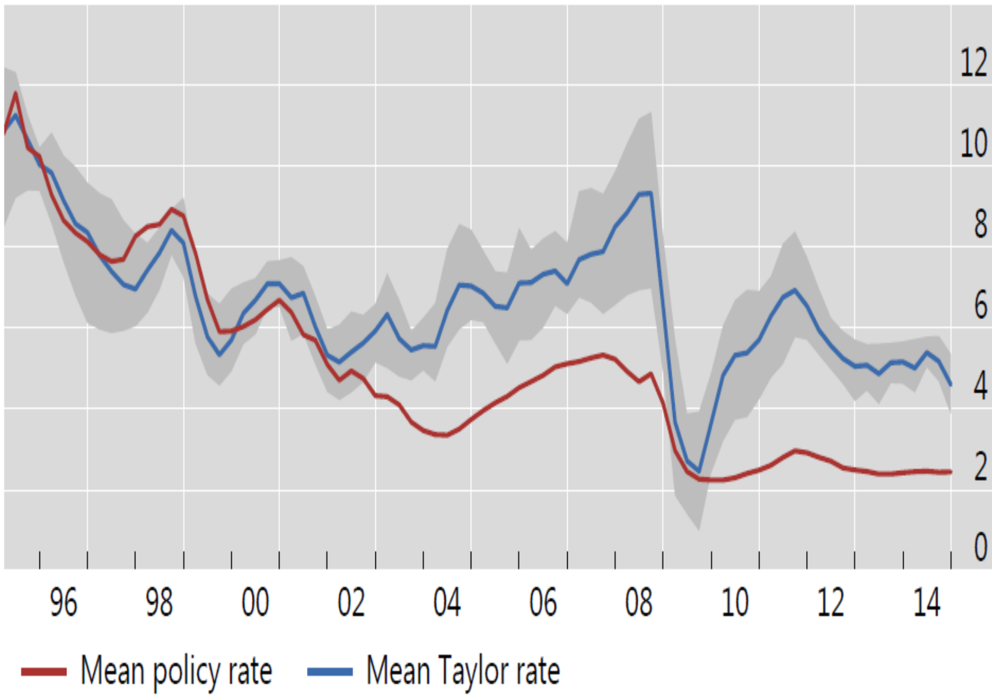
EMEs will bear burden of QE – those who reform fastest will be winners – building deeper equity and risk-sharing markets key to sustainability in more volatile world

Section 3 Walking Deeper into Debt Trap

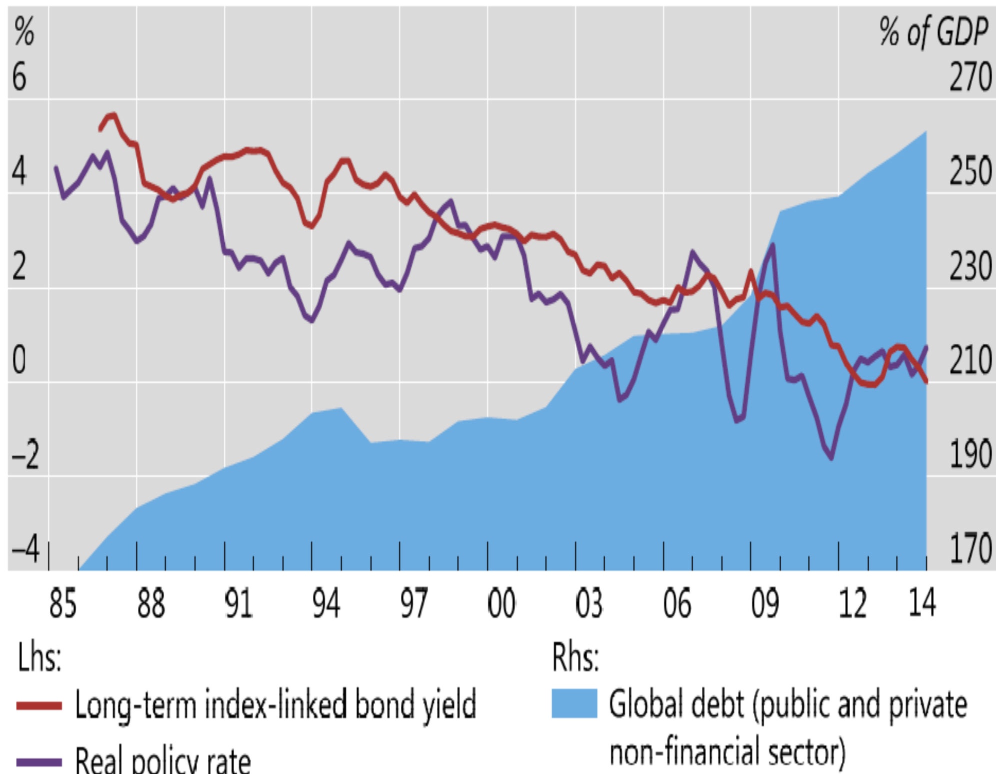
Global Debt Outpaced World Growth, Debt Deflation Cycle

Debt Trap? Downward Bias in Interest Rates, Upward Bias in Debt

Unusually accommodative global monetary conditions



Interest rates sink … as debt soars

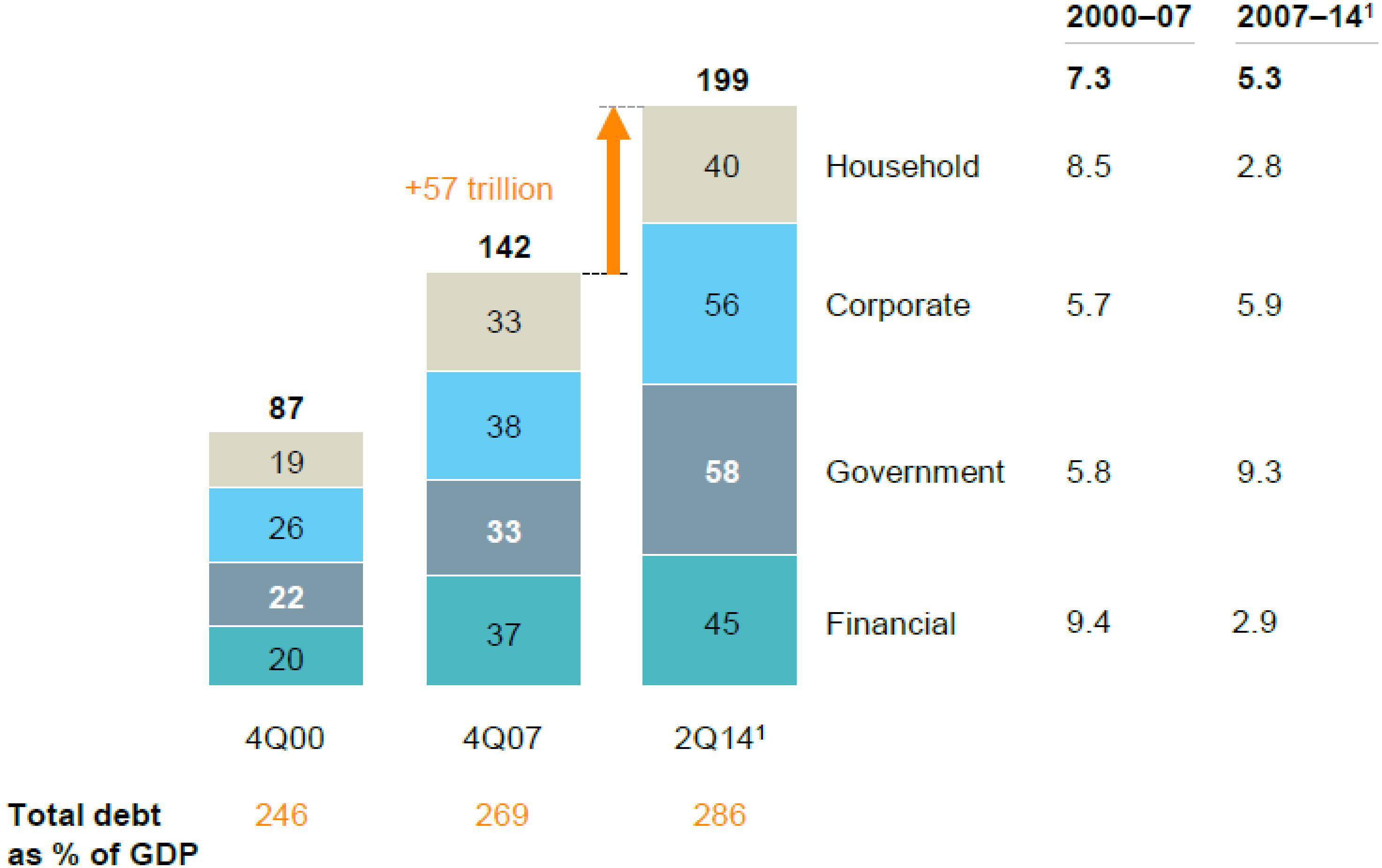


Sources: IMF, World Economic Outlook; OECD, Economic Outlook; national data; BIS calculations.

Source: Claudio Borio. 2015, September. "[Challenges for the global economy: A narrowing road?]" BIS.

Global Debt Increased by US$57 trn since 2007, Outpacing World Growth

Global stock of debt and equity outstanding by type, US$ trn, end-period, constant 2013 exchange rates



1 2Q14 data for advanced economies and China; 4Q13 data for other developing economies.

Sources: Haver Analytics; national sources; World economic outlook, IMF; BIS; McKinsey Global Institute analysis.

Source: McKinsey Global Institute. 2015. "Debt and (not much) Deleveraging."

Crude Leverage Ratio (Bank Assets + Debt Market/Stock Market Cap) 2013 data

US$ trillion

	GDP	Stock Market Cap	Debt Market	Bank Assets	Crude Ratio （%）
World	75.5	62.6	97.3	126.7	**358.8**
Europe	16.7	12.6	30.0	48.7	**625.6**
US	16.8	22.3	34.5	15.9	**226.0**
Japan	4.9	4.6	12.3	11.5	**517.4**
UK	2.7	4.0	5.8	10.4	**405.0**
Emerging Markets	29.1	11.2	11.2	33.9	**402.7**
Asia	13.8	6.0	5.8	24.3	**501.7**
China	9.5	3.4	4.1	20.2	**714.7**

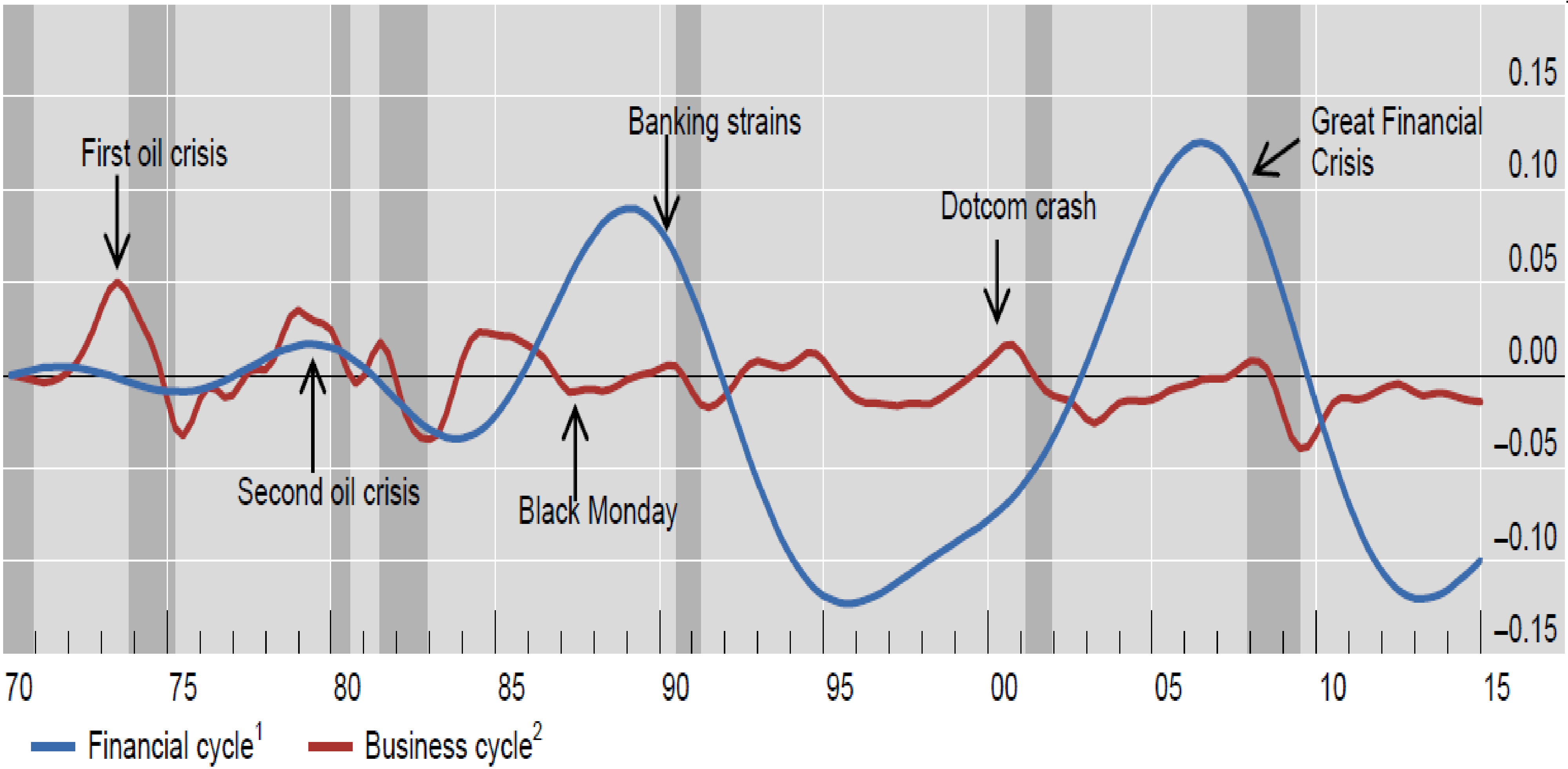
Sources: IMF GFSR 2015, “Navigating Monetary Policy Challenges and Managing Risks.”; author’s calculations.

Financial Repression Main Cause of Inequality

- Global central bank assets, including FX reserves, total US$22.6 trillion, larger than combined GDP of U.S. & Japan
- 83% of world's equity market cap supported by ZIRP
- 50% of world government bonds yield 1% or less
- In 2014, government bond yields fell to all-time lows (Japan, Germany, France, Spain, Italy, Ireland, Portugal, Sweden, Switzerland, Korea, Czech Republic, Hungary and Poland)

Source: BAML. 2015. "A Transforming World: Year Ahead 2015 – 7 Transforming World themes for 2015."

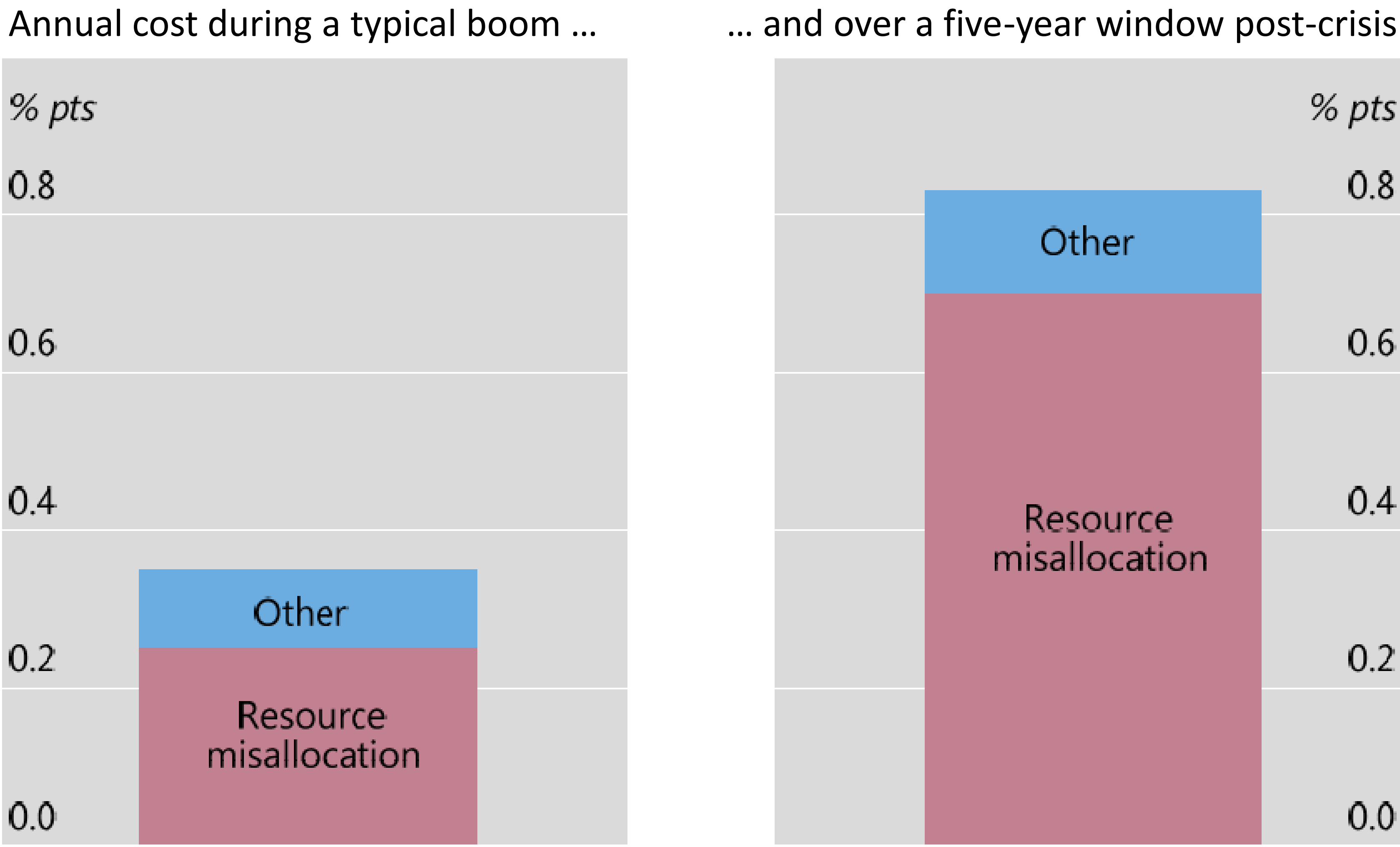
Financial Cycle Growing Larger and Deeper
– *Threat of Secular Deflation – New Mediocre*



Source: Drehmann et al (2012), updated.

Source: Claudio Borio. 2015, November. "[Revisiting Three Intellectual Pillars of Monetary Policy Received Wisdom]" BIS.

Financial Booms Sap Productivity by Misallocating Resources



Source: based on Borio et al (2015), BIS calculations.
Source: Claudio Borio. 2015, September. "Challenges for the global economy: A narrowing road?" BIS.

Debt-Deflation Depression: 9-step Cycle to Depression – *Irving Fisher* (1933)

Displacement – boom due to new profits

1. Debt liquidation leads to distress selling
2. Contraction of deposit currency
3. Fall in level of prices
4. Fall in net worth of business
5. Fall in profits
6. Reduction in output, trade and employment
7. Pessimism and loss of confidence
8. Hoarding and slowdown in circulation
9. Complicated disturbance in rate of interest

From Global Excess Savings to Excess Credit to Bubbles

- Stage 1 – Displacement (US current account deficit rises)
- Stage 2 – Surplus countries finance more US deficit – US loses monetary control (Bernanke surplus savings argument)
- Stage 3 – US and EU banks create excess credit off-balance and off-shore – big bubble
- Stage 4 – Subprime and EU crises (2007-9) – QE and ZIRP
- Stage 5 – China RMB 4 trn package turned out to be RMB40 trn credit splurge – EME/commodity bubble
- Stage 6 – 2015 – stock/debt/property market peaks, A share intervention, global slowdown

Balance Sheet Recession – *Richard Koo* (2011)

- Japan experience – breakdown in monetary transmission: bursting of debt-financed bubble
- Post bubble corporate deleveraging with zero interest rate policy took 10 years
- Huge wealth loss (¥1,500 trn), land price down 87%, government stimulus, but big debt overhang
- Initially did not remove domestic excess capacity – increased FDI in Asia for cheaper labour and created Asian bubble
- Only recovered from deflation when Yen depreciated and exports to China grew
- But structural reforms hindered by aging demographics

Section 4 The Future of Asian Finance

End of Debt Cycle, Rebuilding Equity

Future of Finance – End of the Debt Cycle

- If Asia will become a major player in the global economy, the IMF study argues that Asian finance needs to take a bigger role , including:
  - Better managing accumulated saving
  - Efficiently mobilizing saving
  - Investing in human and physical capital
  - Deepening capital markets to escape a "middle income trap"
  - Supporting economic and financial integration of ASEAN

Source: Sahay, Schiff, Lim, Sumi & Walsh. 2015. "*The Future of Asian Finance*." IMF.

Stylized Facts on EME Finance:

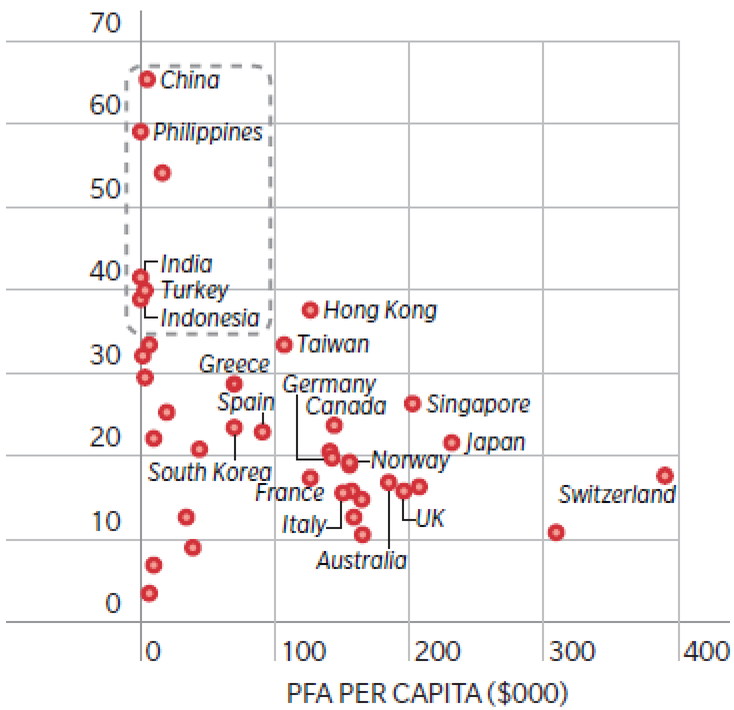
Emerging Market Finance – Sheng (2016) Forthcoming

1. **EME GDP and finance grew faster that AEs.** At end-2013, the financial sectors in Asian EMEs amounted to 262% of GDP, compared to 517% for G4 economies
2. **EME financial sector dominated by banking** (total bank assets = 116.5% of GDP end-2013), larger than debt and stock markets (38.5% of GDP respectively)
3. **EME equity markets in EMEs grew rapidly,** from US$1.8 trillion to US$11.2 trillion end-2013, or 17.9% of world total market capitalization, but still half EME's share of global GDP (38.5%)
4. **EME financial derivatives markets marginal relative to capital markets in AEs.** In 2011, 90% exchange-traded derivatives in AEs (N. America & Europe)
5. **FX market dominated by AEs,** with G4 reserve currencies accounting for 78% of daily global FX turnover (2013)
6. **EMEs share of global FX reserves rose to $8 trn. Or 66% of global FX reserves at end-2013**. NIIP of G3 (excluding Japan) was US$9.6 trn at end-2013
7. **Global capital flows increasing rapidly in both absolute and relative size,** with inflows and outflows having significant impact on the EMEs
8. **EME financial markets lacked long-term institutional investors,** esp. pension, life insurance and sophisticated asset managers

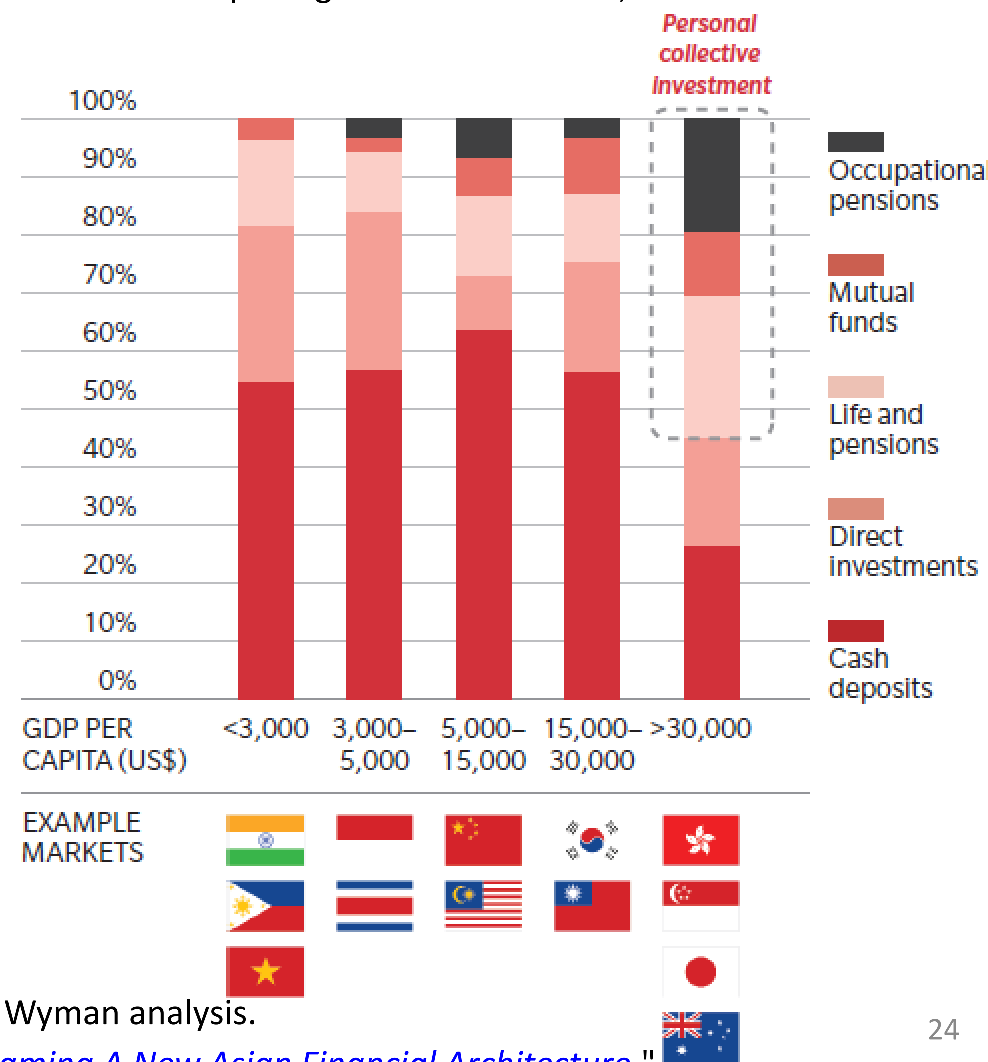
Asia Lacks Long-term Institutional Investors

Total insurance + pension (AUM) ≤ 20% of GDP for most Asian EMEs, 64% in Eurozone, 152% in U.S.

Share of personal financial assets, 2012: Held in cash, deposits and savings account for each country



Financial deepening at household level, 2012*

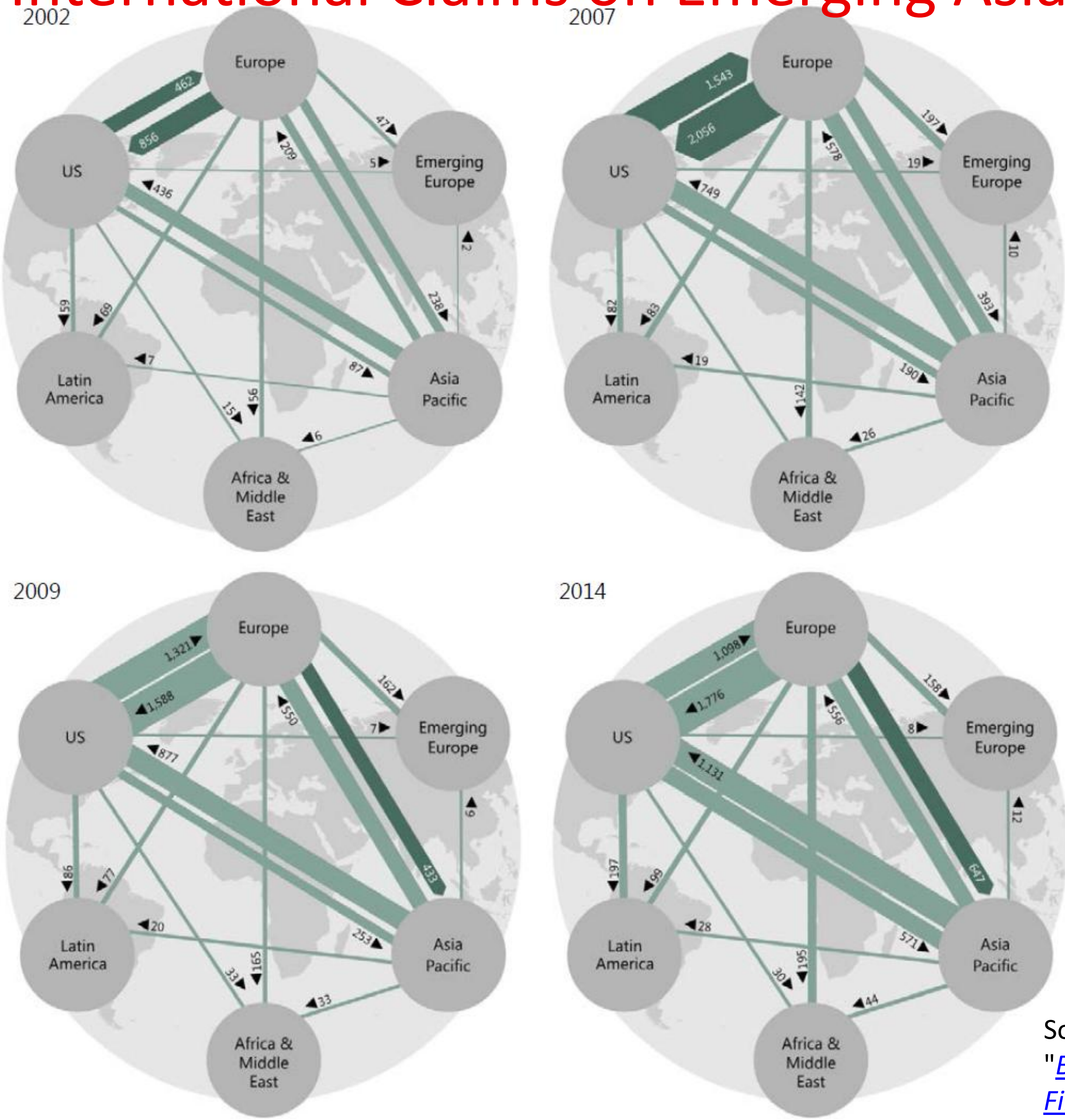


* Excludes home equity.

Source: IMF world economic outlook database, OECD, Oliver Wyman analysis.

Source: Sheng, Ng & Edelmann. 2013. "*Asia Finance 2020: Framing A New Asian Financial Architecture*."

Banks in Asia-Pacific Now Account for More than 50% of International Claims on Emerging Asia-Pacific



US dollar-denominated cross-border claims (US$ bn)

2007-2014

- Cross-border bank lending to Asia surged by US$636 bn (U.S.: US$382 bn, Europe: US$254 bn)
- Cross-border bank claims between U.S. and Europe contracted by US$724 bn

Source: Avdjiev, McCauley & Hyun Song Shin. 2015. "*Breaking Free of the Triple Coincidence in International Finance*." BIS Working Papers 524.

Key Areas for Reform in Asian Finance

1. Need to think beyond QE and Basel III to have regulation and design "fit for purpose"
2. Key areas of reform are: shift towards long-term funding – insurance/pensions/asset management institutionalization; reduce financial repression; increase equity capital and trade finance for SMEs, improve long-term infrastructure funding; identify vulnerabilities in shadow banking; accelerate asset securitization and capital market deepening. Establish deposit insurance/bank resolution and exit mechanisms
3. Use combination of Technology and Institutional Design
4. Regional cooperation can be achieved through multilateralization of currency swaps; SME trade and infrastructure funding mechanisms

Rebuilding Equity Markets

1. Resource Allocation
   - Primary market, IPOs and SME crowd funding
   - Secondary – shifting to long-term institutional
2. Price Discovery
   - Pricing of new SMEs and start-ups
   - Re-look at short-selling, hedging and margin financing effects on market fundamentals
3. Risk Management
   - Re-look at risk management model, big data and stress tests
4. Corporate Governance
   - How to rein in excesses
   - Use of social discipline – name and shame?
5. Human Learning and Adapting
   - Markets are eco-systems that learn and adapt
   - Education of investors, SMEs and regulators on complexity and risks of markets

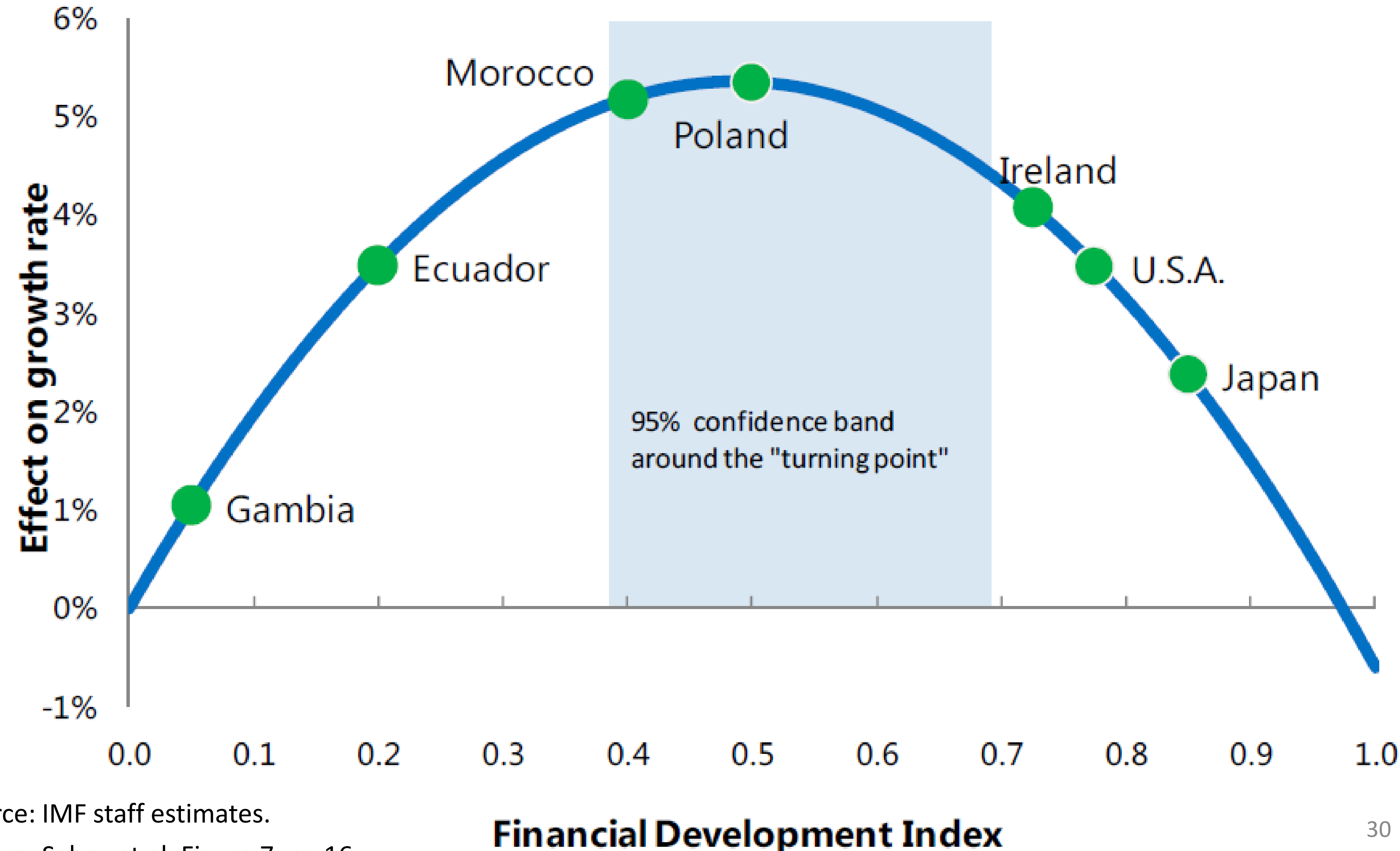
Adapting Equity Markets to "Best Fit"

- **Demographics** – How to get equity markets to finance young SMEs, funded by pension, insurance and social security funds
- **Technology** – Use new technology to raise crowd-funding and equity for SME and start-ups
- **Infrastructure funding** – Use long-term *sukuks* to finance infrastructure
- **Corporate governance** – Use social media to monitor 24x7x360° markets and "name and shame" those who violate ethics and law

A-share and Silicon Valley Lessons

- Stock markets are not independent of local culture, institutional framework and demographic profile
- "IFC" model of EME stock markets under-estimated the difficulties of building up whole eco-system of strong SMEs and innovation start-ups that play a role in mature secondary market development (IPO is exit mechanism)
- Result is that NYSE model replicated in many EMEs, forgetting about supporting infrastructure of deep L-T institutional investors, angel investors and availability of SMEs that can grow into corporate leaders
- Instead, EME stock markets often overloaded with SOEs, oligopolistic private corporates, with speculative and immature retail investors – resulting in weak corporate governance, predatory behaviour in market manipulation etc., high volatility, & lack of access by SME
- In turn, under-developed stock markets result in dominance in fragile financial system with overleveraged banks, corporates & governments

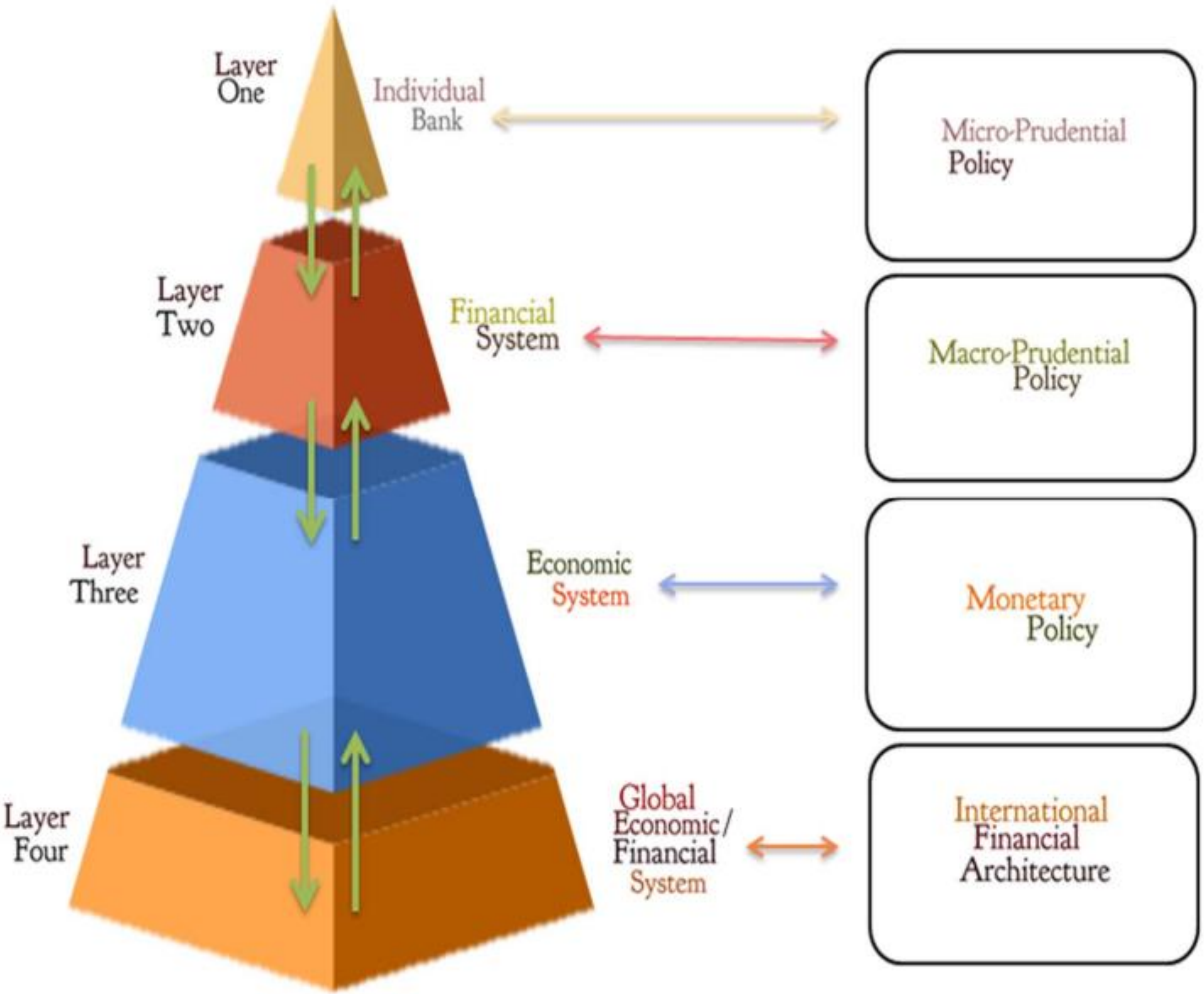
There are Limits to Financial Development: *Effect on Growth* – *IMF*



Source: IMF staff estimates.

Source: Sahay et al, Figure 7, pg.16.

Systems May be More than Sum of Parts: *Topology of Macro-Financial System of Systems* – *Haldane* (2015)



Source: Haldane, 2015. "On Microscopes and Telescopes."

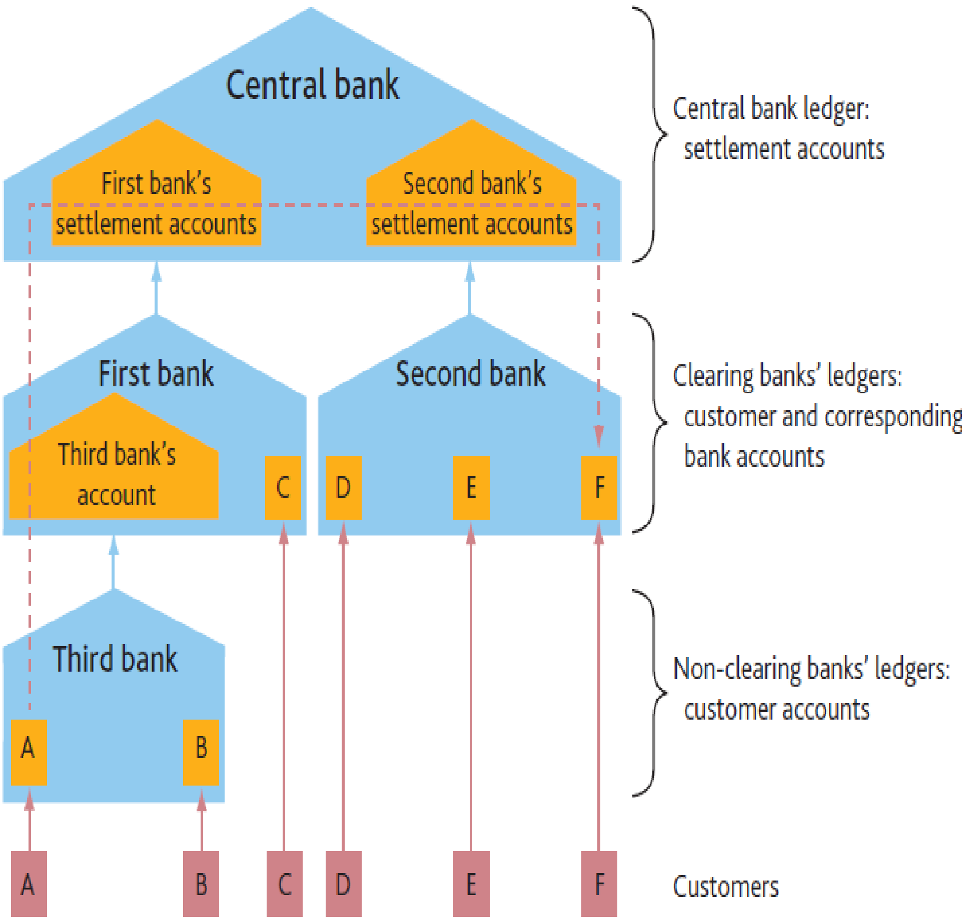
Waves of Digital Disruption –
All Businesses Will Need Digital Strategy

1995+	2010+	2015+	2020+
Music Photography Video Rental …	Print Media TV Travel HR …	Finance Healthcare Automotive Retail Education Telco	**All Safe havens will be subject to digital disruption** …

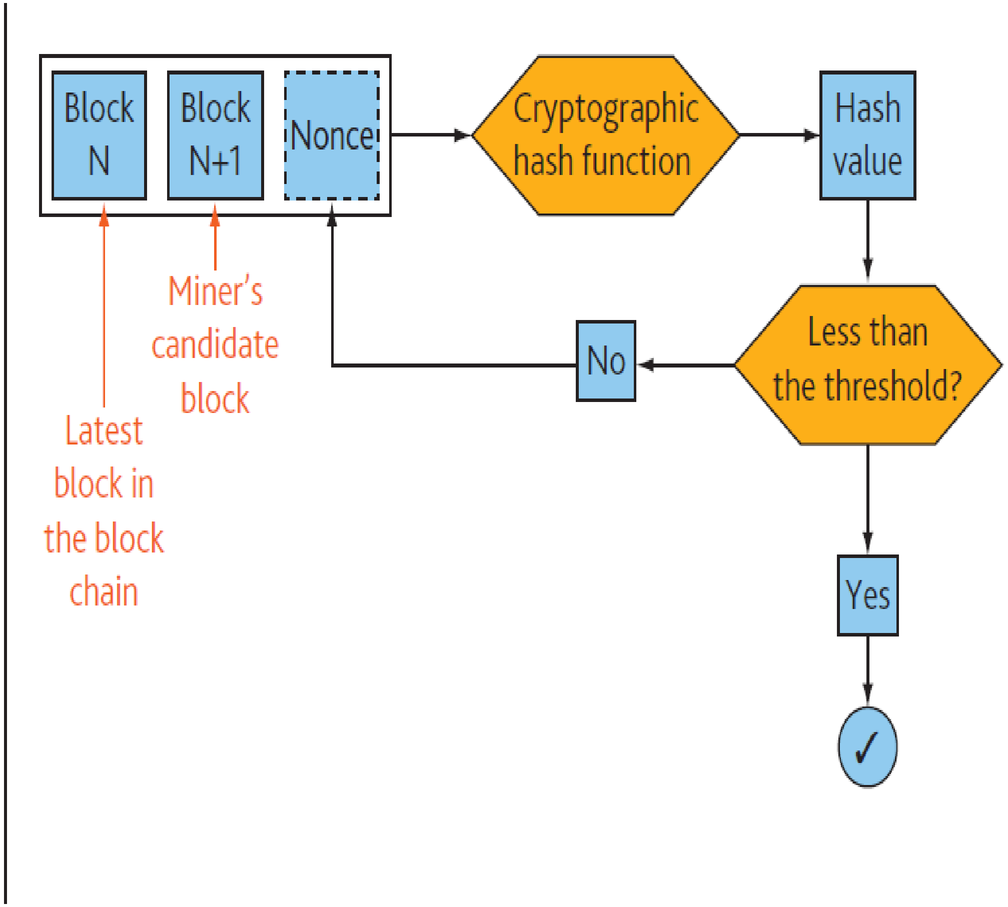
Source: Jo Caudron &Dado Van Peteghem. 2015. "Digital Transformation: Digital Disruption in Finance." DearMedia.

Block Chains Changed the Trust Game in Financial Data Security

Traditional tiered payment system



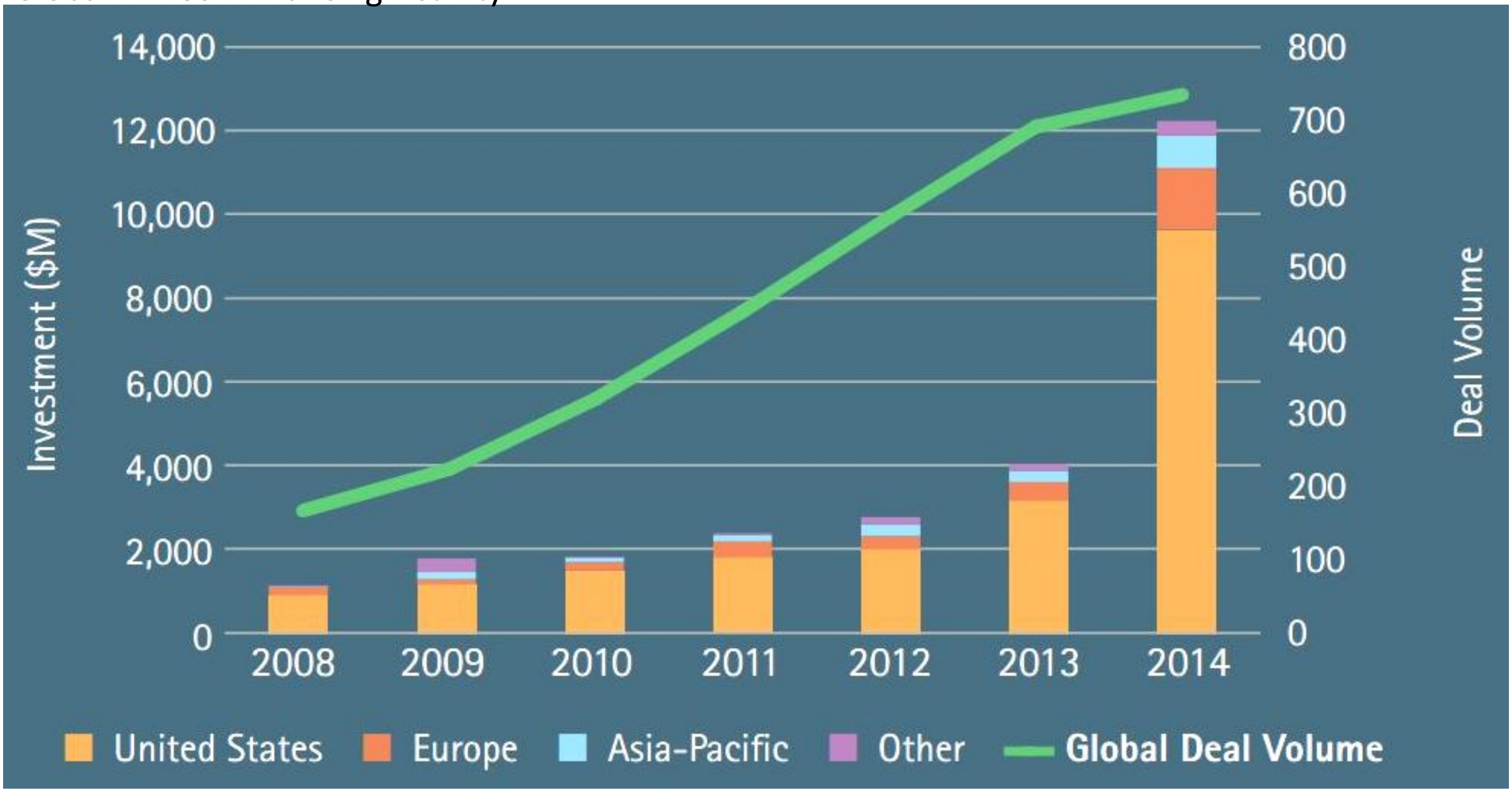
Block Chain technology: Bitcoin's proof of work scheme



Source: Robleh Ali. 2015. "*Innovations in Payment Technologies and the Emergence of Digital Currencies*." BoE Quarterly Bulletin 2014 Q3.

Global FinTech Financing ≈ US$12 bn in 2014, Could Reach US$20 bn in 2015

Global FinTech Financing Activity

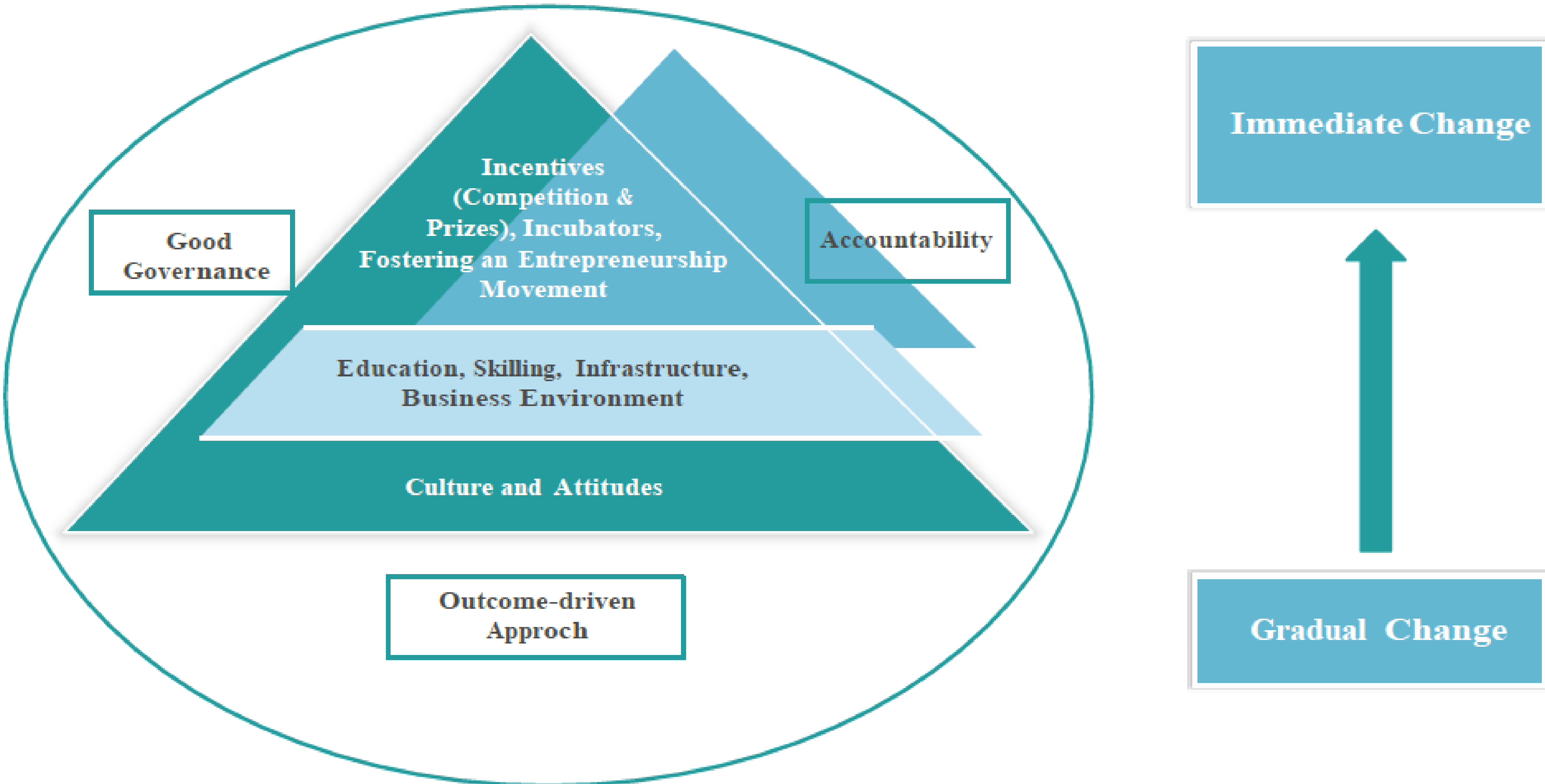


Sources: Accenture and CB Insights.

Source: CB Insights. 2015. "The Future of FinTech and Banking: Global Fin Tech Investment Triples In 2014."

Indian AIM Pyramid (Bottom-up) to Train Entrepreneurship and Innovation for All Sectors

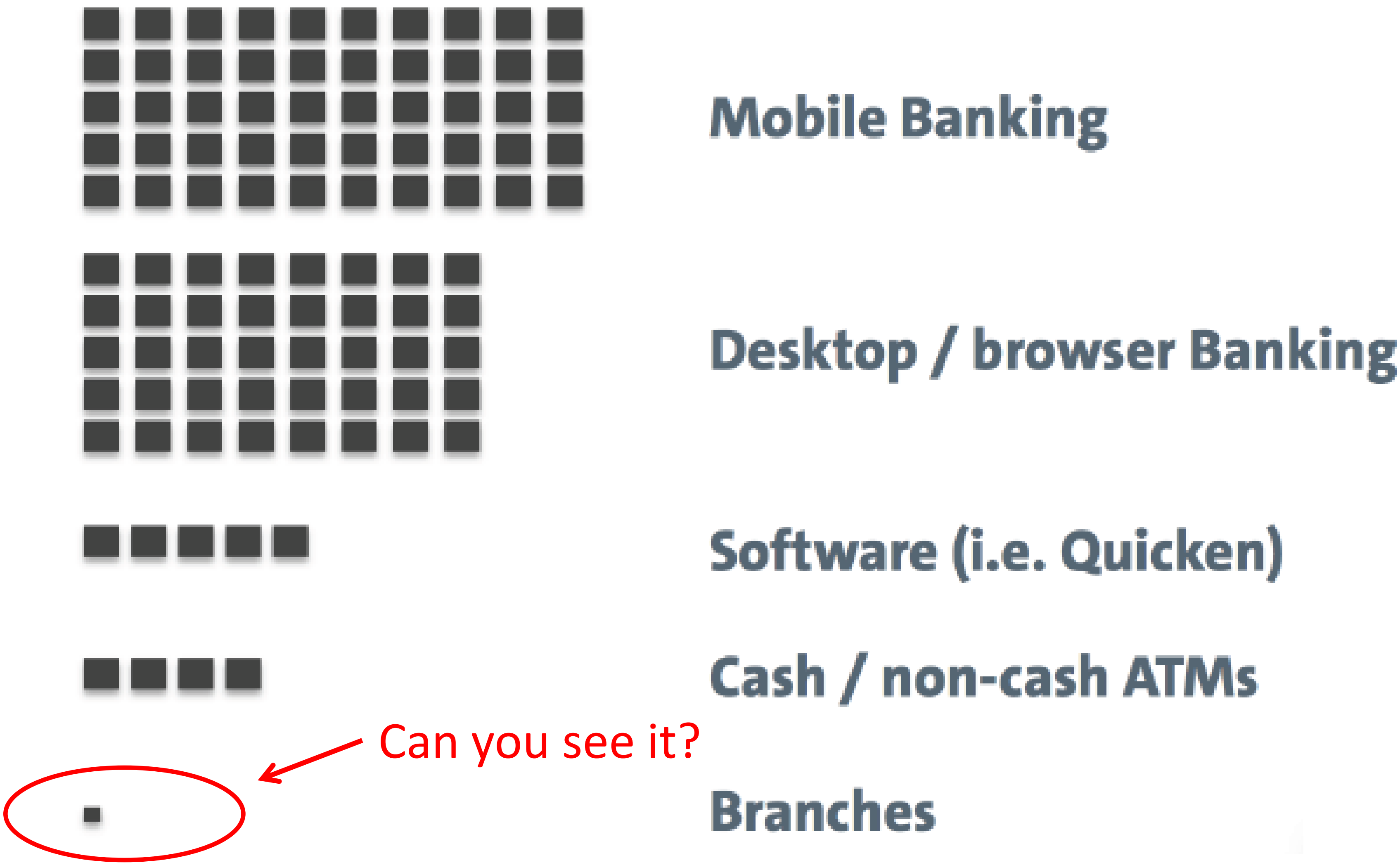
The AIM Pyramid Framework to examine entrepreneurship



Source: Niti Aayog. 2015. "*Report of the Expert Committee on Innovation and Entrepreneurship*."

Bank Branches Disappearing

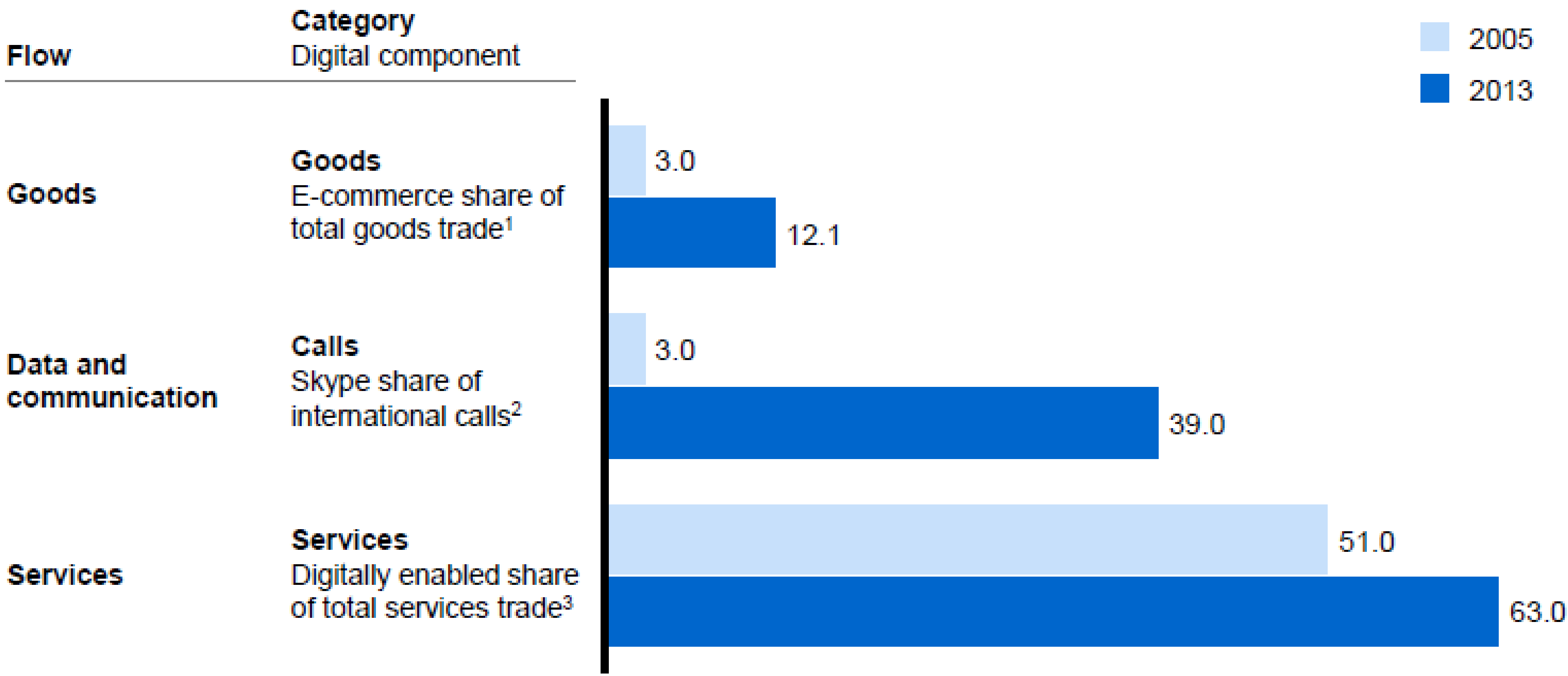
Channel usage intensity and frequency by 2015 in %



Source: Jo Caudron &Dado Van Peteghem. 2015. "[Digital Transformation: Digital Disruption in Finance]." DearMedia.

Digital Component has Growing Share of Global Flows

Share of selected cross-border flows that are digital, %



Note: 1 Based on China data; 2 Excludes other VOIP minutes; 3 Based on US data.
Sources: iResearch; Telegeography; OECD; US Bureau of Economic Analysis; McKinsey Global Institute analysis

Source: McKinsey Global Institute. 2014. "Global Flows in a Digital Age."

Conclusions

- Asia in midst of very exciting transformation into New Economy, but there will be lots of pain
- Excessive credit creation is harmful to financial system stability. Need to reduce reliance on debt and shift to equity
- EMEs can shift to equity due to their sizeable savings
- We are in the Information Age. Faster and cheaper information sources arising from New data can change economic and financial reporting – can lead to faster policy-making and implementation
- Finance can no longer be through debt. Only way is through equity – more risk-sharing, better resilience and identification of ownership (and commitment to long-term efficiency, stability, resilience and sustainability)

Thank you

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