Irving Fisher Committee on
Central Bank Statistics

BANK FOR INTERNATIONAL SETTLEMENTS

IFC Satellite meeting at the ISI Regional Statistics Conference on *"Is the household sector in Asia overleveraged: what do the data say?"*

Kuala Lumpur, Malaysia, 15 November 2014

Using household balance sheet and housing data for systemic risk assessment and policy formulation – Malaysia's experience[1]

Chin Ching Lau, Central Bank of Malaysia

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[1] This presentation was prepared for the meeting. The views expressed are those of the author and do not necessarily reflect the views of the BIS or the central banks and other institutions represented at the meeting.

IFC Satellite Seminar
"Is the household sector in Asia overleveraged: what do the data say?"

Session 5: Using household balance sheet and housing data for systemic risk assessment and policy formulation – Malaysia's experience
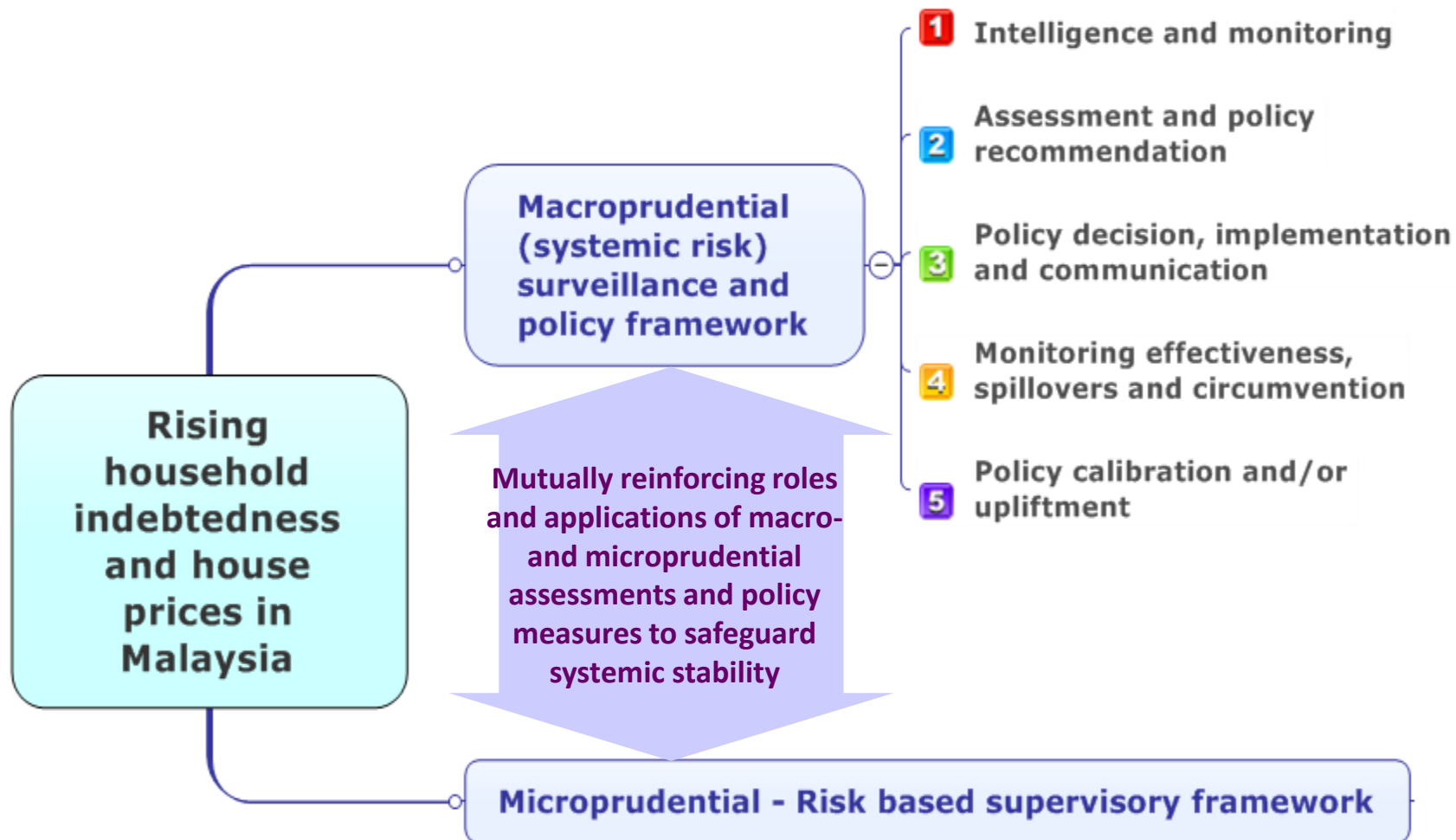
Chin Ching Lau, Bank Negara Malaysia

15 November 2014

"If you can't explain it simply, you don't understand it well enough."

Albert Einstein, Physicist

Systemic risk assessment and mitigation measures in Malaysia – *case study*

Rising household indebtedness and house prices in Malaysia

Macroprudential (systemic risk) surveillance and policy framework

Mutually reinforcing roles and applications of macro- and microprudential assessments and policy measures to safeguard systemic stability

Microprudential - Risk based supervisory framework

1 Intelligence and monitoring

2 Assessment and policy recommendation

3 Policy decision, implementation and communication

4 Monitoring effectiveness, spillovers and circumvention
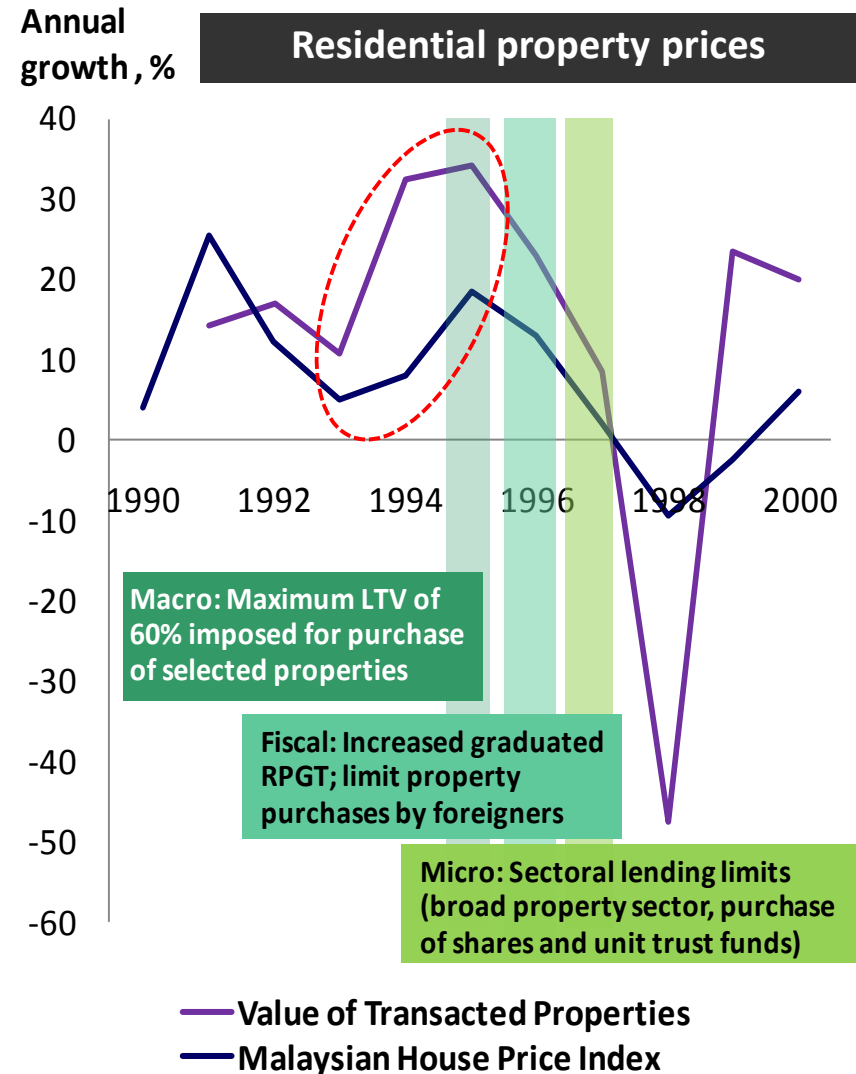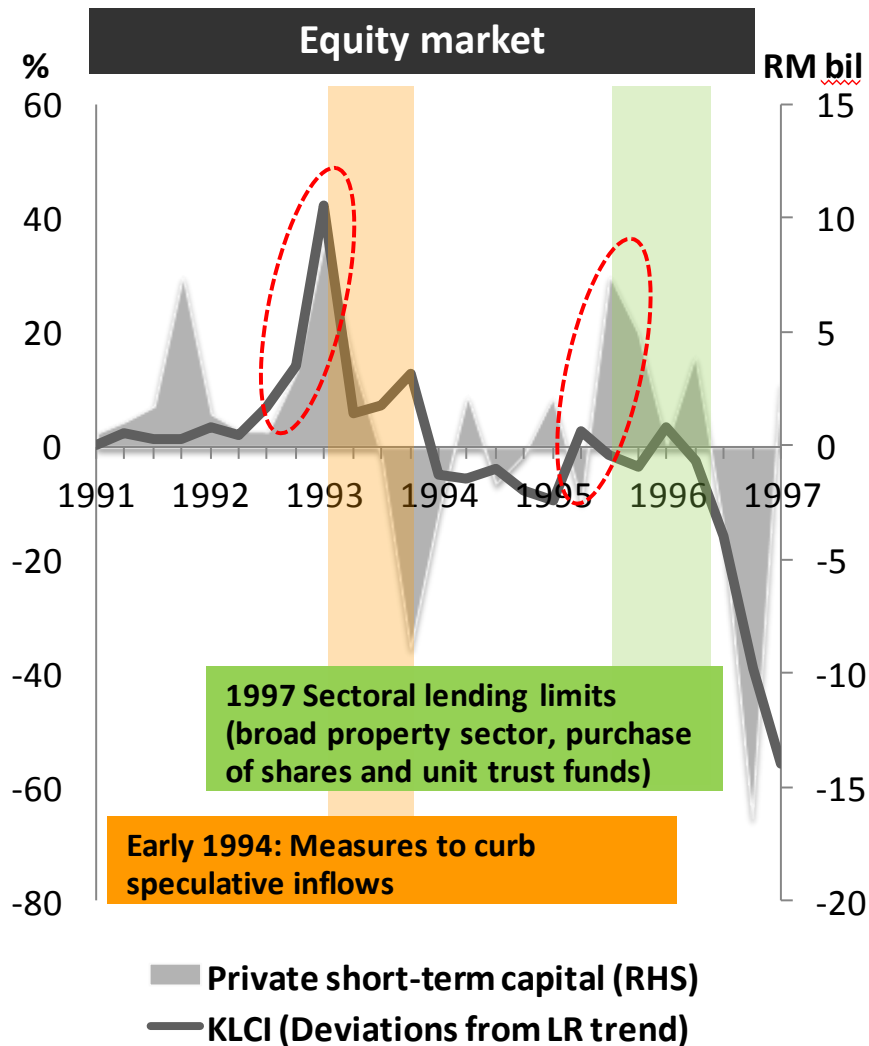
5 Policy calibration and/or upliftment

"Those who do not remember the past are condemned to repeat it."

George Santayana, Philosopher and Writer

In the 1990s, excessive asset price build-up coincided with surges in capital inflows

Equity market

% | RM bil

60 | 15
40 | 10
20 | 5
0 | 0
-20 | -5
-40 | -10
-60 | -15
-80 | -20

1991 1992 1993 1994 1995 1996 1997

1997 Sectoral lending limits (broad property sector, purchase of shares and unit trust funds)

Early 1994: Measures to curb speculative inflows

Private short-term capital (RHS)
KLCI (Deviations from LR trend)

Residential property prices

Annual growth , %

40
30
20
10
0
-10
-20
-30
-40
-50
-60

1990 1992 1994 1996 1998 2000

Macro: Maximum LTV of 60% imposed for purchase of selected properties

Fiscal: Increased graduated RPGT; limit property purchases by foreigners

Micro: Sectoral lending limits (broad property sector, purchase of shares and unit trust funds)

Value of Transacted Properties
Malaysian House Price Index

"I never guess. It is a capital mistake to theorize before one has data. Insensibly one begins to twist facts to suit theories, instead of theories to suit facts."

Sir Arthur Conan Doyle, Author of Sherlock Holmes stories

"The temptation to form premature theories upon insufficient data is the bane of our profession."
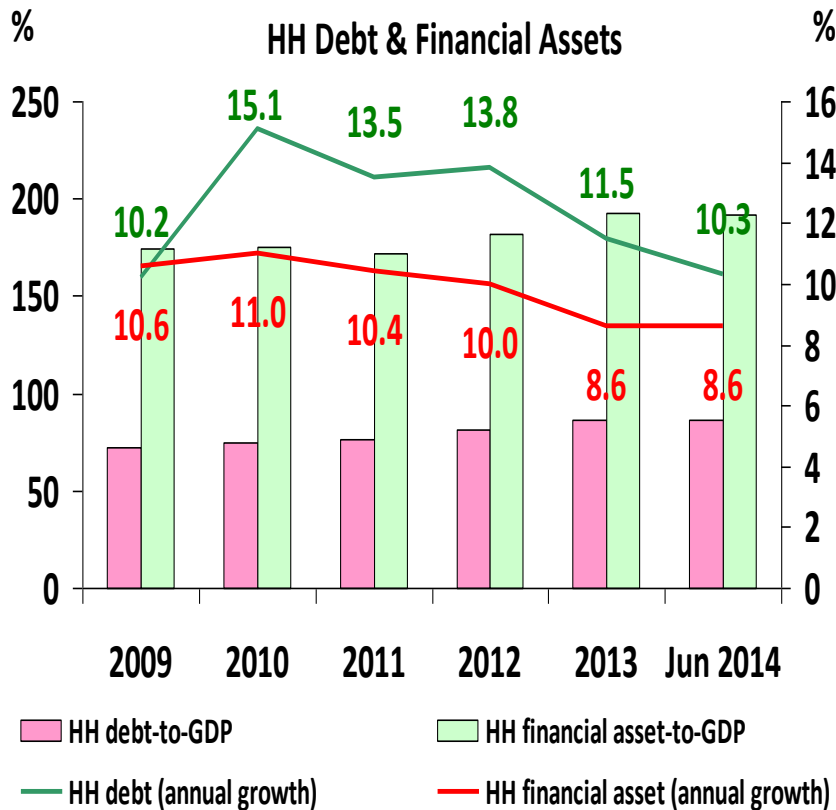
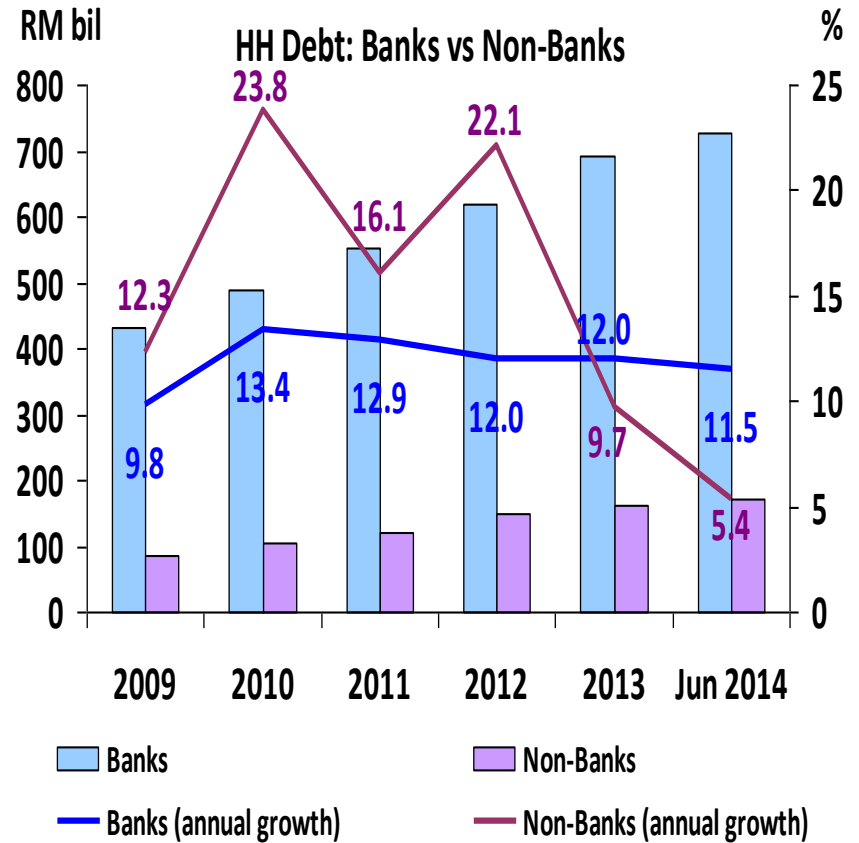Sherlock Holmes, Fictional detective

Intelligence and monitoring

Growth in household (HH) debt reached 15.1% in 2010, amid rapid expansion by non-bank lenders

HH debt CAGR 2007-09: +9%
High leverage of lower income group (~7 times)
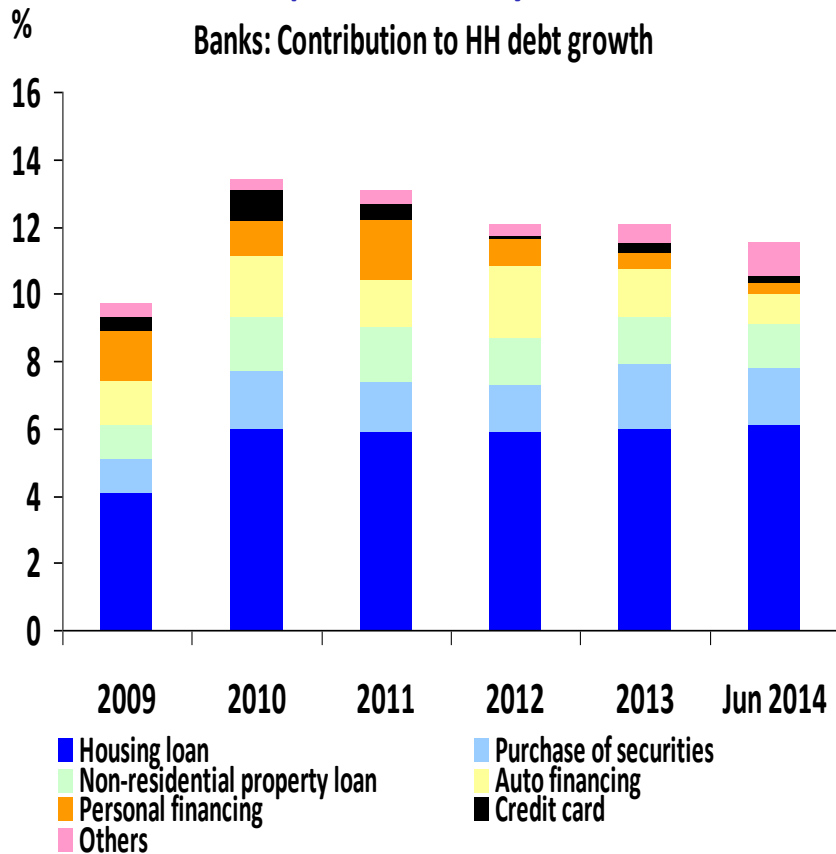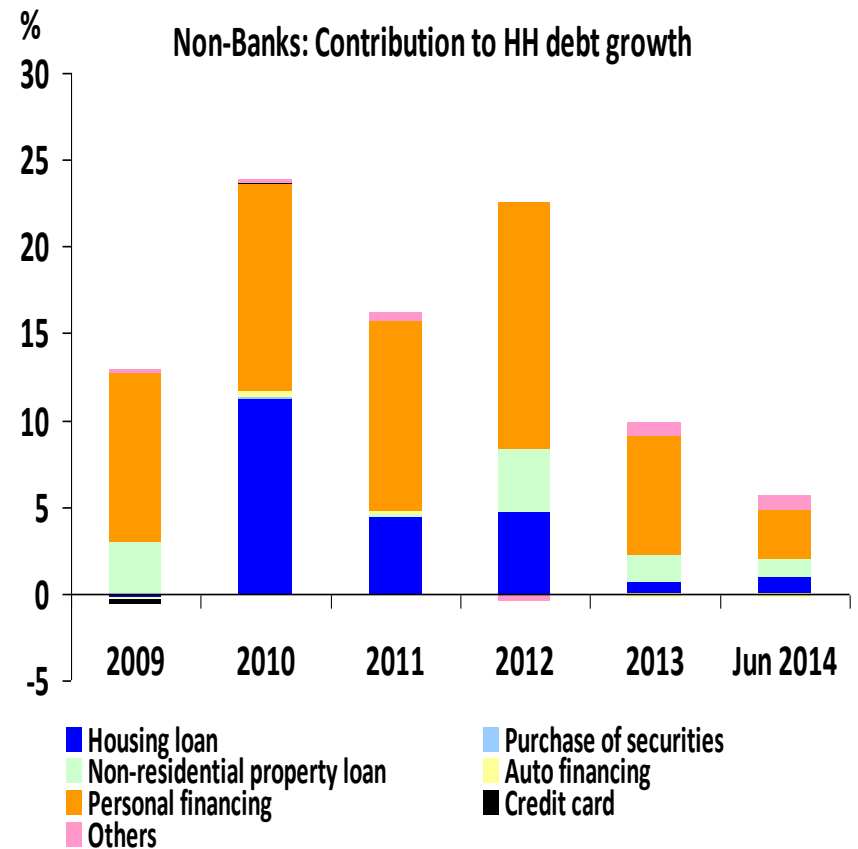
Non-banks: 19% of total HH debt (2009: 16.4%)

HH Debt & Financial Assets

HH Debt: Banks vs Non-Banks

Legend (left chart):
- HH debt-to-GDP
- HH financial asset-to-GDP
- HH debt (annual growth)
- HH financial asset (annual growth)

Legend (right chart):
- Banks
- Non-Banks
- Banks (annual growth)
- Non-Banks (annual growth)

Source: BNM estimates

Intelligence and monitoring

Expansion in HH debt driven by housing loans by banks and personal financing by non-bank lenders

Banks: 47.5% of HH lending for housing (2009: 46.7%)

*Non-banks: 50.6% of HH lending for personal finance (2009: 42.1%)*

Banks: Contribution to HH debt growth

Non-Banks: Contribution to HH debt growth

Legend:
- Housing loan
- Non-residential property loan
- Personal financing
- Others
- Purchase of securities
- Auto financing
- Credit card

Source: BNM estimates

Growth in Malaysian House Price Index (MHPI) above long-term trend, partly due to credit-fuelled speculative purchases

Malaysian House Price Index
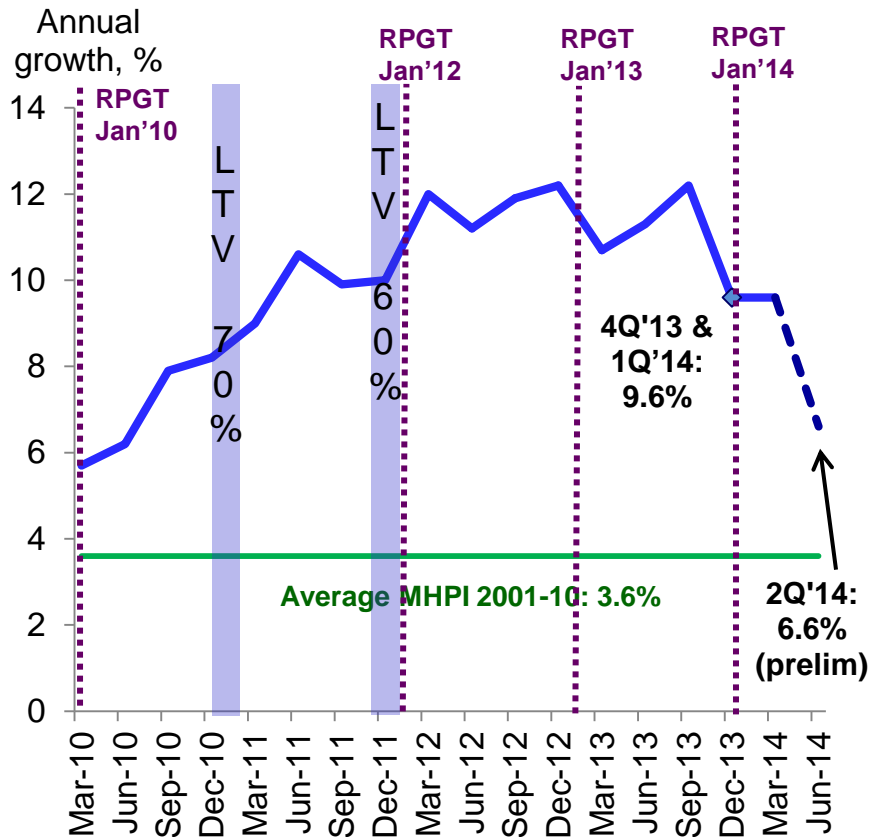
No. of borrowers with one and more outstanding housing loans
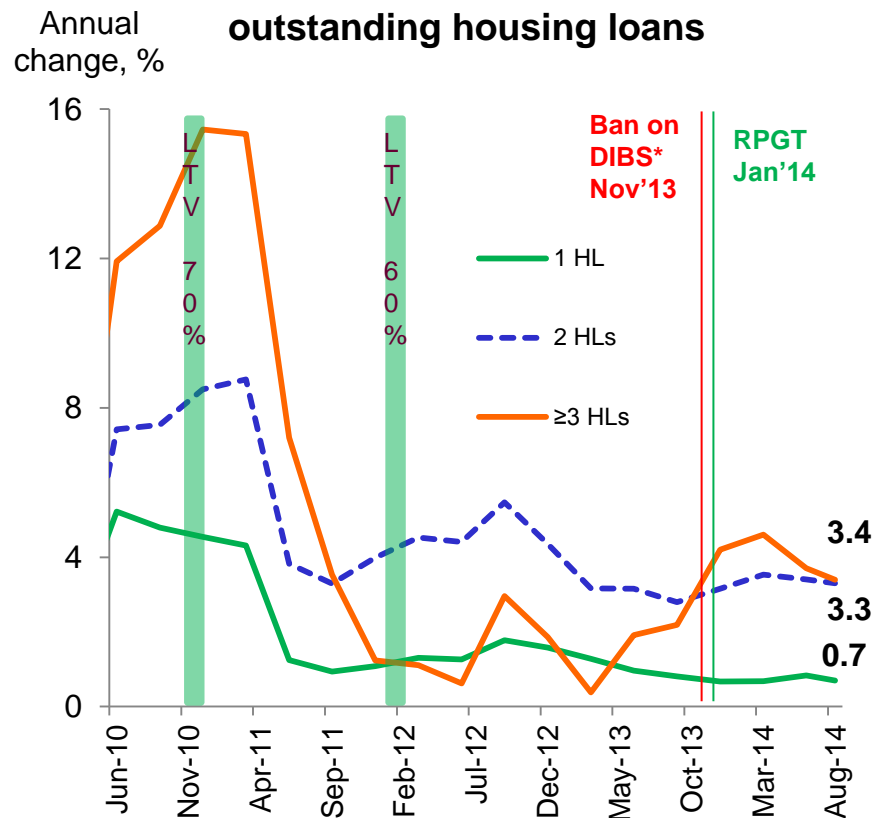
Source: National Property Information Centre (NAPIC)

*DIBS = Developer Interest Bearing Scheme
Source: BNM estimates

1

Intelligence and monitoring

"Not everything that can be counted counts, and not everything that counts can be counted" – Albert Einstein

Lending practices also provide telling signs of potential risk build-up

- High housing loan-to-value (LTV) ratio of up to 95-100%

- Long financing tenures

    - Non-banks – Personal Financing up to 25 years

    - Banks – Housing loans up to 45 years

- Highly competitive financing rates, particularly for housing loans

- Differences in definition of debt coverage and income source for computation of debt service ratio (DSR) across banks and non-banks

    - Similar DSR threshold for different income groups

- Bundling of overdraft and/or PF facilities with housing loans

- Growing housing and property development projects with interest capitalisation scheme (ICS) including developer interest bearing schemes (DIBS) and permutations thereof
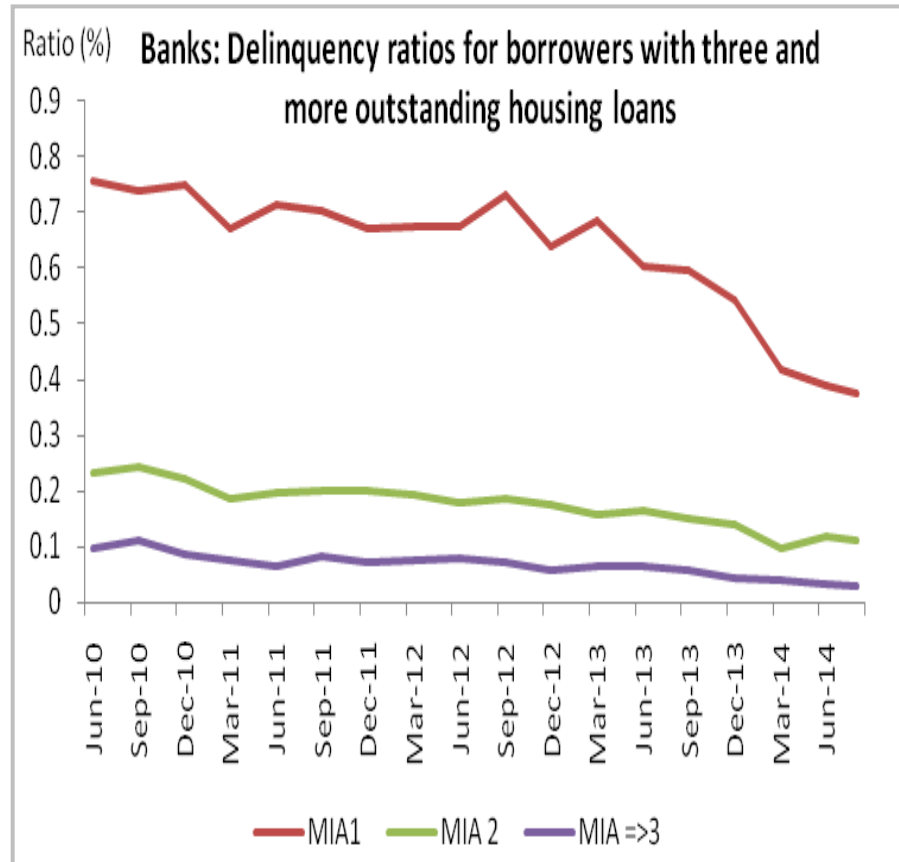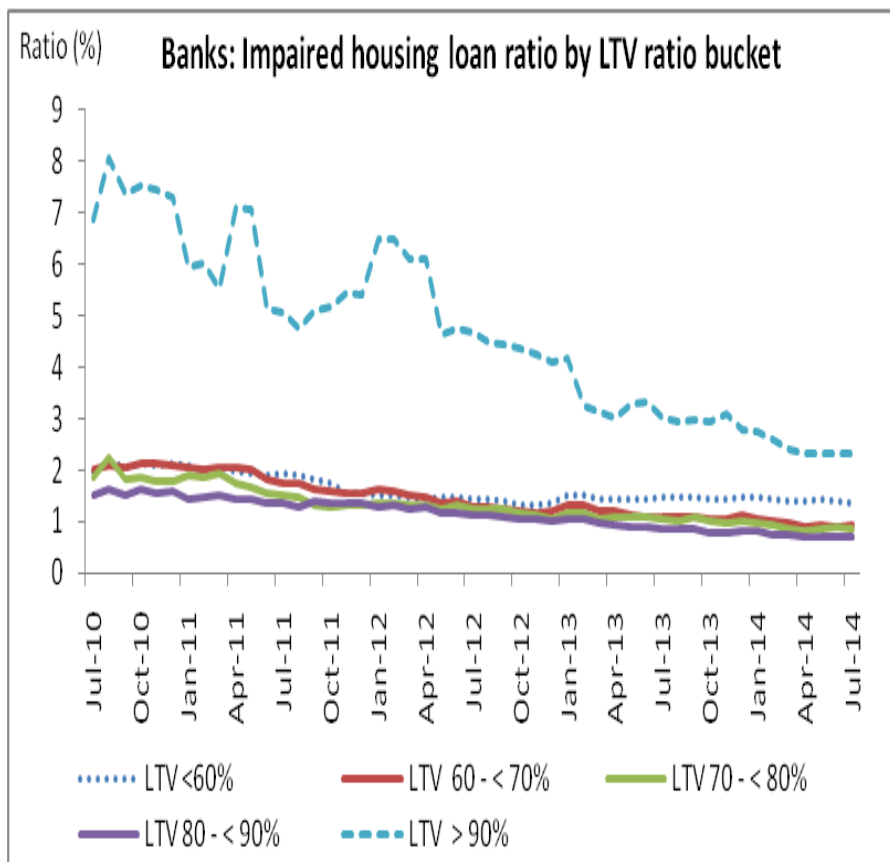
"War is ninety percent information."

Napoleon Bonaparte, French Military and
Political Leader

2

Higher delinquencies associated with borrowers with multiple housing loans and higher LTV ratio
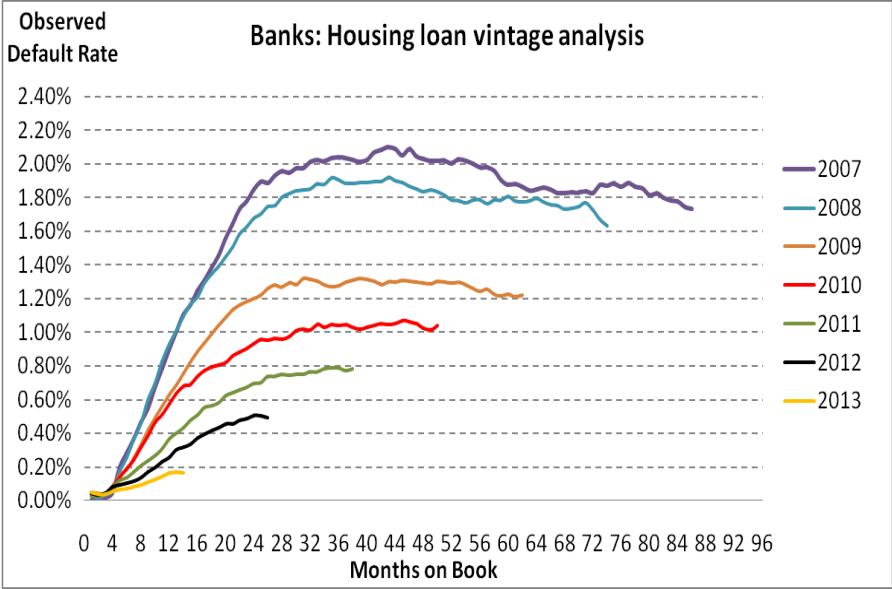

Source: BNM estimates

Household Sector, Banking System: Potential Losses Based on Severe Assumptions on Household Default Incidences and Loss Given Default

	Housing loan	Vehicle hire purchase	Personal financing	Credit cards	Total[1]
Probability of default (%)	7.2	7.2	10.5	10.5	
Loss given default (%)	40	75	95	95	
Potential losses (RM bil)					
- Borrowers earning RM3,000 or less per month	1.5	2.8	2.2	0.8	8.4
- Borrowers earning RM5,000 or less per month	3.4	4.6	3.6	1.7	15.3
- All borrowers	9.4	7.5	5.7	3.5	30.5

[1] Includes other household loans such as financing for the purchase of non-residential properties and consumer durables
Source: Bank Negara Malaysia

Source: BNM Financial Stability & Payment Systems Report 2013

Banks: Housing loan vintage analysis

Source: BNM estimates

- But, need to:
  - Enhance responsible financing practices and risk pricing by lenders
  - Curb growth in credit-fuelled speculative house purchases
  - Reduce excessive increase in house prices not supported by fundamentals
  - Promote financial education particularly among new borrowers

Considerations for policy design based on domestic context

- Targeted, but need to minimise unintended cross-sectional spillovers
  - Sustain access to financing by first time house buyers
  - Applicable to all key lenders (banks, DFIs, selected NBFIs)

- Discretionary
  - Timing and quantum of measures not rule-based
  - Prevent sudden build-up in systemic risk particularly right before implementation – prior engagement with stakeholders need to be managed carefully

- Progressive
  - Allows calibration and avoid "overshooting" or over-correction

- Complemented with other policies (monetary, fiscal, structural and supervisory)

- Enforceable

Assessment and policy recommendation

Combination of policies in place to address HH indebtedness and rising house prices

Sound and sustainable household sector	Responsible behaviour by borrowers and financial institutions	Sound and sustainable housing market	Increase supply of affordable housing

Stricter credit card requirements (particularly for cardholders earning <RM36k per annum)

LTV ratio limit 70% on 3rd outstanding housing loan by individuals (Nov 2010)

Prohibition on offering of pre-approved products

LTV ratio limit 60% on housing loan by non-individual (Dec 2011)

Guidelines on Responsible Financing, including guidance on debt service ratio and reporting requirements

Prohibition of housing development projects and housing loans with ICS and/or DIBS

Capped tenure of personal use and property financing

- **Tighter real property gains tax (RPGT)**
- **National Housing Council**
- **Increase supply of affordable housing**
- **Ban on ICS and/or DIBS**
- **House price transparency**
- **Price floor for purchase of homes by foreigners**

Intensified financial education outreach

Financial and debt management services provided by Credit Counselling and Debt Management Agency

Consistent application on all major credit providers, in coordination with relevant authorities

"…it is people that bring the art and the insight to the science of (data) analysis…"

Source: http://makingdatameaningful.com/2012/12/12/data-driven-decision-making/

"Statistics are no substitute for judgment."

Henry Clay, Former US senator

Enhanced legislative framework to address systemic risks and institutional vulnerability, incl. non BNM-regulated entities

Central Bank of Malaysia Act 2009

Ex-ante surveillance powers for timely risk identification	*Power to enter into arrangements, advise and make recommendations to other supervisory authorities*	*Pre-emptive powers to avert or mitigate systemic risks*	*Ex-post powers to minimise impact of instability*
• Access to information either directly or indirectly via relevant authorities	• Co-operate and coordinate financial stability measures • Promote laws & policies that are consistent with financial stability	• Macroprudential measures • Order for financial stability • Liquidity assistance • Capital support	• Order for compulsory transfers (part or whole of business, shares, assets and liabilities) • Bridge institution

- **Power to prescribe financial institutions for purposes of ongoing regulation & supervision under Financial Services Act 2013 and Islamic Financial Services Act 2013**
    - **If such entity poses or is likely to pose a risk to financial stability arising from its**
        - **Financial intermediation activities** *(e.g. maturity/liquidity transformation, imperfect credit risk transfers, facilitate excessive leverage or raise regulatory arbitrage concerns)*
        - **Nature, scope, size, concentration or interconnectedness of its activities**

Strengthened BNM institutional and governance arrangements

Joint Policy Committee (JPC)

- **Responsible for deliberations & decisions on appropriate macroprudential policy response(s) to address risks concerning build-up of systemic risk & financial imbalances,** *which may or are likely to have wider implications on macroeconomy*
- **Consist of members from both FSC & MPC**
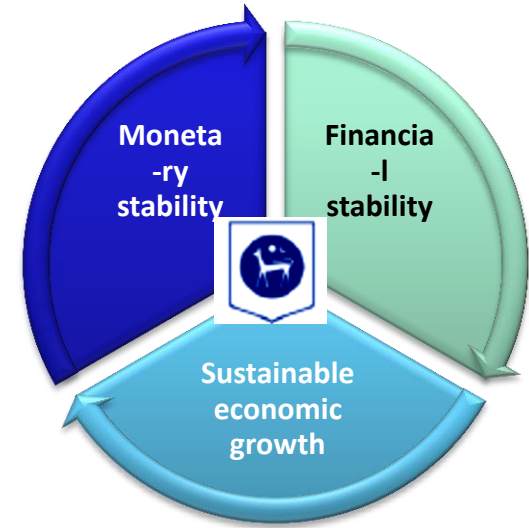
Identification of systemic risks or financial imbalances that require financial stability response(s) may originate from FSC or MPC, and referred to FSC

Financial Stability Committee (FSC)

Financial Stability Executive Committee

Macroprudential responses *extended to entities other than those regulated by the Bank*

Microprudential/supervisory responses

Macroprudential responses *without wider implications on macroeconomy*

Moneta-ry stability

Financia-l stability

Sustainable economic growth

3

Ensuring robust policy deliberation, effective coordination and independence of decision making

Financial Stability Executive Committee

- Ensure comprehensive policy consideration & effective coordination across relevant authorities
- Clear majority of non-executives reinforce the element of independent external oversight
- Supported by Assessor Committee for appeals on transacted price arising from compulsory transfer

Governor, & named Deputy Governor	Secretary-General to the Treasury	CEO of Malaysian Deposit Insurance Corporation	Chairman of the Securities Commission
• Lead authority for macroprudential policy & overall financial stability	• Implications on public funds • Interactions with fiscal policy	• Resolution expertise for non-viable member institutions	• Role in averting reducing systemic risk in the capital markets

Private sector experts in legal, accounting or financial matters	• Implication on property rights • Contribute to independent oversight	Heads of other relevant supervisory authorities	• For measures affecting persons/entities under their purview

3 *Policy decision, implementation and communication*
Example: July 2013 measures on lending to HHs

- Effective collaboration across authorities to minimise regulatory arbitrage or shifts to informal sectors

- Effective communication strategy, including engagements with relevant stakeholders (players, borrowers, agencies, etc)

- Improvements in data collection and management for analyses

Policy formulation stage

Consumer & industry associations – to reinforce policy clarity & objectives, secure support & seek feedback

Focus group sessions with selected institutions – to identify & address specific concerns & implementation issues

Cooperatives Commission Malaysia (SKM) – early engagement to coordinate implementation of similar requirements on responsible practices for credit cooperatives

Issuance stage

Coordinated press release by BNM & SKM – consistent implementation ensures level playing field

Media & briefing sessions – to create public awareness & promote understanding of policy rationale

"Statistics are like bikinis. What they reveal is suggestive, but what they conceal is vital. "

Aaron Levenstein, former Business Professor
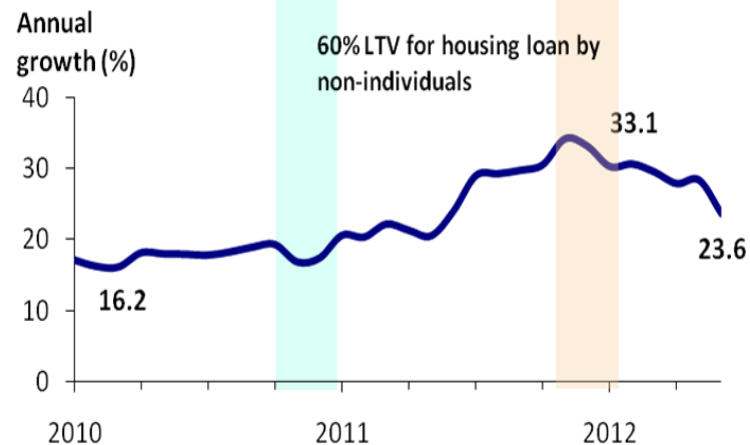at Baruch College New York

- Monitoring effectiveness, spillovers and circumvention
- Policy calibration and/or upliftment

- Circumvention
  - Post implementation of LTV limit of 70% on 3rd outstanding housing loan per individual (Nov 2010), BNM observed rising trend of housing loans obtained by non-individuals
  - In Dec 2011, BNM introduced LTV limit of 60% on all housing loans by non-individuals

Purchase of residential properties by non-individuals continued to decline post-2nd LTV measure

Annual growth (%)

60% LTV for housing loan by non-individuals

33.1

16.2

23.6

2010   2011   2012

- Spillovers
  - On-going monitoring of potential shift towards lending by other non-banks such as moneylenders, pawnbrokers, etc
    - Collection of data and information on borrowings by these entities to fund lending, growth in lending portfolio and lending practices of these entities

- Monitor compliance
  - Joint on-site supervision on non-bank lenders with regulator

- Monitoring effectiveness, spillovers and circumvention
- Policy calibration and/or upliftment

Slower pace of growth in HH debt

- Annual growth in HH debt moderated for 6th consecutive quarters since end-2012
  - HH debt-to-GDP remained stable at 86.7% since end-2013
- Annual growth in non-bank lending to HHs more than halved to 4.7% as at end-Aug 2014 (2013: +9.7%; 2012: +22.1%)
  - Driven by substantial decline in annual growth of personal financing to 5% (2013: +13.9%; 2012: +30.6%)

Sustained debt repayment capacity of HHs

- HH financial assets grew in tandem and remained stable at 2.2 times of HH debt
  - Stable HH liquid financial assets to debt at 1.6 times, with about 58% comprising deposits and deposit-like instruments
- Low and stable impaired bank loans to HHs ratio: 1.2%
- HH balance sheet supported by growth in income and low unemployment

- Monitoring effectiveness, spillovers and circumvention
- Policy calibration and/or upliftment

Further strengthening of lending practices, particularly to vulnerable borrowers

- Proportion of borrowers with monthly earnings of <=RM3,000 accounted for a lower share of 27% of total HH debt (2012: 33%)

- Improved loan affordability assessment by lenders, where close to half of new loans were to borrowers with DSR of 40% and below since 2H 2013

Reduced credit-fuelled speculative purchases of residential properties

- Annual growth in no. of borrowers with 3 or more outstanding housing loans declined substantially to <4% (2010: >15%) to account for only 3% of housing loan borrowers

Slower growth in house prices, new launches and transactions in major states

- Annual growth in MHPI (prelim) slowed to 6.6% in 2Q 2014 (4Q 2013 & 1Q 2014: +9.6%)

Annual growth (%) (nominal)	2Q 2014	1Q 2014	4Q 2013	2013	2012	2011
MHPI	6.6*p*	9.6	9.6	11.6	11.8	9.9
Consumer price index	3.3	3.5	3.2	2.1	1.6	3.2

On-going BNM study on effectiveness of LTV ratio limits

LTV ratio limit dampened demand for credit-fuelled speculative housing loans as intended

- However, effects of the measure on house prices, transactions and growth in housing loans were only temporary

  Average house price

  - Slight increase in MHPI, both before the announcement was made – buyers could have brought forward purchases, encouraged by marketing by developers and banks
  - Negative impact on house price was only transitory

  Growth in housing loans

  - Slower growth leading up to the announcement was short-lived, as time dummy recorded positive values thereafter

  Number of transactions in the housing market

  - Seems immune to the measure, as impact seems transitory
  - Sustained demand likely from first-time buyers due to demographic and structural factors

Findings highlighted importance of:

- Other policy interventions (particularly fiscal measures) to provide holistic and long-term solution to address house price increases
- Timely and willingness to calibrate and/or uplift policies are critical

Main authors: Mr Muhamad Shukri Abdul Rani & Ms Chin Ching Lau (BNM, 2014)

Lessons learnt

- Granular data is important to enable targeted policies
  - "What gets measured, gets managed." – Peter Drucker, Management consultant and author

- Non-quantifiable data is similarly important
  - Industry practices, supervisory assessment, risk appetite

- Timely data for pre-emptive actions
  - Lagged data is better than none – but, overly late data may serve better for a post-mortem, rather than prevention or cure

- Expert judgment is just as important as reliable data
  - "If you do not know how to ask the right question, you discover nothing." – W Edward Deming, Engineer and statistician

- Exercise caution in data usage
  - "Torture the data, and it will confess anything." – Ronald Coase, Economics Nobel Prize Laureate

Thank You

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