

HAS MONETARY POLICY CHANGED?

HOW THE CRISIS SHIFTED THE GROUND UNDER CENTRAL BANKS

PRESENTATION
@ CENTRAL BANK OF COLOMBIA
11TH ANNUAL CONFERENCE OF THE SPECIAL EDITION OF ESPE
JOURNAL
*CHANGES IN MONETARY POLICY AND CENTRAL BANKING OVER
THE PAST TWO DECADES*

BOGOTA, COLOMBIA, OCTOBER 2014

Pierre L.
Siklos
WLU & BSIA

THE ROLE OF CENTRAL BANK COMMUNICATION (CBC)

- “...has grown ever more important for central banks..., and looks set to become even more important...” Draghi (2014)
 - Suggests a need to understand what works/doesn't
- “...communication plays a *distinct and special role* [emphasis added] in monetary policymaking.” Yellen (2013)
 - Suggests we need to be able to evaluate it/measure it
- An effective communications strategy for normal states may prove counterproductive in exuberant times.” Carney (2009)
 - A device to manage expectations (Woodford 2005)
- **The written (or spoken) WORD matters as does the form in which it is conveyed (e.g., forecasts)**
 - “...central bank communication can be as important and effective as the traditional instrument of policy, i.e. the interest rate.” Bini Smaghi (2007)

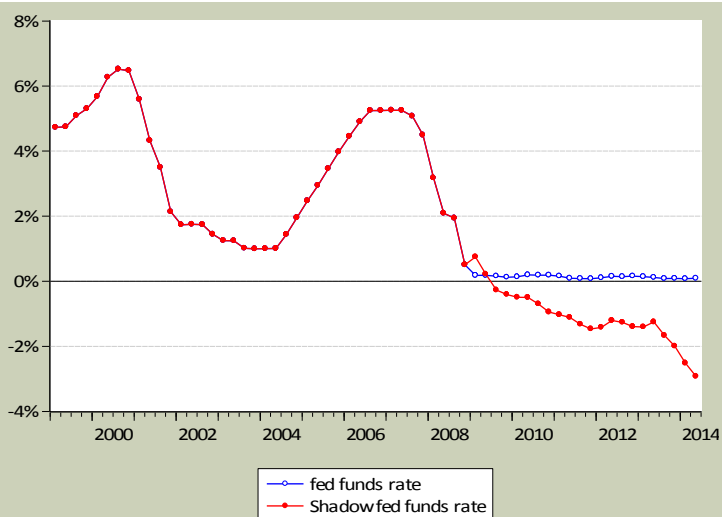
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THE TIPPING POINT?

- As the zero lower bound became a binding constraint for several central banks in the advanced economies Governors began to *underscore even more than before* the importance of the communication function.
 - Not entirely new
 - Blinder et. al. 2008, for a survey
 - Jeanneau 2009 (BIS)
- The ZLB is not the only driving force
 - Signals are less costly to send
 - If communications is successful then it can substitute for direct action, buy time for adjustment to take place

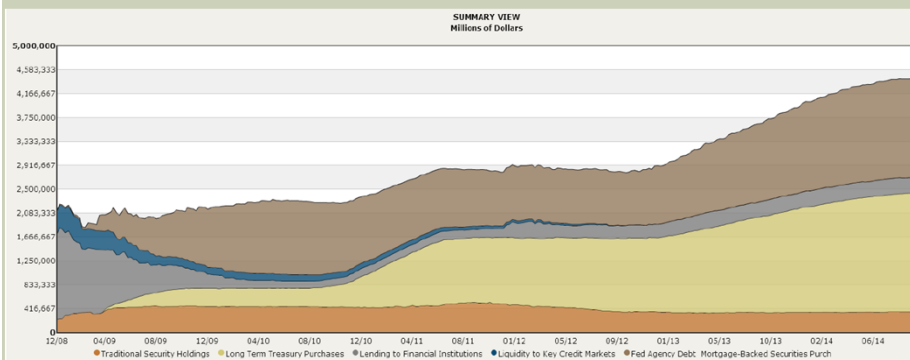
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ILLUSTRATING THE COMMUNICATIONS CHALLENGES: U.S. FED FUNDS RATE



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ILLUSTRATING THE COMMUNICATIONS CHALLENGE: THE FED'S BALANCE SHEET



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THE CRISIS & CBC: RAISING THE STAKES

- **Pre-crisis:** price stability & financial stability are compatible (even if one does not necessarily lead to the other)
 - Leads to a focus on inflation developments, and its proximate determinants
- **Post-crisis:** managing expectations when both macro and micro-prudential policies need to be carried out is complex
 - Concept of FS poorly understood (e.g., Goodhart & Tsomocos 2010)
 - Multiplicity of FS 'instruments', relatively fewer MP instruments
 - Exiting poses additional risks
- **Bottom line:** communication problem magnified (e.g., Ehrmann et.al. 2011)

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THE GFC AND CB COMMUNICATION

- **ACTIONS:**
 - QE and CE, “arrows”, and other acronyms across the world
- **WORDS:**
 - Did they change?
 - YES: recognition that events are ‘exceptional’
 - NO: steady as she goes, unwilling to panic (or admit failings?). *Increased emphasis on some expressions*

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LITERATURE

- **Two Strategies**
 - Theoretical, model-based where the ‘quality’ of signals is evaluated and its impact on expectations and macro outcomes is assessed
 - Empirical, measurement of word content and significance on interest rates, expectations, usually adopting a ‘mechanical’ procedure, sometimes based on an ‘interpretation’ of content of CB writing
- Surveys (e.g., Tudor & Vega 2013) show that the use of content algorithms is useful but does not capture the ‘tone’ of communication
- Bottom line? As far as communication is concerned we still don’t know what ‘best practice’ looks like
 - Quantity is not enough, it can be too much
 - Quality is vital but what if CB feels it is over-committed?
 - Blinder et.al. (2008)

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BACK TO WORDS...A DETOUR

- **Tone** is the “...product of (1) individual word choices that (2) cumulatively build up (3) to produce patterned expectations (4) telling an audience something important (5) about the author’s outlook on things.” (Hart, Childers, and Lind (HCL 2013, p. 12)

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A DETOUR CONTINUED

- **certainty** which indicates the extent to which the author(s) are resolute about their views;
- **optimism** which highlights or supports a particular concept or interpretation (e.g., in the present case an understanding of economic conditions, the outlook);
- **activity** which denotes an attempt to convey an activist response through words (e.g., effectively dealing with the financial crisis);
- **realism**, which expresses in words elements of the economic environment, in the present case, that are recognizable by listeners or readers;
- **commonality**. This concept seeks to convey values or objectives that the audience has in common (e.g., a desire to maintain price stability or ensure financial system stability).
 - **DICTION software**

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A BRIEF DETOUR

- **Wordscores:** the basic idea is to compare 2 sets of texts, the REFERENCE text (i.e., baseline text) and the VIRGIN text (i.e., the text we wish to evaluate). Word counts are used to 'score' the reference text and then a wordscore is used to compare the reference text against the virgin text. There is no unique definition of the reference text.
 - Many others exist: General Enquirer, Leximancer, ...

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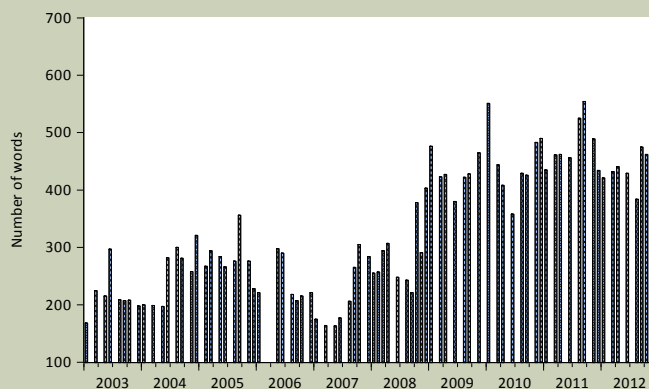
THE DICTIONARIES

- Diction's built-in dictionary on finance
- New dictionary created based on reading of CB press releases and minutes
 - Stance, uncertainty, financial stability, strong

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STYLIZED FACTS I: POLICY STATEMENTS

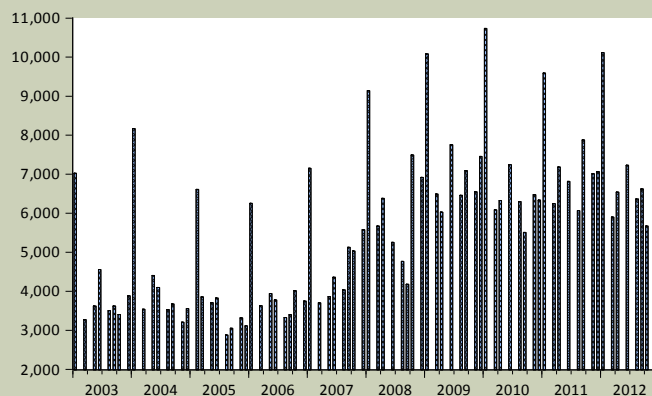
Word Count: policy statement, FOMC



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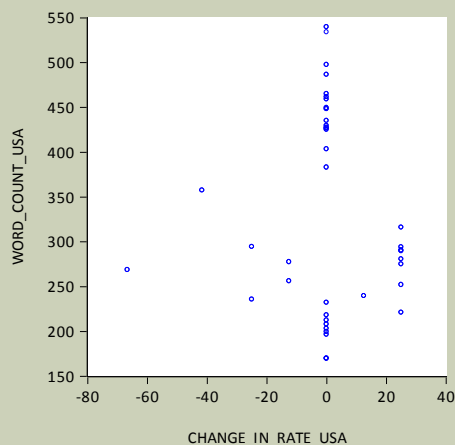
STYLIZED FACTS II: FOMC MINUTES

WORD_COUNT



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STYLIZED FACTS III:



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SUMMARY

- Word count of policy statements has risen over time
- Minutes: their length is comparable across the three central banks, in spite of differences in size and structure of the various policy-making bodies
- There is no obvious connection between the size of changes in central bank policy rates and the content of press releases, as measured by word count

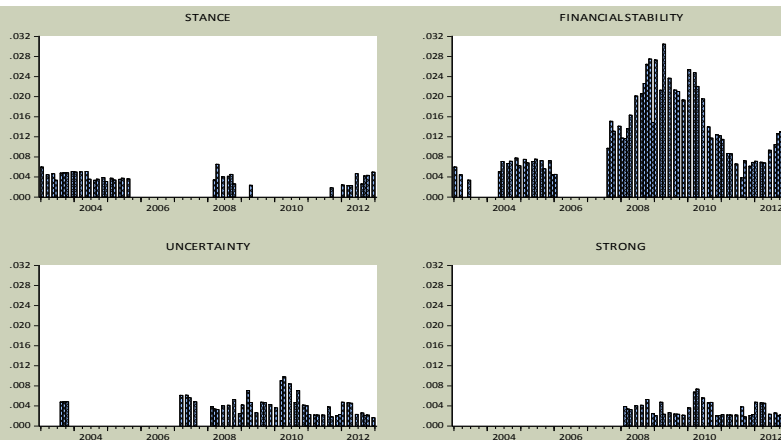
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SOME EXAMPLES OF TONE

- **STANCE:** On February 5, 2013 the Reserve Bank of Australia (RBA) did not change its policy rate but goes on to point out in the press release explaining the decision that “[D]uring 2012, there was a significant *easing* in monetary policy...an *accommodative* policy is appropriate.”
- **UNCERTAINTY:** On June 4, 2009 the BoC stated that “The outlook is subject to considerable *uncertainty*.” In January 2013, the BoC’s statement suggests that “...global tail *risks* have diminished.”
- **FINANCIAL STABILITY:** Sept 18, 2009 “[F]inancial markets remain under considerable *stress*.” Finally, to capture words that indicate a strong or aggressive response to the underlying economic environment consider the following statement made by the Reserve Bank of New Zealand (RBNZ) on 29 January 2009, announcing a 150 basis point reduction in the policy rate from 5% to 3.5%: “The global economy is now in *recession* and the outlook for international growth has been marked down considerably.”
- **STRONG:** a subset of FinSTAB and UNCERTAINTY: e.g., crisis, exceptional, recession, depression, unorthodox, stress

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MEASURING THE TONE OF POLICY STATEMENTS



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SUMMARY

- Financial Stability begins to matter a lot
- Uncertainty also weighs on CB communication

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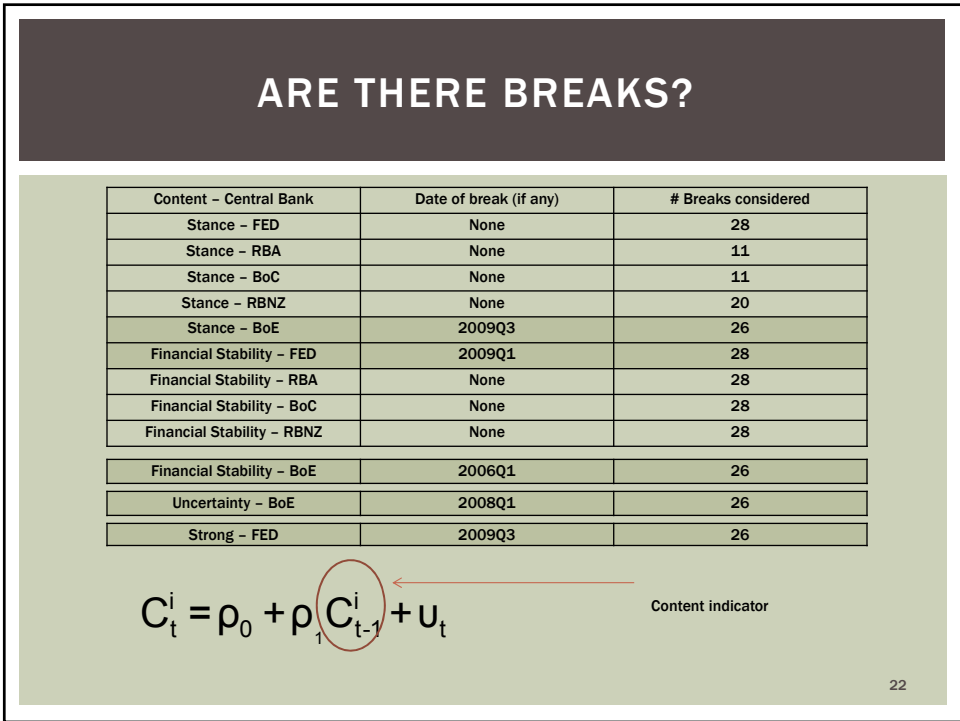
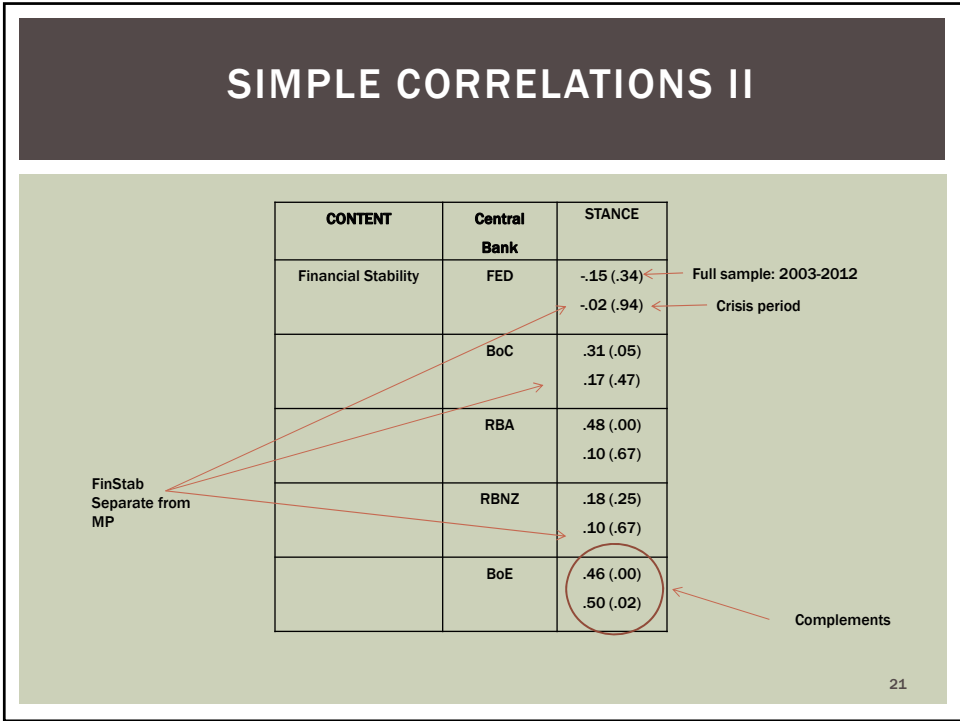
SIMPLE CORRELATIONS I

Aggressive PR is found in minutes

Central Bank	Content: Press Releases vs Minutes			
	STANCE	FINANCIAL STABILITY	UNCERTAINTY	STRONG
FED	.51 (.00)	.89 (.00)	.65 (.00)	.84 (.00)
RBA	.44 (.01)	.78 (.00)	.36 (.03)	.23 (.17)
BoE	-.06 (.72)	.68 (.00)	.08 (.61)	.34 (.04)

Content not as well matched

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A SIMPLE TEST

$$C_t^i = \alpha_0 + \alpha_1 Z_t + \varepsilon_t \quad (1)$$

Content indicator:
Censored

Macroeconomic &
institutional variables

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SELECTED RESULTS: FED

s.e. in parenthesis

INDICATORS OF CENTRAL BANK COMMUNICATION					
CENTRAL BANK	INDEPENDENT VARIABLES	STANCE	FINANCIAL STABILITY	UNCERTAINTY	STRONG
FED	Output gap	.19 (.06)*	-.09 (.13)	-.01 (.06)	.05 (.05)
N=35	Inflation gap	-.05 (.06)	-.09 (.10)	.05 (.06)	-.01 (.04)
	policy rate change	.40 (.22)@	-.89 (.43)**	-.45 (.13)*	-.002 (.001)**
	VIX (or FCI)	-.01 (.01)	-.02 (.01)	.001 (.006)	.004 (.004)
	Real exchange rate	.0004 (.002)**	.009 (.004)**	-.004 (.003)@	-.001 (.002)
	Equity returns	-.01 (.004)**	-.02 (.01)*	.01 (.01)	.001 (.003)
	Commodity Prices				
	QE or Cond. Comm. SPREAD	.01 (.11)	-.06 (.17)	.11 (.10)	.07 (.06)
		.21 (.06)*	.14 (.10)	.06 (.06)	.14 (.05)*

Stat. sign. But economically small

Little evidence of aggressiveness
(or we have the wrong determinant)

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CONCLUSIONS

- There is evidence of a much greater awareness in policy statements & minutes of the need to talk about financial stability and uncertainty
- Since policy rates are unchanged word content is much more important and can be, at times, effectively treated as another policy 'instrument'

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BACK TO CBC... SUCCESSES & FAILURES

- The list is potentially long, contentious and often, though not always, apparent *ex post*
- Not always in the service of price stability
 - BoC's forward guidance of 2009-10...successful
 - Fed's "taper tantrum" of 2013...not successful at first
 - Draghi's OMT announcement of 2012...very successful
 - Fed and BoE's forward guidance in 2013...unsuccessful
 - Only a partial list, of course

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GOAL OF THE RESEARCH

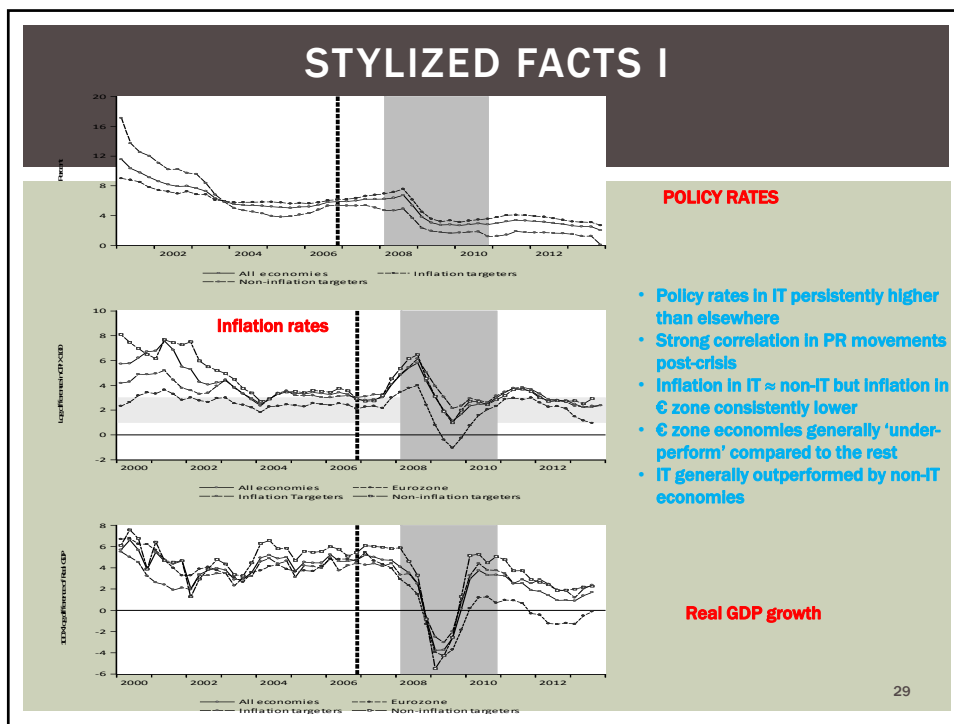
- **CBC, the Crisis, and MP vs FS policies: What has changed, where it has changed, and why?**
- **Basis?**
 - Surveys conducted in 2007 and 2013
 - CB transparency index now updated to 2013
 - Simple indicators of the 'effectiveness' of CBC
 - The role and impact of 'words'
- **Research operates in parallel**

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DATA SET

- **'Universe' of CB: 39 (for some analyses fewer are used...29)**
- **16 IT economies (9 of which are EMEs)**
- **23 NIT (10 are € zone members, 7 are EMEs)**
 - **NIT sample effectively 13**

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STYLIZED FACTS II

Low inflation achieved or in sight
...but variability is substantially different across types of economies
...and the GFC changes little (unlike the other series considered)

Drop notable but especially in € zone

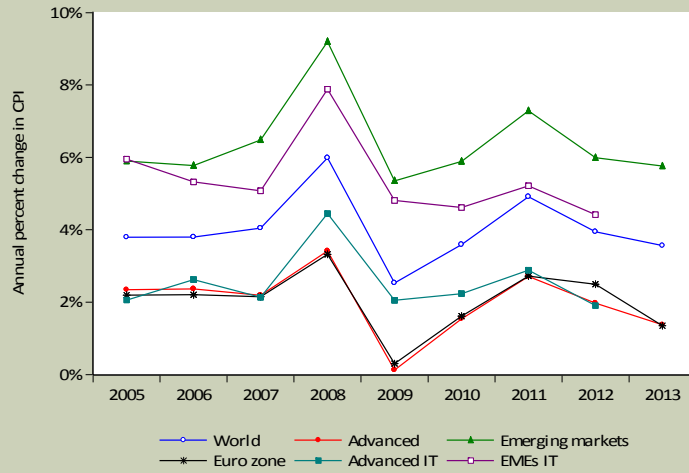
Variable	Sample Period			
	2000-13	2000-6	2007-13	2008-10
Inflation				
IT	3.52 (2.28)	3.65 (2.51)	3.39 (2.00)	3.71 (2.29)
NIT	4.11 (6.90)	4.91 (9.11)	3.24 (3.12)	3.43 (3.63)
EZ	2.33 (1.38)	2.65 (0.96)	1.99 (1.64)	1.62 (2.13)
Real GDP Growth				
IT	2.98 (2.62)	3.67 (1.84)	2.74 (17.39)	1.42 (3.70)
NIT	3.94 (5.33)	5.01 (5.78)	2.82 (4.56)	1.82 (5.53)
EZ	2.37 (3.46)	4.31 (2.22)	0.37 (3.37)	-0.41 (3.21)
Foreign Exchange Reserves				
IT	10.54 (15.67)	10.41 (13.82)	10.67 (17.39)	10.23 (19.44)
NIT	11.89 (26.61)	14.49 (20.61)	9.19 (31.47)	13.87 (25.32)
EZ	-2.55 (34.34)	-14.37 (32.13)	9.70 (32.25)	17.52 (41.94)
Nominal Effective Exchange Rate				
IT	-0.02 (8.98)	0.04 (8.80)	-0.07 (9.18)	-1.18 (11.99)
NIT	-1.06 (8.65)	-2.28 (10.08)	0.20 (6.67)	1.00 (7.39)

Strong growth continues

IT experience dep'n while NIT experience app'n but NOT enough to reverse pre-crisis experience

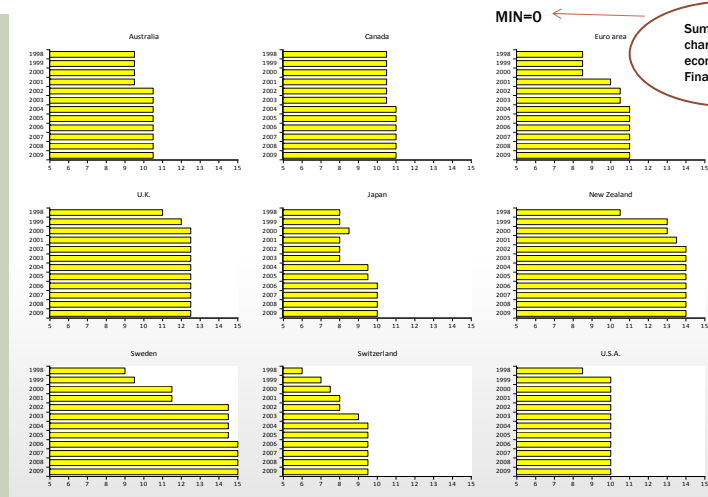
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INFLATION BY COUNTRY GROUPS



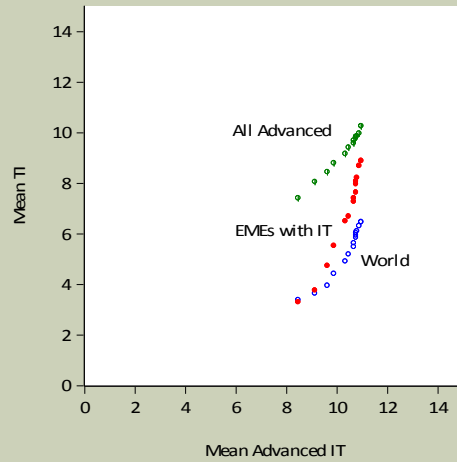
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CB TRANSPARENCY



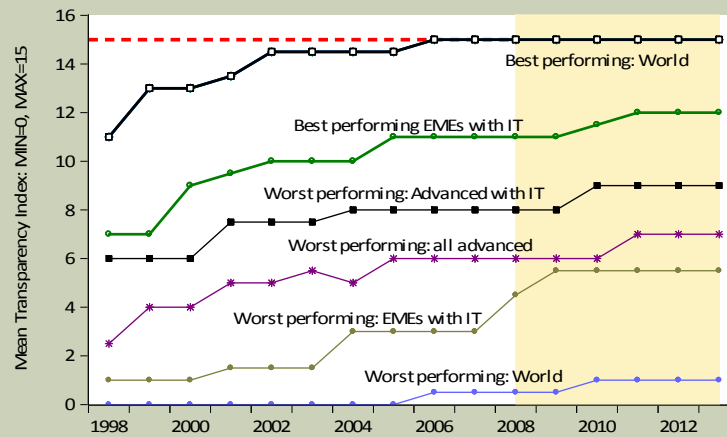
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TRANSPARENCY: ADVANCED IT VS WHOLE IT SAMPLE

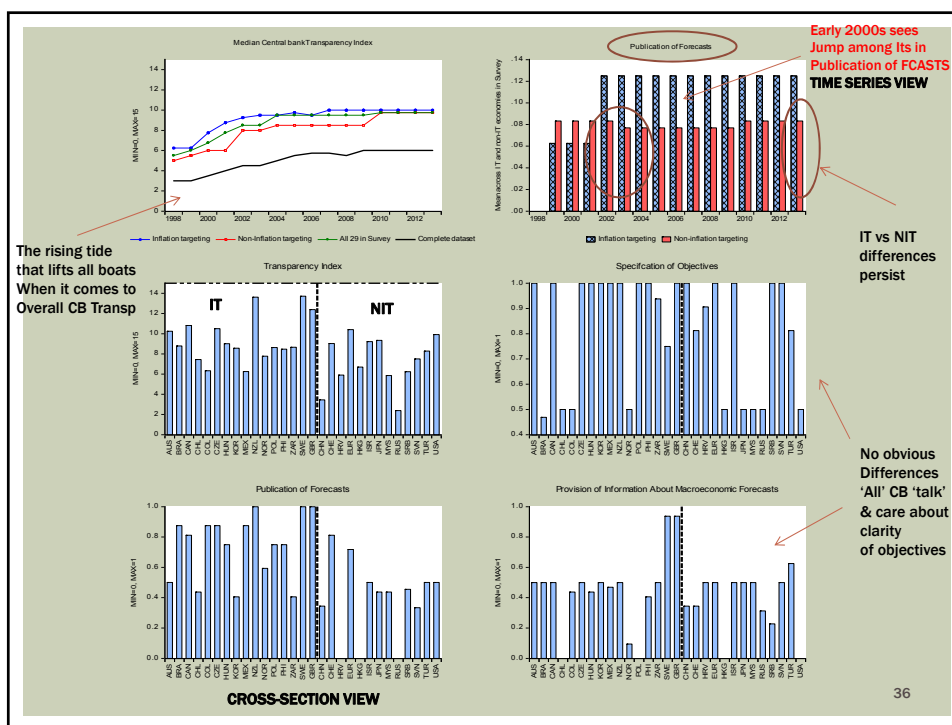
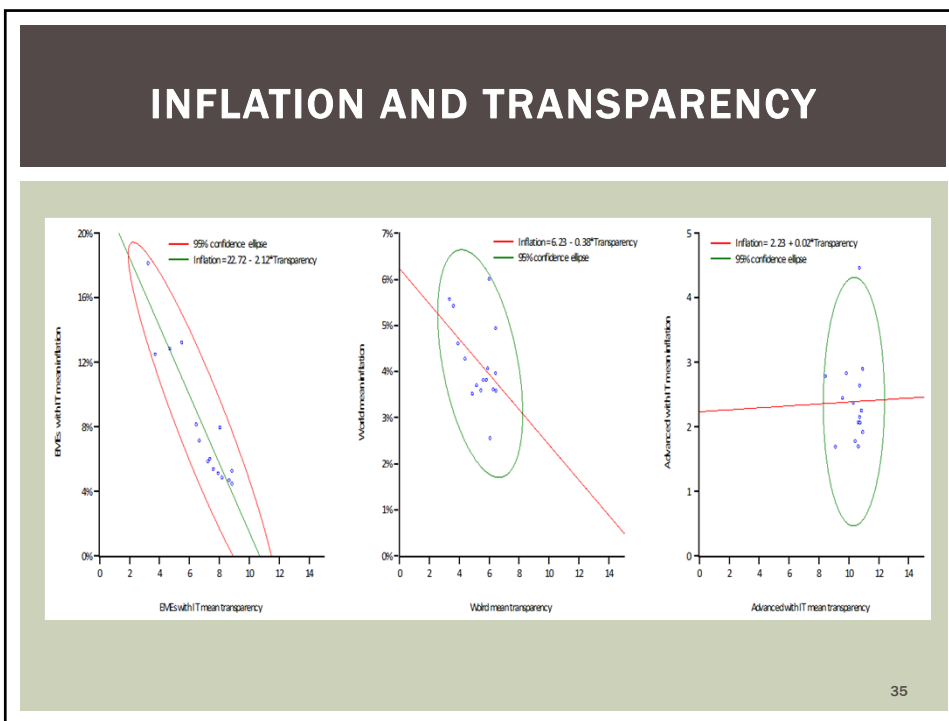


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TRANSPARENCY BY COUNTRY GROUPS



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CB TRANSPARENCY: SUMMARY

Characteristic	29 economies	All economies	Inflation Targeting	Non-Inflation Targeting
Specification of Monetary Policy Objectives - POLITICAL	0.81 (0.25)	0.71 (0.30)	0.85 (0.23)	0.76 (0.27)
Publication of Forecasts - ECONOMIC	0.59 (0.38)	0.32 (0.37)	0.74 (0.33)	0.39 (0.36)
Disclosure of policy Inclination - POLICY	0.09 (0.29)	0.05 (0.22)	0.11 (0.31)	0.08 (0.26)
Overall	8.49 (2.96)	5.39 (3.32)	9.45 (2.69)	7.26 (2.85)

How representative? Within a S.D.
How different? Within a SD
Aggregation Hides important differences

Quite different

Survey of Central Banks Conducted in Cooperation with the BIS (2013)

June 2013

Survey on monetary policy communications after the crisis: What has changed, and why?

Questionnaire for an ad-hoc survey among BIS member central banks and monetary authorities

Central bank or monetary authority of:

Purpose

This survey takes as a starting point a survey on monetary policy communications carried out in 2007 to ask what has changed in this area since the onset of the current financial crisis. The survey is undertaken to meet the substantial interest of central banks in the changing role of communications as:

1. non-standard policy measures have come to play larger roles; and
2. a stronger emphasis has come to be placed on financial stability.

— **Information-sharing**

The survey and the analysis of the results will benefit from the involvement of Pierre Siklos (Department of Economics, Wilfrid Laurier University, Waterloo, Canada) as an academic researcher with many years of experience in this field. Our normal policies on information-sharing are amended to take account of Pierre Siklos' involvement, as follows:

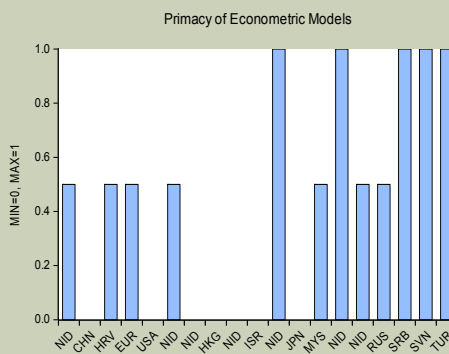
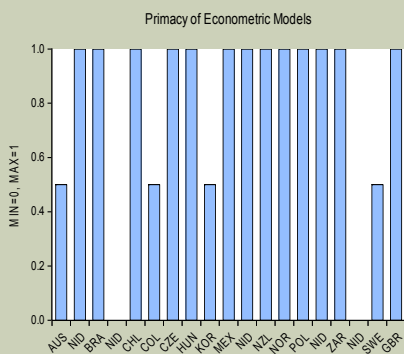
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2013 SURVEY

- Conducted with the BIS
- Several parts
 - Changing role of CB?
 - Facets of CBC?
 - CBC strategy: elements
 - Role of forecasts, QE, forward guidance
 - Did the crisis change CBC strategy and how?

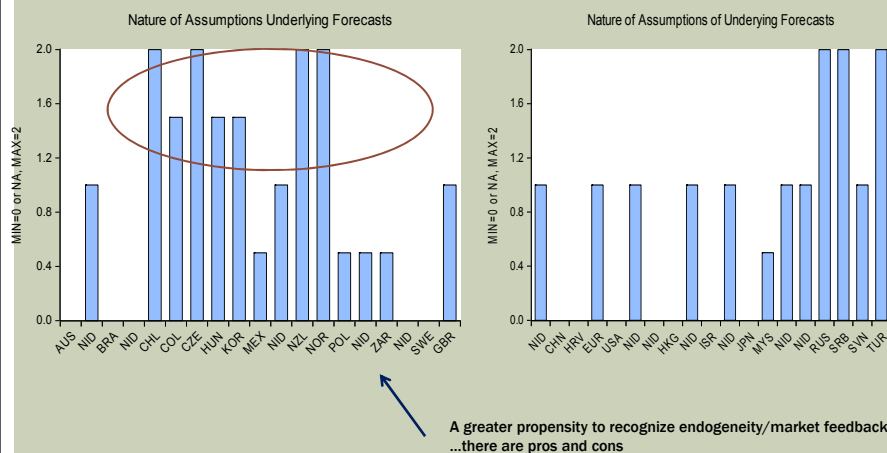
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ROLE OF MACRO MODELS



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BACKGROUND OF FORECASTS

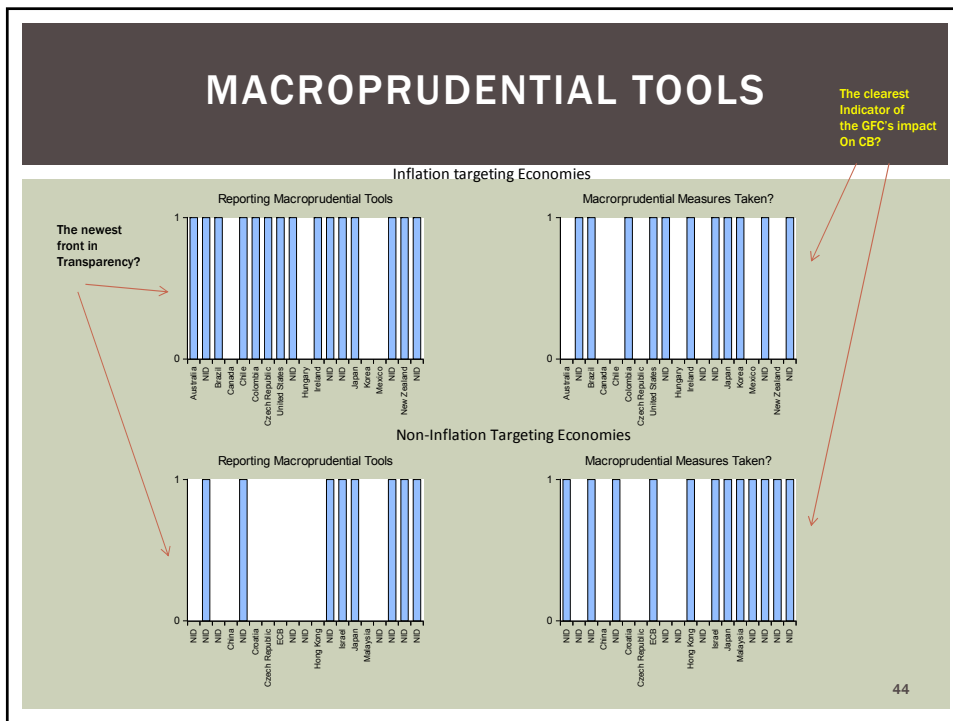
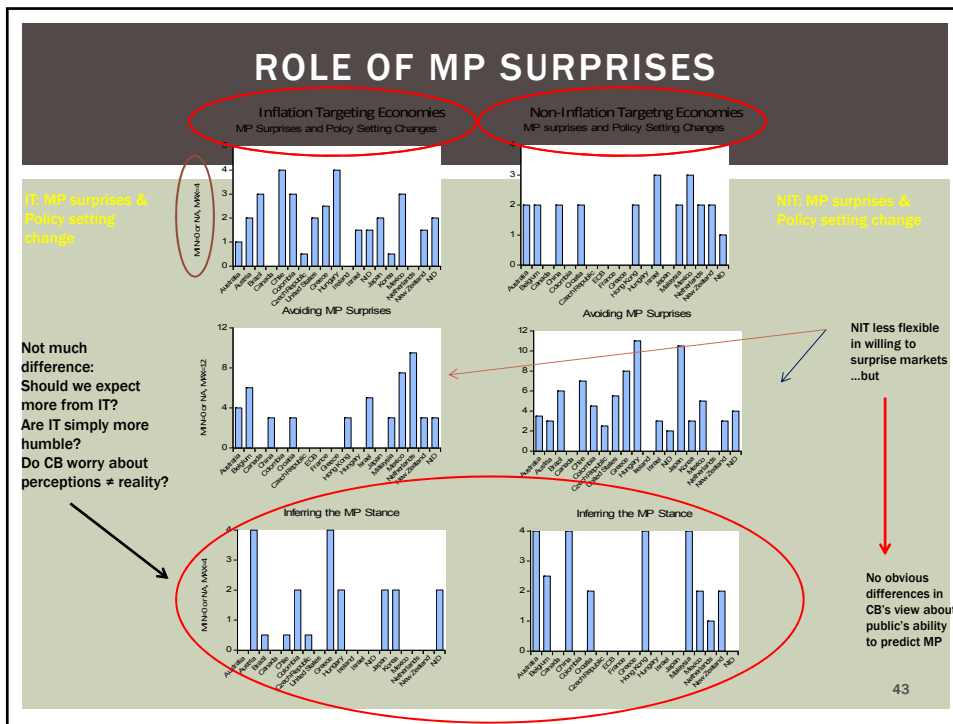


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MONETARY POLICY SURPRISES

- "The esoteric nature of the art is moreover revealed by an inherent impossibility to articulate its insights in explicit and intelligible words and sentences. Communication with the uninitiated breaks down." (Brunner 1981)
- "...clear communication helps increase the near term predictability of FOMC rate decisions,..." (Bernanke 2004)
 - "...a new danger is emerging: that monetary policy might be tempted to...[deliver] the monetary policy that the markets expect or demand." (Blinder 2004)

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THE MACROECONOMIC IMPACT OF CBC: VERSION I

Inflation	Obs.		IT	A12MP	B22FS	EME
2000-13	24	0.65	0.43 (0.59)	5.09 (0.00)	1.20 (0.15)	1.75 (0.89)
2000-6	24	0.53	0.71 (0.31)	1.92 (0.07)	0.26 (0.70)	1.71 (1.03)
2007-13	24	0.72	0.62 (0.29)	3.01 (0.00)	1.00 (0.08)	1.48 (0.02)
2008-10	24	0.78	1.41 (0.40)	0.46 (0.40)	0.39 (0.27)	1.45 (0.00)
Real GDP growth						
2000-13	24	0.47	-0.64 (0.28)	-0.83 (0.34)	0.63 (0.27)	2.14 (0.00)
2000-6	24	0.38	-0.20 (0.81)	1.33 (0.27)	1.02 (0.20)	1.08 (0.23)
2007-13	24	0.49	0.17 (0.78)	-2.36 (0.01)	0.17 (0.77)	2.09 (0.00)
2008-10	24	0.46	-0.16 (0.78)	-2.81 (0.00)	-0.15 (0.79)	2.02 (0.00)
Foreign Exchange Reserves						
2000-13	24	0.85	2.56 (0.23)	20.52 (0.00)	-1.48 (0.48)	3.61 (0.13)
2000-6	24	0.81	7.66 (0.16)	46.39 (0.00)	0.84 (0.87)	5.83 (0.34)
2007-13	24	0.08	1.56 (0.53)	-1.32 (0.92)	1.79 (0.46)	1.19 (0.66)
2008-10	24	0.09	0.30 (0.95)	-4.36 (0.59)	-1.10 (0.83)	-3.11 (0.60)
Nom. Eff. Exchange Rate						
2000-13	23	0.25	-0.31 (0.55)	-1.09 (0.19)	-0.84 (0.11)	-0.09 (0.88)
2000-6	23	0.25	0.10 (0.87)	0.27 (0.79)	-0.01 (0.99)	-1.39 (0.05)
2007-13	23	0.32	-0.69 (0.44)	-1.65 (0.24)	-1.65 (0.06)	0.25 (0.80)
2008-10	23	0.42	-2.89 (0.07)	-4.47 (0.06)	-3.27 (0.04)	2.16 (0.23)
Policy Rate Changes						
2000-13	15	0.81	-0.04 (0.16)	-0.03 (0.49)	-0.05 (0.02)	-0.08 (0.00)
2000-6	14	0.49	-0.10 (0.10)	-0.49 (0.69)	0.01 (0.83)	-0.05 (0.34)
2007-13	15	0.40	-0.06 (0.16)	-0.10 (0.22)	-0.06 (0.12)	0.03 (0.49)
2008-10	15	0.63	-0.15 (0.04)	0.02 (0.86)	-0.11 (0.09)	0.14 (0.03)

p-values in parentheses; RLS

FS talk does not affect inflation: A CBC success?

Fear of floating? Collateral effect of more responsibility over MP decisions?

A well developed MP may not be enough

The TM of CBC about FS?

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CONCLUSIONS

- CBC's prominence cannot be denied
 - Greater responsibility over MP encouraged this development
 - The GFC and the rise of FS as an additional concern for CB shifted the ground under CB
 - Managing expectations when MP must be married with FS is complex but...
 - CBC communication about MP is still linked with inflation
 - CBC communication about FS impacts NEER & PR
 - FERM is the road travelled by the CB surveyed
 - 'Best practices' in MP may not be enough to ensure good economic performance
 - (Carney 2013)