

# Measurement and Global Trends in Central Bank Autonomy (CBA)

Conference

*“Central Bank Independence: Legal and  
Economic Issues”*

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Presentation by Bernard J. Laurens  
International Monetary Fund

# Objectives of the Presentation

- Review of the literature on measures of central bank autonomy (CBA)
  - De jure measures: based on legal frameworks
  - De facto measures: based on actual practice of central banking
- Review of global trends in CBA
  - Worldwide trends between the end-1980s and end 2003
  - Is there a consensus view among central bankers?
- Focus on developing countries:
  - Are there specific issues?
  - Are developing countries different from advanced economies?

# Review of CBA Literature

- Base literature
  - Initial focus on advanced economies: de jure index
  - Follow up work on developing countries: de facto index
- Subsequent literature
  - Follows the “base literature”
  - Test robustness of previous results
  - Seeks clarifications and refinements
- Outstanding issues
  - Autonomy and central bank’s financial strength
  - Central banks and financial stability
  - Central bank accountability and transparency

# Base literature

- Initial research focused on *de jure* indicators
  - Bade and Parkin (1977)
    - Analysis of CB laws for 12 industrial countries
    - Indicator based on provisions in the CB law with regard to three areas
      - **CB objective:** Is price stability the sole and primary objective?
      - **CB Board:** Is the CB Board the final policymaking authority, and are government representatives sitting on the Board?
      - **CB senior management:** Are less than half of CB senior management positions assigned to government officials?

# Base literature

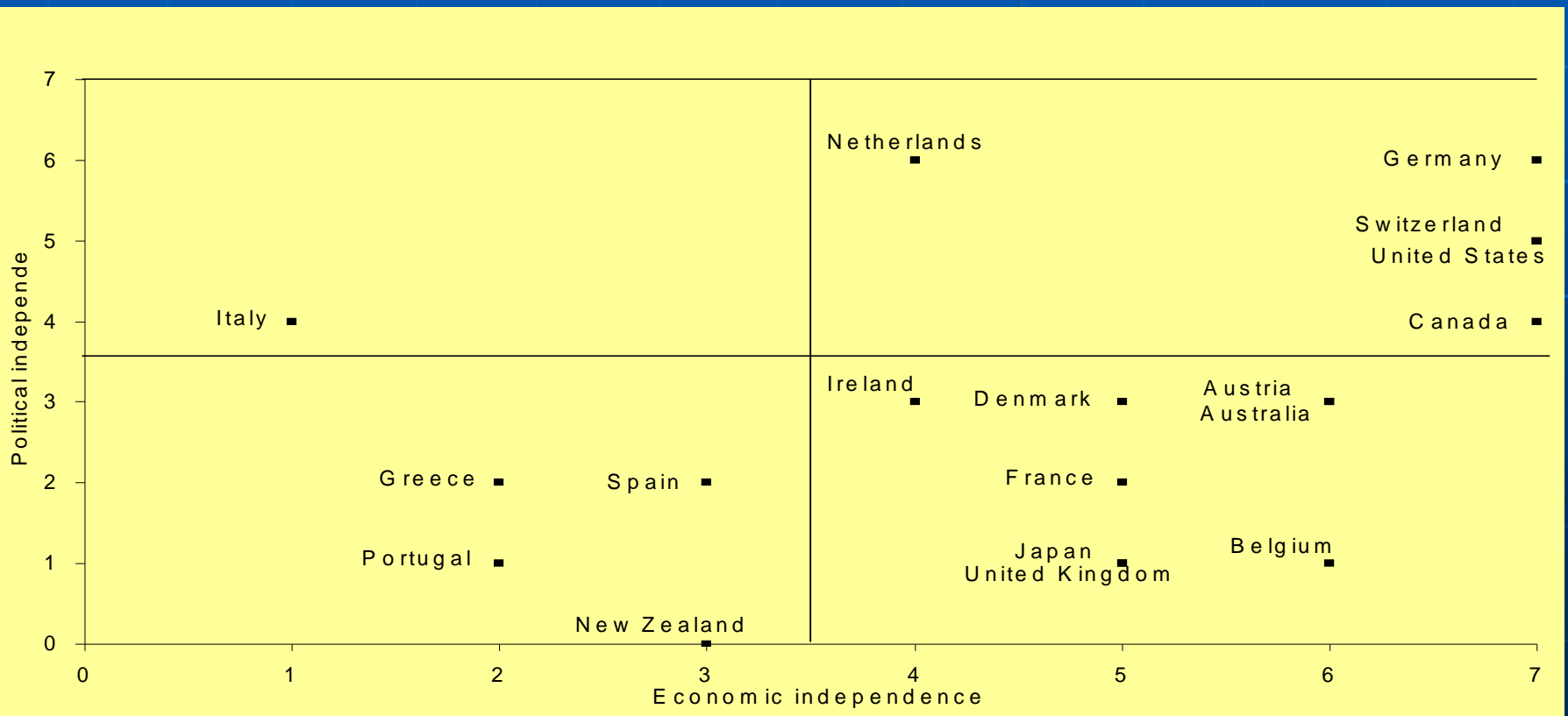
- Grilli, Masciandaro and Tabellini (1991) economic and political index
  - Index involves counting institutional features (yes/no)
  - Index of **political autonomy**: ability to select final objective based on 8 criteria
    - Is the Gv appointed without government involvement?
    - Is the Gv appointed for more than 5 years?
    - Is the Board of CB appointed without government involvement?
    - Is the Board of CB appointed for more than 5 years?
    - Is there mandatory participation of government representatives in Board of CB?
    - Is government approval required for formulation of monetary policy?
    - Is CB legally obliged to pursue monetary stability as its primary objective?
    - Are there legal provisions dealing with conflict resolution mechanism?

# Base literature

- Grilli, Masciandaro and Tabellini (1991)
  - Index of **economic autonomy**: ability to select instruments based on 7 criteria
    - Can the government obtain credit from CB?
    - If available, is CB credit at market rates?
    - If available, is CB credit temporary?
    - If available, is CB credit for limited amount?
    - Does CB participate in primary market for government securities?
    - Is CB responsible for setting its policy rate?
    - Is CB responsible for overseeing banking sector?

# Base literature

- Grilli, Masciandaro and Tabellini (1991)
  - Four groups of central banks
  - CBA brings benefits in terms of monetary policy stability and inflation with no sacrifices on growth: CBA is a “free lunch”



# Base literature

- Cukierman (1992) de jure indicator
  - De jure indicator made of 16 variables
    - Wide set of institutional arrangements and scale than GMT
    - Scales may be weighted or un-weighted averages
    - Four broad categories of variables
      - Nomination of Governor
      - Responsibility for policy formulation
      - Objectives of monetary policy
      - Limitations on central bank lending to the government



# Base literature

- Shift to de facto indices:
  - Cukierman (1992) turnover rate of governors (TOR)
    - TOR allows to account of deviations from legal arrangements
    - High TOR provides evidence that CB is subordinate to executive branch
    - If high TOR, term of office of the Gv. may be shorter than average term of government, which would dissuade the CB from taking a long term view
  - Main findings:
    - De jure is closer to actual CBA in advanced than in developing countries
    - TOR and de jure indices proxy different dimensions of CBA
    - TOR is best measure of CBA for developing countries

# Base literature

- Shift to *de facto* indicators
  - Cukierman and Webb (1995)
    - Definition of (de facto) index of CB vulnerability to political instability to explain differences in inflation in developing countries
    - Measure of Gv.'s propensity to leave office following a significant political change
    - Main findings:
      - ¼ of political transition events are followed by a TOR within six months, but CB vulnerability is over three times higher in developing countries
      - CB political vulnerability has an impact on inflation
      - Differences in CB vulnerability to political instability explains higher inflation in developing countries

# Summary of base literature

- Cukierman summarized the “base literature” as follows:
  - De jure measures of CBA are useful for analyzing inflation in industrial countries (but no robust correlation with growth), but not in emerging/developing countries;
  - De facto measures of CBA are useful for analyzing inflation in emerging and developing countries; and
  - De facto measures of CBA are useful for analyzing growth performance in emerging and developing countries.

# Subsequent Literature

- It relies on the “base literature” and the objectives are many and diverse
  - Testing robustness of previous results on benefits of CBA
  - Expanding definition of CBA, distinction autonomy/credibility
  - Endogenizing the inflation bias (aversion to inflation of trade unions or the financial sector)
- A few results/propositions
  - Dummy variable based on government’s inability to override central bank’s decisions is more significant in explaining inflation than complex measures
  - Relationship between unemployment/inflation and centralization of wage bargaining at low levels of CBA
  - CBA does not affect inflation if calculations include measure of financial sector’s opposition to inflation
  - TOR is significant only with high-inflation countries

# Subsequent literature

- Fry's contributions for developing countries
  - Fry's CBA index captures ability of CB to neutralize (by reducing the amount of credit available to the private sector) the effects on money supply of lending to the government.
  - Three important contributions for developing countries:
    - Tendency to neutralize increased credit demands by the government is good proxy for actual CBA in developing countries;
    - CBA is determined by the size of the fiscal deficit and the way it is financed; and
    - CBA foster growth.

# Subsequent literature

- Other results for developing countries
  - Sturm and de Haan (2001) confirms that the TOR has a significant impact on inflation.
  - Stella (1997) finds that repeated CB losses may
    - Force CB to abandon the goal of price stability
    - Lead to decline in operational autonomy
    - Lead to imposition of inefficient restrictions on the financial sector so as to achieve CB objectives
    - Hence: financial strength and CBA are preconditions for operational independence if financial repression is to be avoided.
  - Stella (2003) points to positive relationship between CB financial weakness and high inflation.

# Summary of Subsequent Literature

- Legal measures of CBA continue to dominate the research agenda
- De facto measures such as TOR for CB governors may be endogenous
  - Countries with different attitudes towards inflation (or different interest groups) may prefer longer or shorter turns in office
  - CB accountability may call for frequent review of performance, while granting high CBA in the inter-review period: this is not political interference
- Which features of de jure autonomy are most important?
  - The consensus view, based on the practice of central banking

# Global trends in CBA

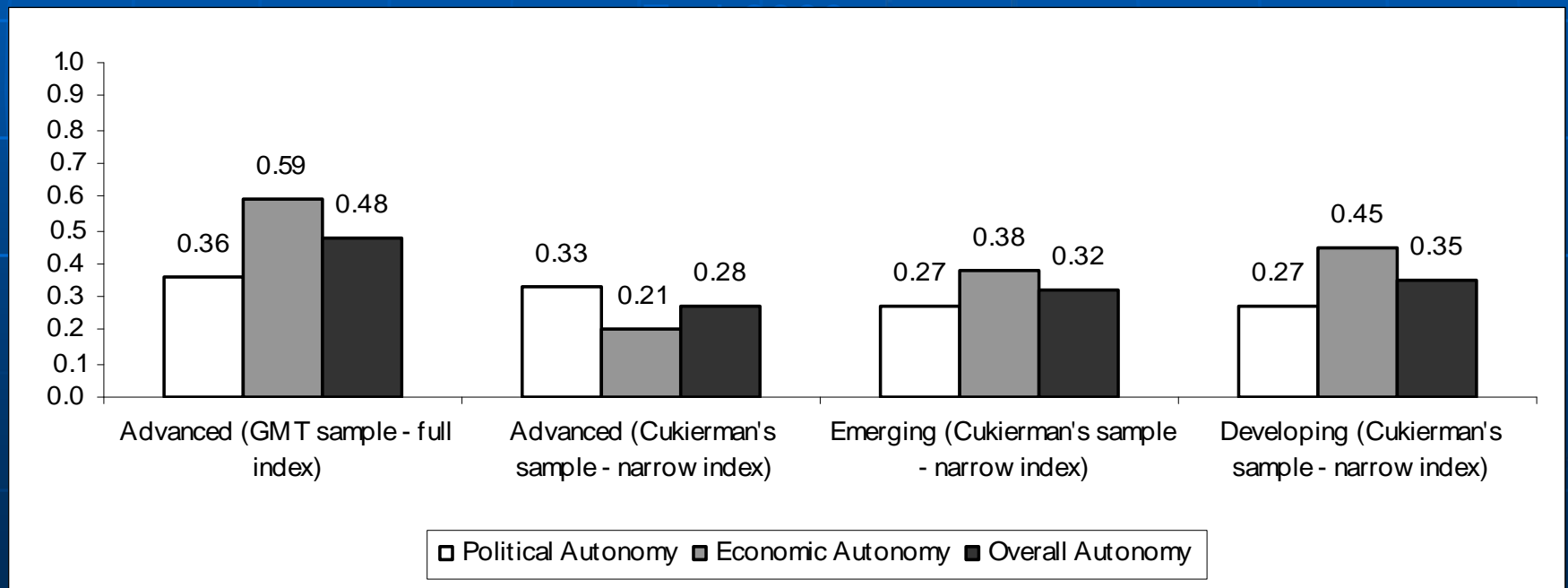
## ■ Methodology

- GMT and Cukierman
- De jure index
- 163 central banks representing 181 countries
- Comparison of CBA in the late 1980s and end-2003



# CBA in the Late 1980s

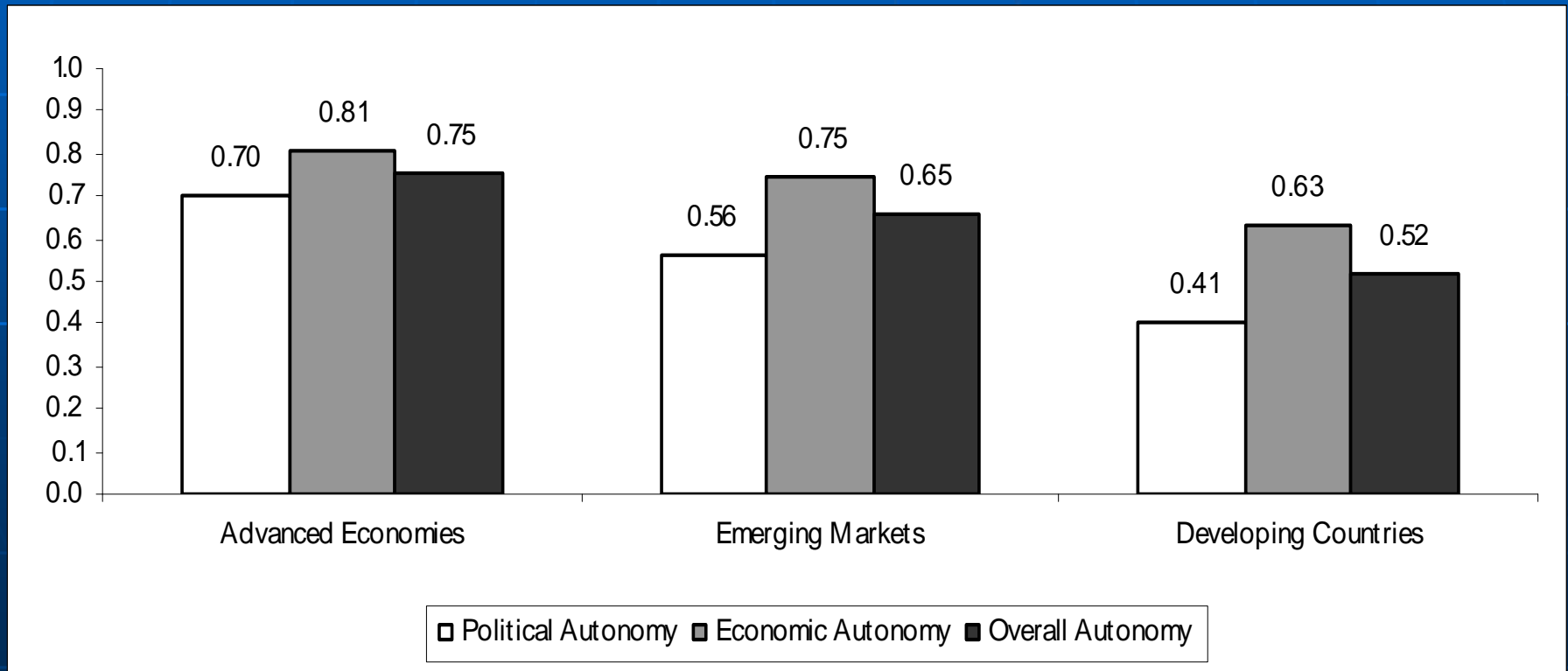
- For all country groups overall CBA is low
- Advanced economies have higher scores
- Economic CBA is higher than political CBA



# CBA at the end of 2003

## ■ CBA by income levels groups

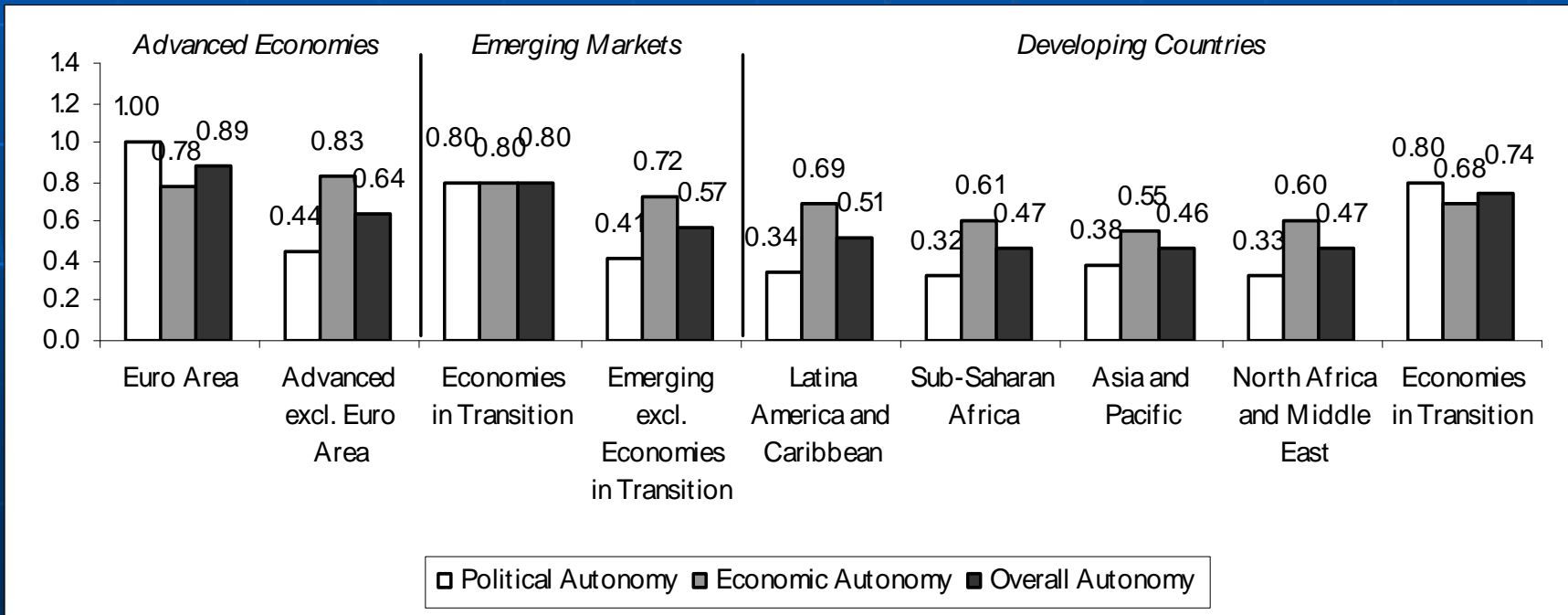
- Advanced economies have the highest scores of CBA, followed by emerging markets and developing countries



# CBA at the end of 2003

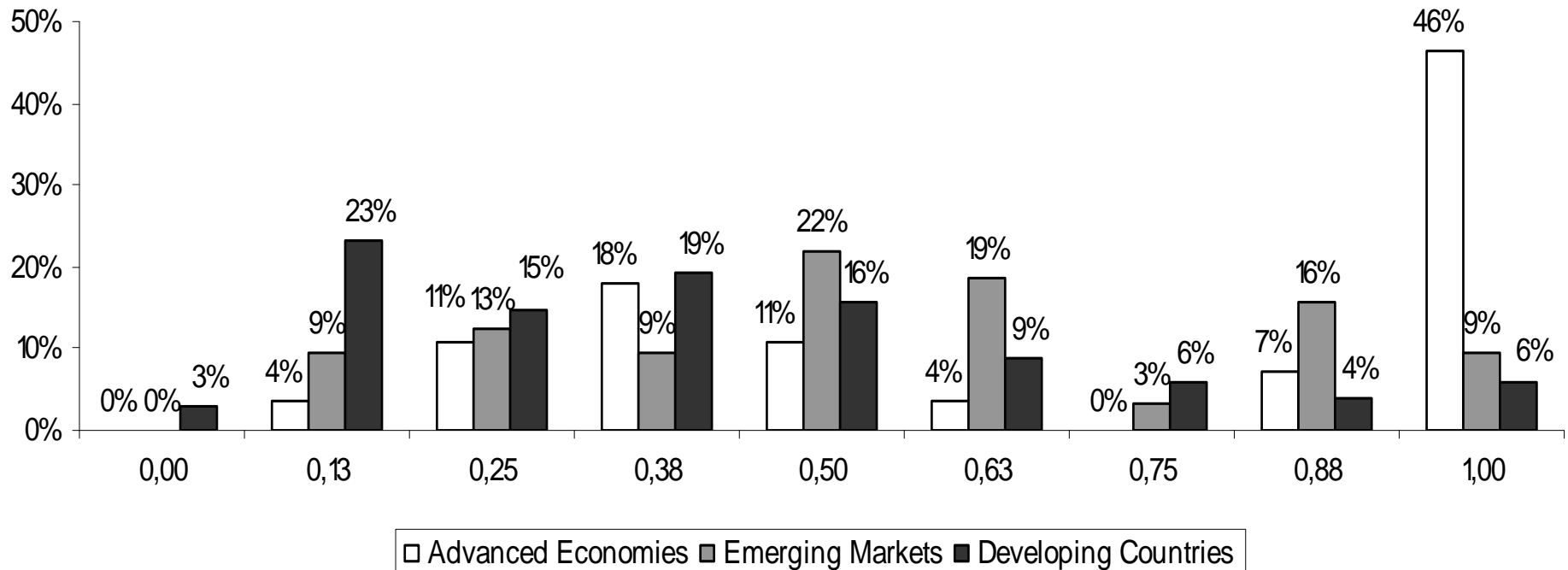
## ■ CBA by sub groups

- Euro area countries have the highest scores
- Countries in transition have achieved CBA comparable to those in advanced countries
- Some advanced countries have relatively low levels of political autonomy



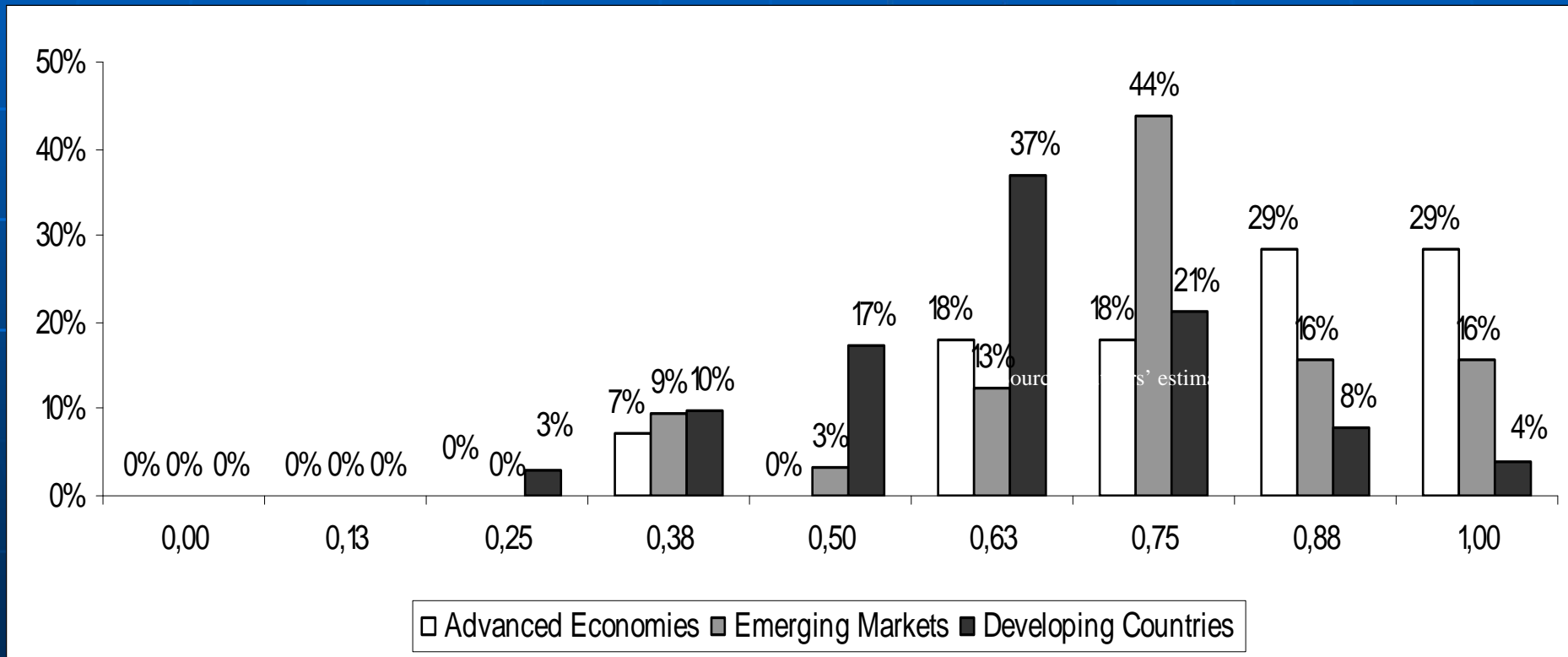
# CBA at the end of 2003

- Relative frequencies of political autonomy
  - Advanced economies and economies in transition have high relative frequencies of political autonomy
  - Developing countries have low relative frequencies of political autonomy



# Global trends in CBA

- Relative frequencies of economic autonomy
  - Cross-country dispersion of economic autonomy scores is considerably lower than for political autonomy



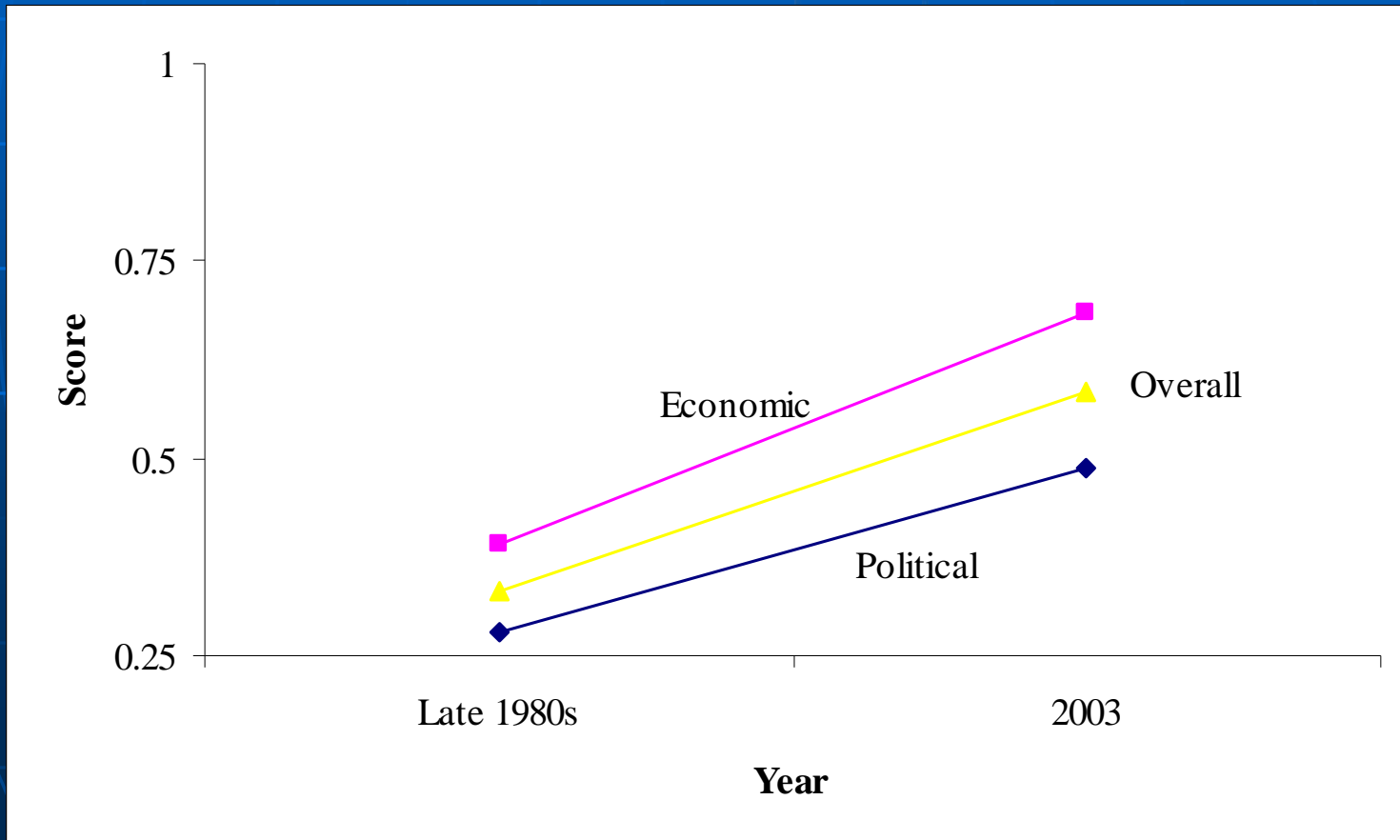
# Regional Patterns as of End-2003

- CBs in Europe have the highest CBA scores
- In emerging markets, CBA is the lowest in Middle East and Central Asia (MCD) and Sub-Saharan Africa (AFR)
- In developing countries differences across regions are not large
- Asia and Pacific (APD) and AFR rank the lowest, WHD is close to average levels

Region	Political Autonomy				Economic Autonomy				Overall Autonomy			
	All	Adv.	Emer.	Dev.	All	Adv.	Emer.	Dev.	All	Adv.	Emer.	Dev.
AFR	0.33	--	0.25	0.33	0.60	--	0.63	0.61	0.46	--	0.44	0.47
APD	0.35	0.27	0.44	0.34	0.60	0.67	0.67	0.55	0.47	0.47	0.55	0.44
EUR	0.79	0.85	0.73	0.79	0.80	0.84	0.81	0.68	0.80	0.85	0.77	0.73
MCD	0.45	--	0.25	0.48	0.63	--	0.63	0.64	0.54	--	0.44	0.56
WHD	0.40	0.50	0.54	0.36	0.73	0.88	0.83	0.69	0.56	0.69	0.69	0.52
All	0.49	0.70	0.56	0.41	0.68	0.81	0.75	0.63	0.59	0.75	0.65	0.52

# Evolution Over Time

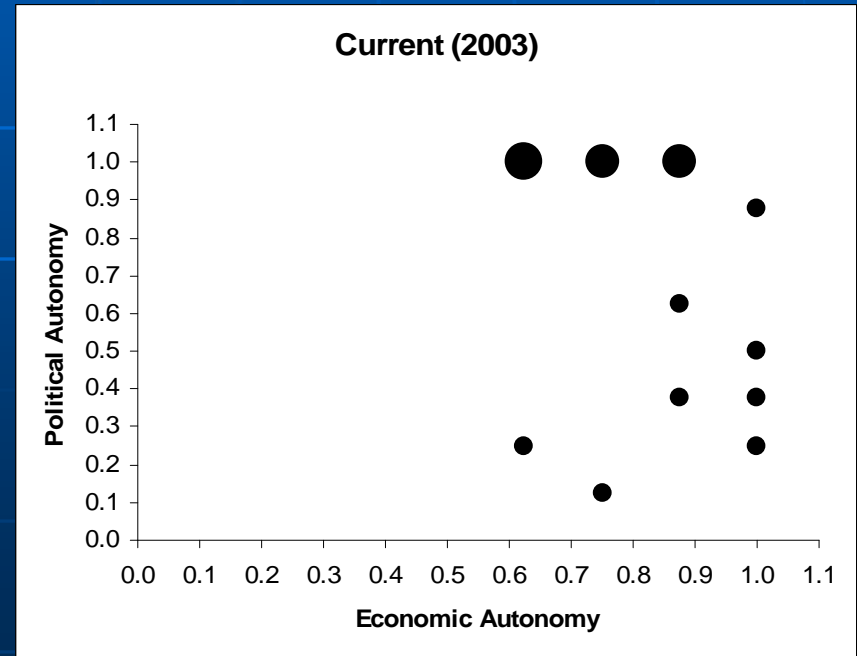
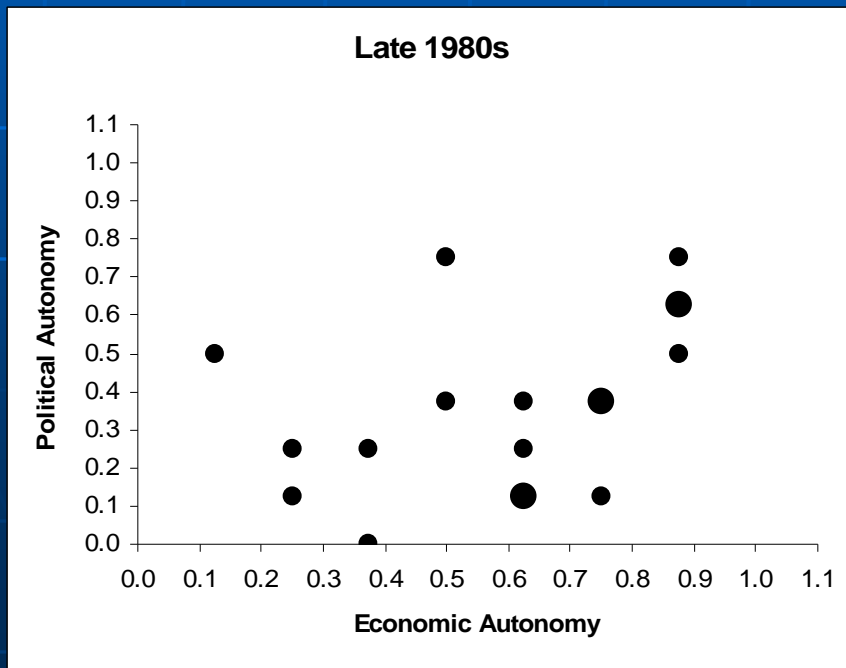
- Average CBA scores have increased significantly:
  - Overall CBA has almost doubled
  - Economic autonomy continues to be significantly ahead of political autonomy



# Evolution Over Time

## ■ OECD countries

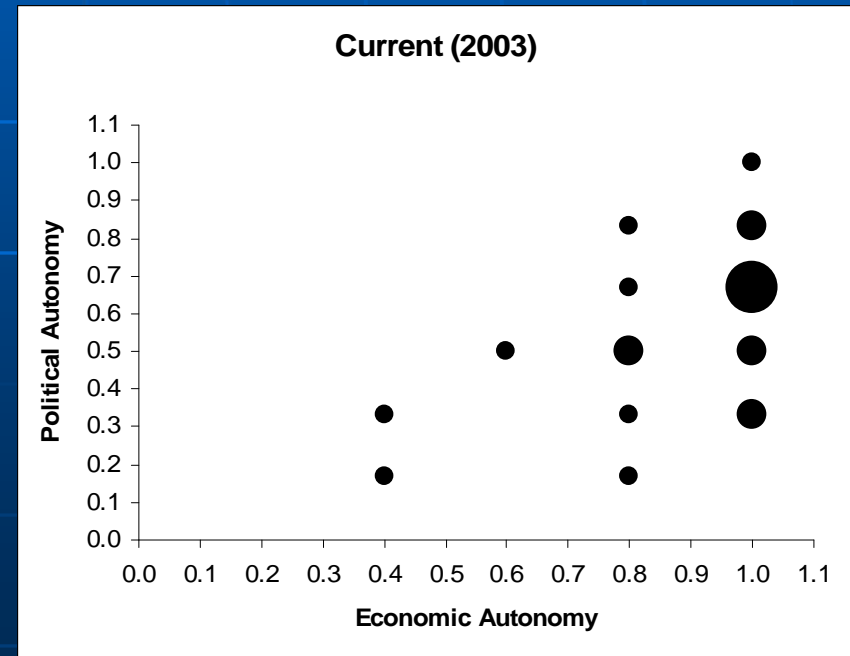
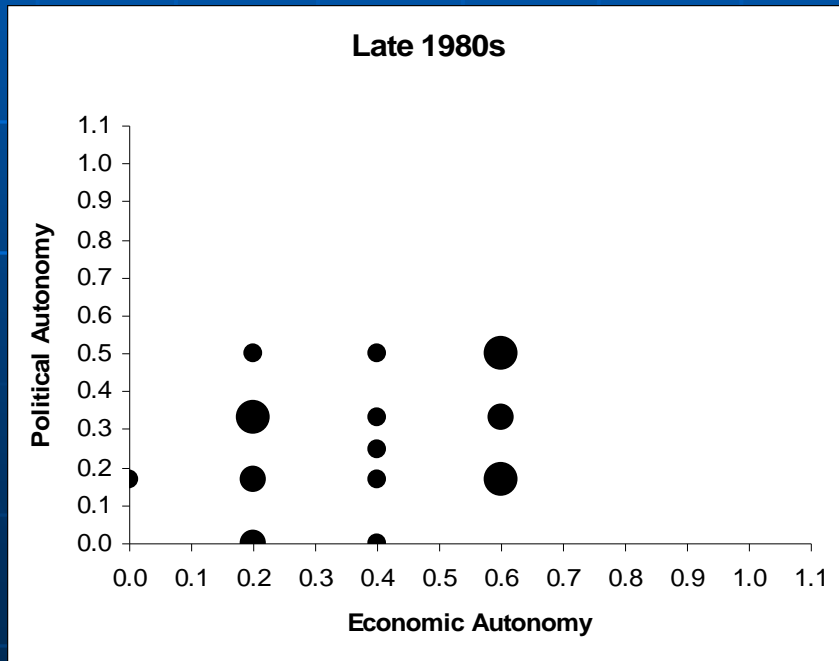
- Marked shift upward and to the right
- Confirms broad-based strengthening in both economic and political autonomy





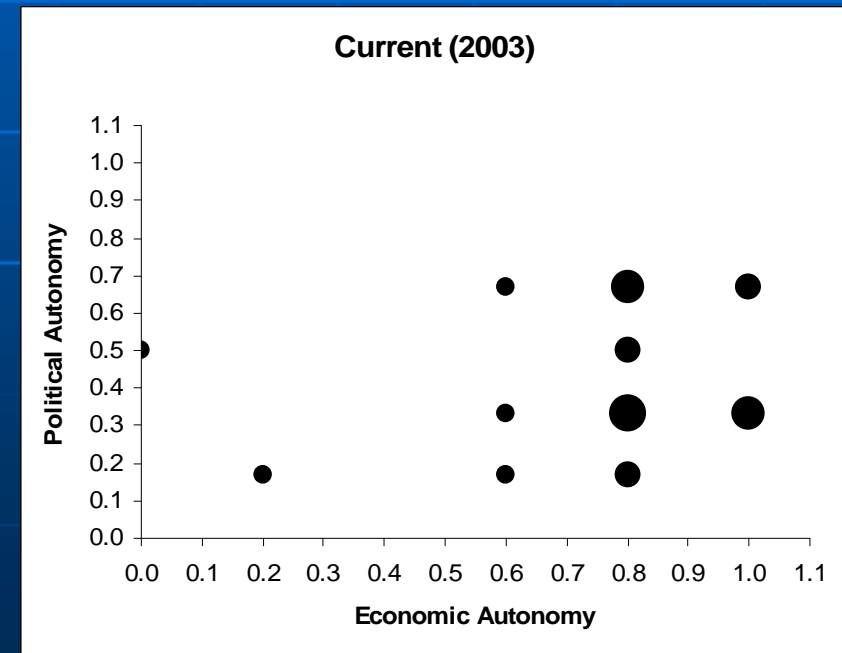
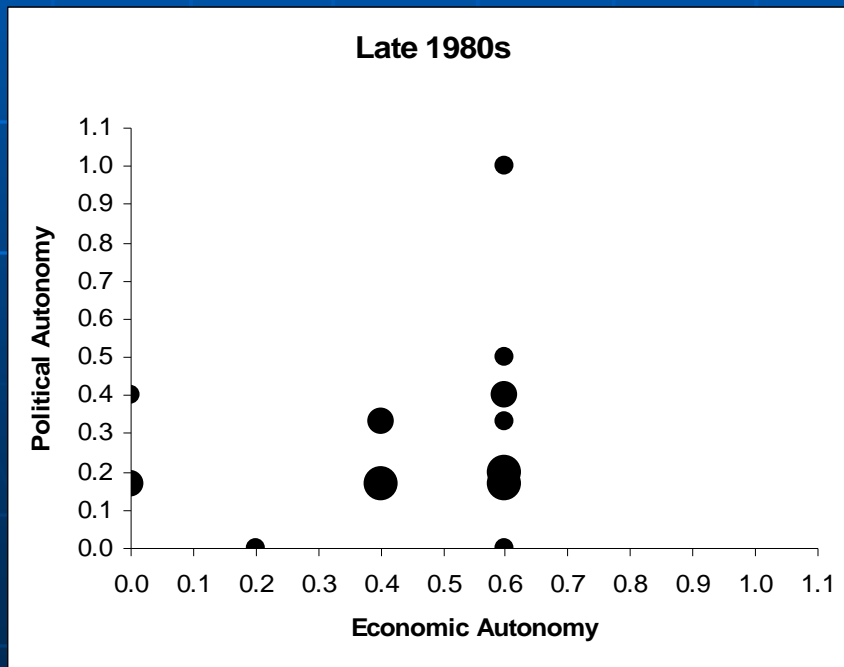
# Evolution Over Time

- Emerging market economies:
  - Similar trend than for OECD countries
  - ...with a dispersion higher than for advanced economies
  - Level of 2003 higher than level of OECD countries in the late 1980s



# Evolution Over Time

- Developing countries:
  - Similar trend than for OECD countries
  - ...with a dispersion higher than for advanced economies
  - Level of 2003 higher than level of OECD countries in the late 1980s



# Regional Trends

- Increase in CBA is a worldwide but uneven phenomenon
  - EUR has gained greatly in economic and political autonomy
  - In the Western Hemisphere (WHD), much of the progress was in economic autonomy
  - Gains in Sub-Saharan Africa (AFR) and Middle East and Central Asia (MCD) are modest

Region	Political		Economic		Overall	
	1980s	2003	1980s	2003	1980s	2003
AFR	0.17	0.37	0.52	0.72	0,33	0,53
APD	0.21	0.54	0.41	0.73	0,30	0,63
EUR	0.32	0.79	0.27	0.98	0,30	0,88
MCD	0.25	0.40	0.36	0.68	0,30	0,53
WHD	0.36	0.50	0.36	0.88	0,36	0,67
All	0.28	0.56	0.38	0.84	0,32	0,68

# Lessons from global trends

## ■ *Consensus View*

### ■ *Principle 1: Price stability as primary objective of monetary policy*

- Approach is in sharp contrast with policies of the 1970s whereby CB were often expected to channel financial resources to priority sectors
- Current approach recognizes that entrusting price stability to an autonomous CB helps strengthen overall policy credibility

### ■ *Principle 2: Curtail direct lending to governments*

- Most central banks have legal provisions limiting their ability to provide unrestricted credit to the government.
- If allow, it cannot be automatic, must be temporary, subject to quantitative limits, and at market rates.
- Ban on CB participation in the primary market for public debt is widespread.

# Lessons from global trends

## ■ *Consensus View*

### ■ *Principle 3: Ensure full autonomy for setting the policy rate*

- Most CB set their policy rate independently.
- A corollary is that CB have full autonomy for the design of their monetary policy instruments.

### ■ *Principle 4: Ensure no government involvement in policy formulation*

- No government approval should be required for the formulation of monetary policy.
- A corollary is the existence of procedures to resolve conflicts between CB and government.
- When such procedures for conflict resolution are in place, government representation in a policy making board is not necessary.

# Lessons from global trends

- **Role of CB in financial supervision?**
- ***Literature: separate monetary policy and financial supervision***
  - Avoid potential for conflict in the event of problems in the financial sector
- ***Practice in emerging and developing countries***
  - Practical considerations: many central banks keep involvement in banking supervision (also in a few large advanced countries)
- ***What about financial stability?***
  - *In the long-term, price stability and financial stability may be compatible*
  - *Less risky if the central bank has high autonomy*

# Conclusions

- Strong case that CBA is a desirable feature
  - The CB should be able to implement monetary policy without external (political) interference
  - Not a sufficient condition for inflation control but a necessary one
- De jure measures of CBA are valid for all countries
  - The consensus view:
    - Price stability
    - No direct credit to government
    - No involvement of government in formulation and implementation
    - Conflict resolution mechanisms (link between autonomy and accountability)
- Why entrust monetary policy to bureaucrats rather than politicians
  - It requires high degree of technical skills
  - Ex post preferences of the public are clear
  - Problems of time inconsistency (government's optimal long-run policy differs from its optimal short-run policy)
  - Powerful vested interests have large stakes in policy outcome

# Conclusions

- How can developing countries achieve CBA levels comparable to those of advanced economies?
  - *Economic autonomy*: build the initial conditions for a separation of monetary and fiscal policy
  - *Political autonomy*: establish conflict resolution mechanisms and limit political interferences in appointment of Gv. and CB board
  - Strengthen CB accountability and transparency