L- 7

Automatic Stabilizers and the business cycle debate

Reading: Can Fiscal Policy Stabilize Output?, IMF 2015

Fiscal policy is used to smooth output fluctuations

- Fiscal policy is often used to smooth fluctuations in economic activity, particularly **in advanced economies.**
- Because it reduces macroeconomic volatility, fiscal policy can boost real GDP growth.
  - a plausible increase in fiscal stabilization—measured as the **sensitivity of the overall budget balance to the output gap**—could **boost annual growth rates by 0.1** percentage point in developing economies and **0.3 percentage point in advanced economies.**

Automatic stabilizers

- Automatic stabilizers are an important component of fiscal stabilization,
  - but many countries tend to suppress their impact in good times, leading to a significant buildup of public debt.
- Fiscal frameworks that promote fiscal stabilization through the cycle **can foster more stable and higher growth** while supporting debt sustainability.
- Countries seeking higher fiscal stabilization **should avoid undermining automatic stabilizers with procyclical measures.**
- Those seeking to **enhance automatic stabilizers** should do so **without unduly increasing the size of the public sector or creating undesirable distortions** (such as high marginal tax rates).

Options for national monetary policy

- Can disappear when countries deliberately abandon independent monetary policies to join a currency union or to adopt a fixed exchange rate, e.g. in the Euro zone.
  - options for national monetary policy (e.g. outside the Euro zone) can weaken when the room for monetary maneuvering is constrained by **interest rates that approach the zero lower bound.**
- A need to rely more heavily on government budgets to stabilize economic activity immediately raises the question of :
- **How best to do this?**

Automatic stabilizers

have an important role to play (Baunsgaard and Symansky 2009)

- Automatic stabilizers are:
  - variations in taxes and transfers that occur automatically in response to changes in output and employment
  - include business and personal **taxes** and such **transfers** as **unemployment benefits**, **food and housing supports**, and other similar social sup
  - Because most tax payments by individuals or corporations move in **sync with income and spending**
    - they reduce disposable income during upswings and
    - boost it during slowdowns.
    - Automatic stabilizers help **ensure a timely and predictable fiscal reaction** that effectively **absorbs some of the shocks** to disposable income and private expenditure.

Discretionary measures: less agreement

- There is **less agreement** about whether governments **should use discretionary measures** beyond automatic stabilizers to limit fluctuations of macroeconomic conditions.
- The fiscal response of the advanced economies to the global financial crisis:
  - illustrated one of the limitations of discretionary fiscal measures, namely that **"they come too late to fight a standard recession"** (Blanchard, Dell'Ariccia, and Mauro 2010, 15).

Four specific questions

The IMF, April 2015 Chpt. 2 adress the following specif questions:

1. **How stabilizing is fiscal policy?** Does its contribution to smoothing output fluctuations vary across countries or groups of countries or between different phases of the business cycle?
2. **What is the relative importance of automatic stabilizers?**
3. **What is the impact of fiscal stabilization on the level and volatility of economic growth?**
4. Are there **adverse side effects** to using fiscal policy to pursue economic stabilization?
    1. And are there ways to mitigate them?

Main findings, IMF

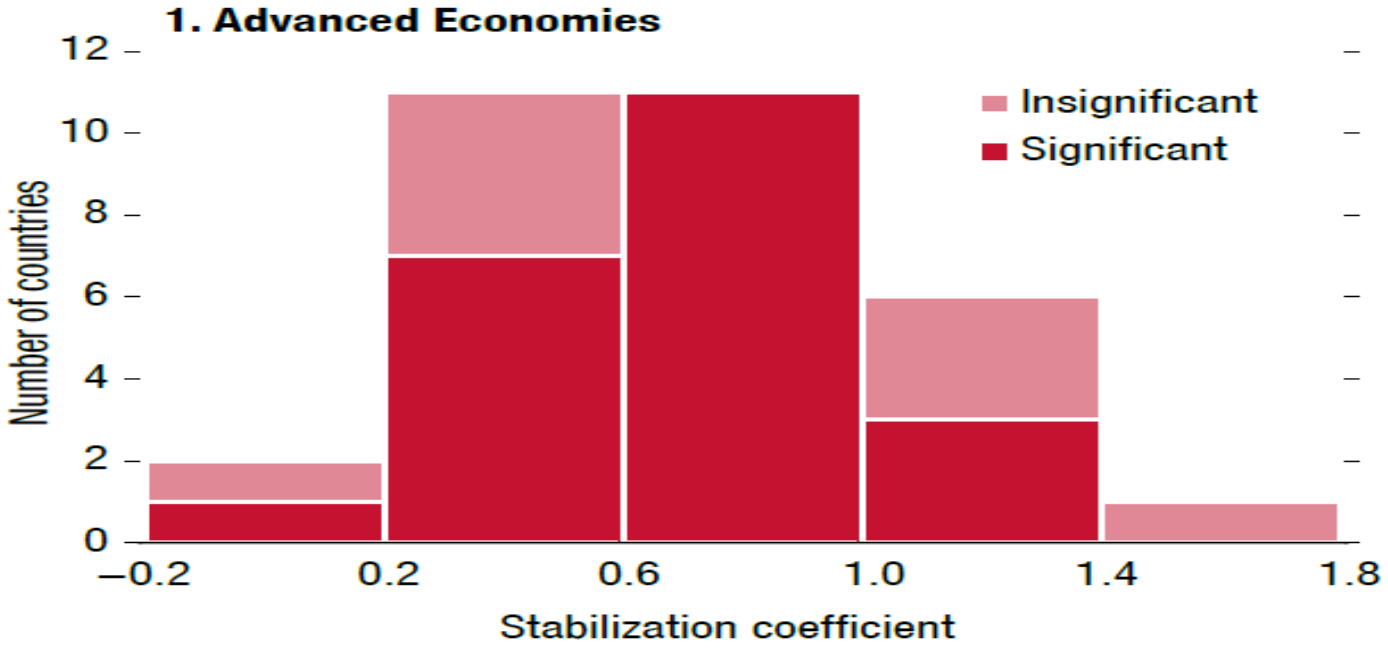
The main findings can be summarized as follows according with the IMF:

- Fiscal policies have generally been **more stabilizing in advanced economies** than in emerging market and developing economies.
- **Automatic stabilizers are an effective tool for fiscal stabilization**.
  - But automatic stabilizers can also be associated with certain government activities and funding means **with undesirable side effects** (such as high marginal tax rates and extensive subsidies).
- **Fiscal stabilization reduces the volatility of growth over the business cycle.**
  - An advanced economy moving from average to strong fiscal stabilization could potentially lower the overall volatility of growth by about 20 percent
  - emerging market or developing economy could reduce growth volatility by about 5 percent.

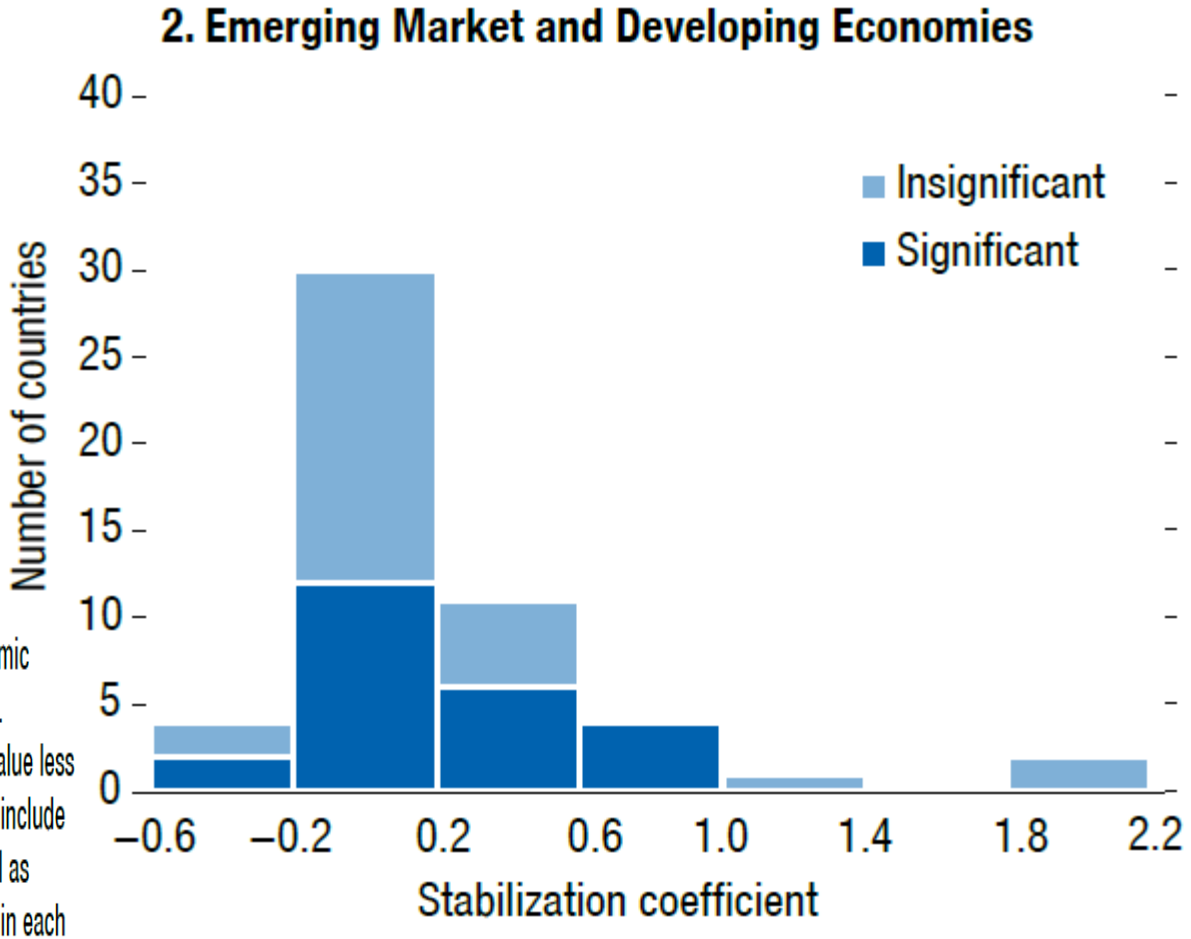
More stabilizing in advanced economies than in emerging market and developing /1

Figure 2.1. Distribution of Fiscal Stabilization Coefficients

Fiscal policy appears to contribute more to output stability in advanced economies than in emerging market and developing economies. However, the quality of available data may complicate efforts to estimate output gaps in the latter economies.



More stabilizing in advanced economies
than in emerging market and developing /2



Sources: European Commission; Organisation for Economic Co-operation and Development; and IMF staff estimates.
Note: "Significant" is defined as a coefficient with a *p*-value less than 0.10. Emerging market and developing economies include emerging market and middle-income economies as well as low-income developing countries. For a list of countries in each group, see Economy Groupings in the Methodological and Statistical Appendix.

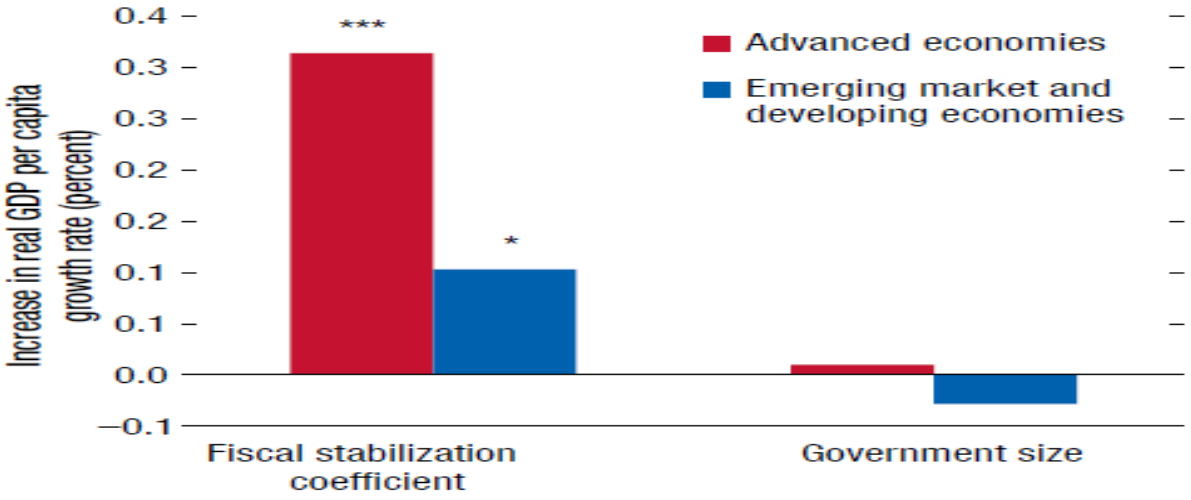
Does Lower Volatility Lead to Higher Medium-Term Growth?

- Yes, because it dampens volatility,
  - greater fiscal stabilization is associated with higher medium-term growth.
    - —could on average **boost annual growth rates** by **0.1** percentage point in **developing** economies and
    - **0.3** percentage point in **advanced** economies.

Does Lower Volatility Lead to Higher Medium-Term Growth?

Figure 2.16. Fiscal Stabilization and Medium-Term Growth

Lower output volatility induced by greater fiscal stabilization can boost medium-term economic growth by about 0.3 percentage point a year in advanced economies and 0.1 percentage point in emerging market and developing economies.



Sources: European Commission; Mauro and others 2013; Organisation for Economic Co-operation and Development; and IMF staff estimates.
Note: Emerging market and developing economies include emerging market and middle-income economies as well as low-income developing countries. For a list of countries in each group, see Economy Groupings in the Methodological and Statistical Appendix.
** $p < 0.10$; *** $p < 0.01$

WHAT CAN BE DONE TO FULLY REAP THE POTENTIAL BENEFITS OF MORE STABILIZING FISCAL POLICIES?

Government size and **public expenditure size** strongly correlated

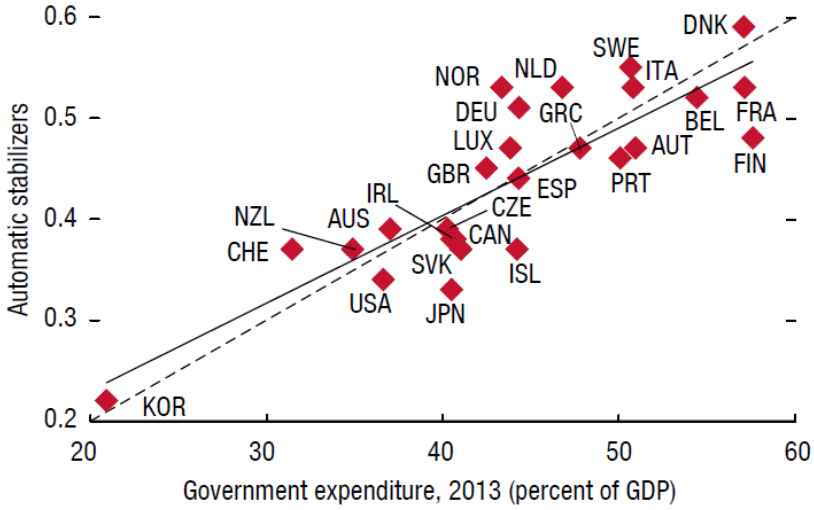
Detailed analyses of tax codes and expenditure programs allow for automatic stabilizers to be estimated (see Girouard and Andre 2005, and OECD 2014, for most advanced economies).

While these estimates do not necessarily coincide with the **size of government**, they remain **strongly correlated with the relative size of public expenditure** (Figure 2.3).

As a result, **public expenditures can be used as a proxy** by default when more granular estimates do not exist.

Figure 2.3. Advanced Economies: Government Size and Automatic Stabilizers

The extent of automatic stabilizers is strongly correlated with the relative size of public expenditures.



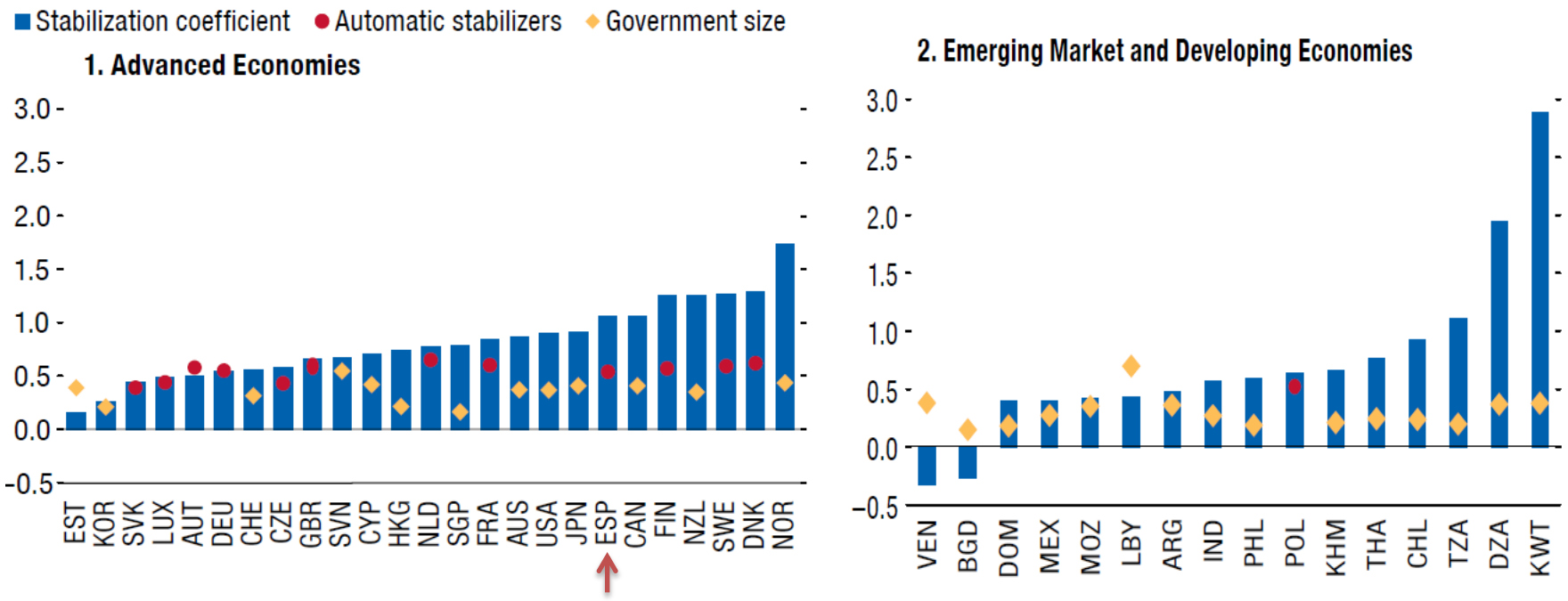
Sources: European Commission; Girouard and André 2005; Mourre, Astarita, and Princen 2014; Organisation for Economic Co-operation and Development; and IMF staff estimates.

Note: The solid line shows an ordinary least squares regression line, and the dashed line shows a 45-degree line. Data labels in the figure use International Organization for Standardization (ISO) country codes.

The Relative Impact of Automatic Stabilizers: stronger in advanced economies

Figure 2.4. Selected Countries: Fiscal Stabilization and Automatic Stabilizers
(Percent of GDP)

Automatic stabilizers contribute more to overall fiscal stabilization in advanced economies than in emerging market and developing economies.



Comparing the **size of automatic stabilizers** with the **stabilization coefficients** gives an indication of their relative contribution to overall fiscal stabilization, since **other fiscal policy** changes can either reinforce or counter their impact on the fiscal balance (Figure 2.4).

What can be done to fully reap the potential benefits of more stabilizing fiscal policies?

The shortcomings of discretionary stabilization can be mitigated

- including decision and implementation lags
- One possibility is to rely more on temporary and well-targeted
  - **adjustments in tax** or
  - **transfer parameters**,
    - such as the duration of unemployment benefits or
    - the extent of investment deductions
    - or to move quickly to identify easy-to-implement capital and maintenance spending.[PUBLIC INFRAESTRUCTURES]

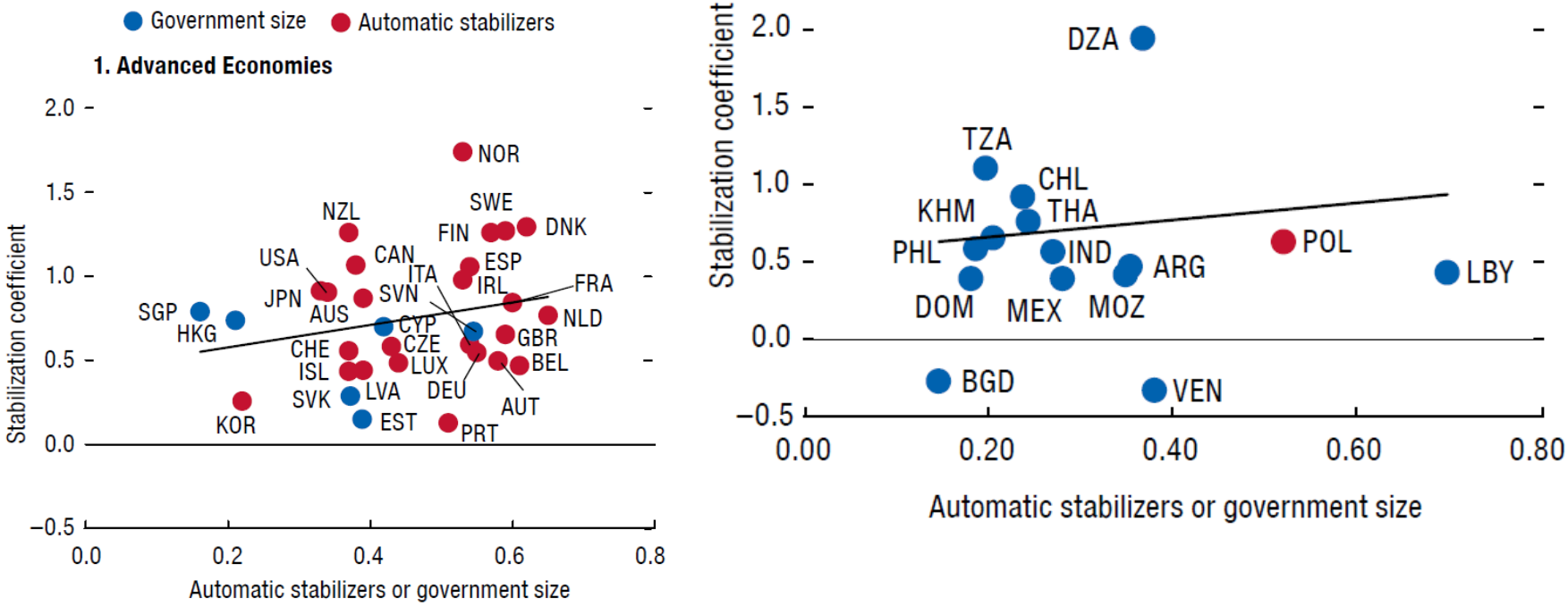
Avoiding procyclical actions /1

- would allow countries to take better advantage of automatic stabilizers
- Policymakers should be aware that automatic stabilizers can have adverse side effects.
  - For instance, the stabilization dividend from more generous unemployment insurance should be weighed against the weakening of individual incentives to find work.
  - Sound fiscal institutions can help
    - Well-designed fiscal rules and medium-term frameworks can promote **good expenditure control over the cycle**
    - and promote a **flexible response to variations in output.**

Avoiding procyclical actions/2
Government size and Automatic Stabilizers

Figure 2.5. Automatic Stabilizers and Fiscal Stabilization: Cross-Country Correlations

Policy choices affect the influence of automatic stabilizers on overall fiscal stabilization. Discretionary measures tend to suppress stabilizers in some countries and to reinforce them in others.



Avoiding procyclical actions /3 Concluding remarks

- Countries that use fiscal policy to stabilize output tend to do so when it is most effective
  - that is, during periods of economic slack (when demand trails potential output) and
  - In response to short-lived output variations.
- However, fiscal policy is generally **not used to mitigate booms.**
  - In fact, it is instead used to counteract the operation of stabilizers in good times.
    - Pursuing fiscal stabilization only in bad times can **undermine public debt sustainability** because governments fail to take advantage of stronger growth to lower deficits.

Figure 2.6. Advanced Economies: Determinants of Fiscal Stabilization

(Impact of a 10 percent increase in selected outlays on stabilization coefficients)

The size of government spending and the relative share of social spending have positive but relatively small effects on fiscal stabilization in advanced economies.

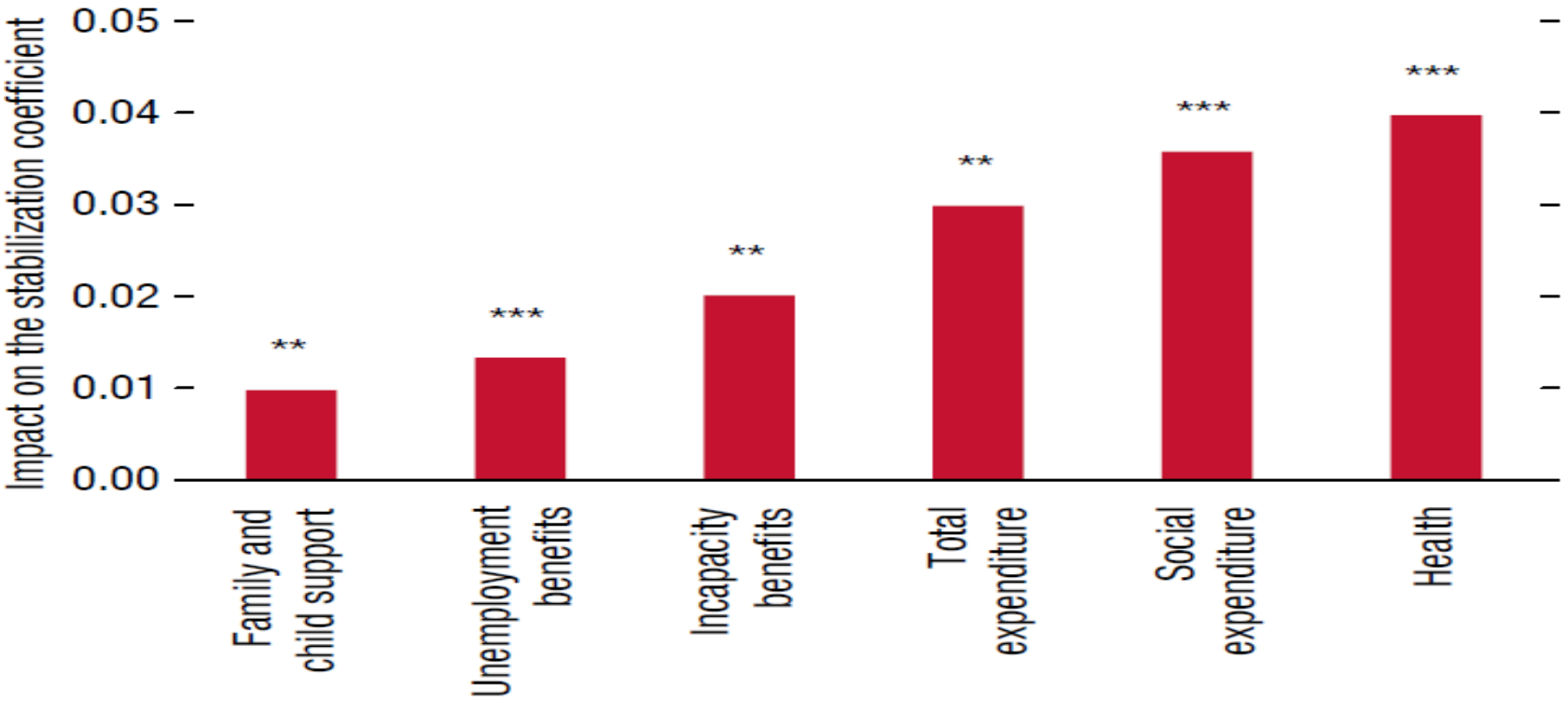
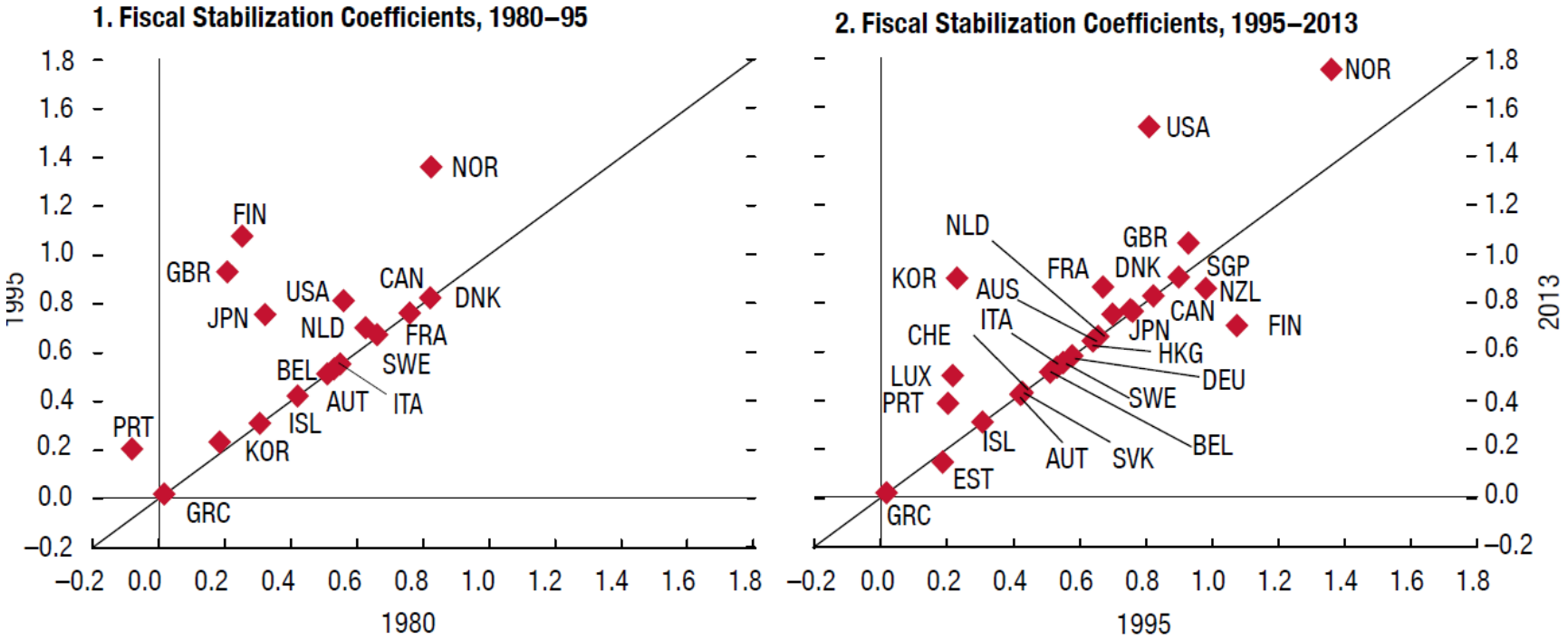


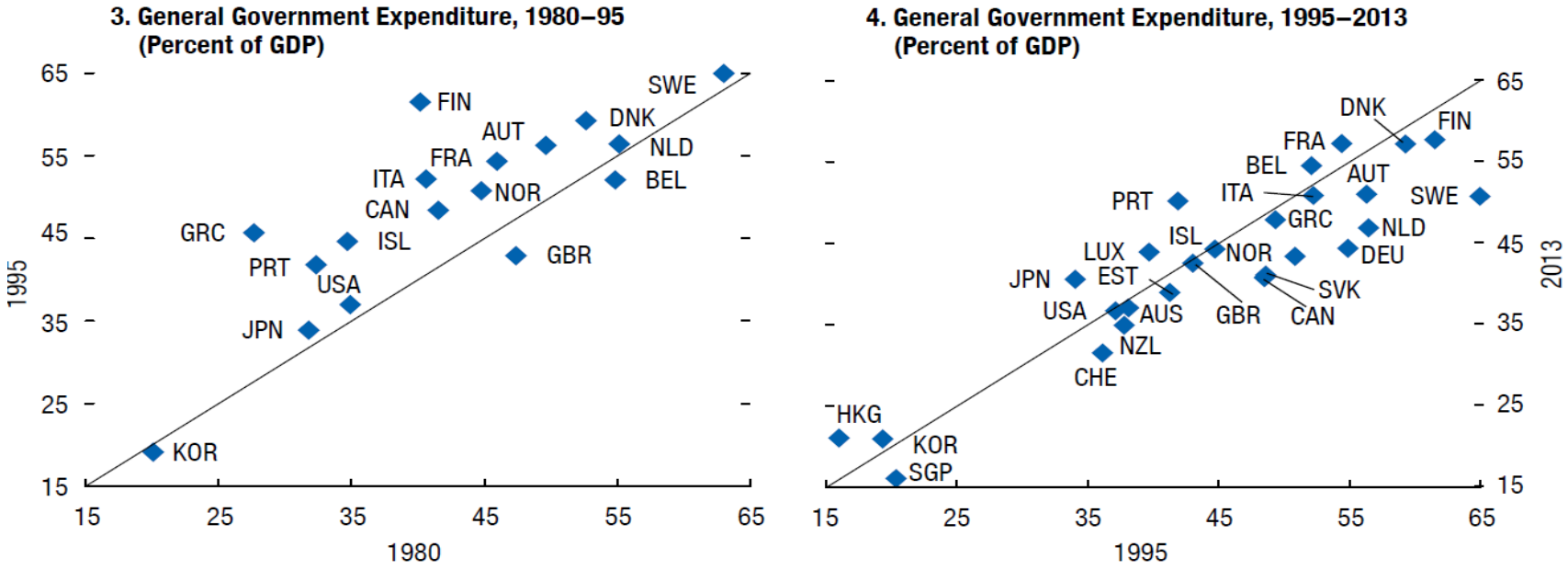
Figure 2.7. Advanced Economies: Fiscal Stabilization Coefficients and General Government Expenditure over Time

The extent of fiscal stabilization is relatively stable over time, but when it does change, the shift tends to be large.



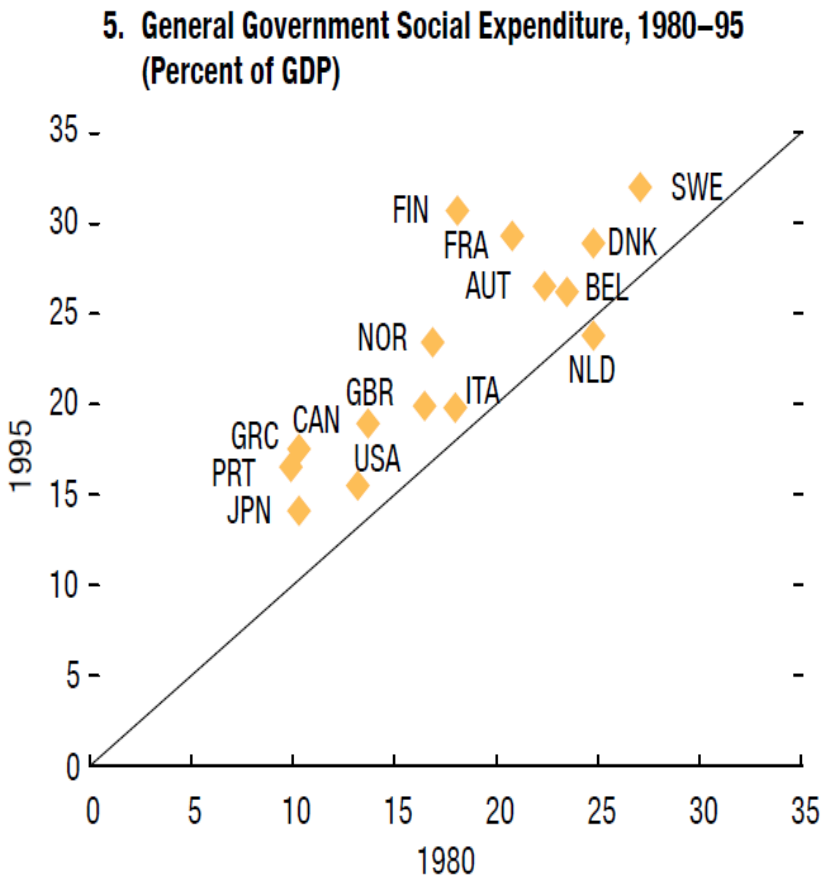
- In many countries—those on the 45 degree line in Figure 2.7, panels 1 and 2—larger automatic stabilizers did not translate into greater fiscal stabilization. Yet when they occurred, the changes in the coefficient tended to be large.
- During the first half of the sample period (Figure 2.7, panel 1), **fiscal policy** in Finland, Japan, Norway, and the United Kingdom appears to have **become more stabilizing**, while **in the second half of the sample period,** the most notable increases occurred in Korea, Norway, and the United States (Figure 2.7, panel 2).

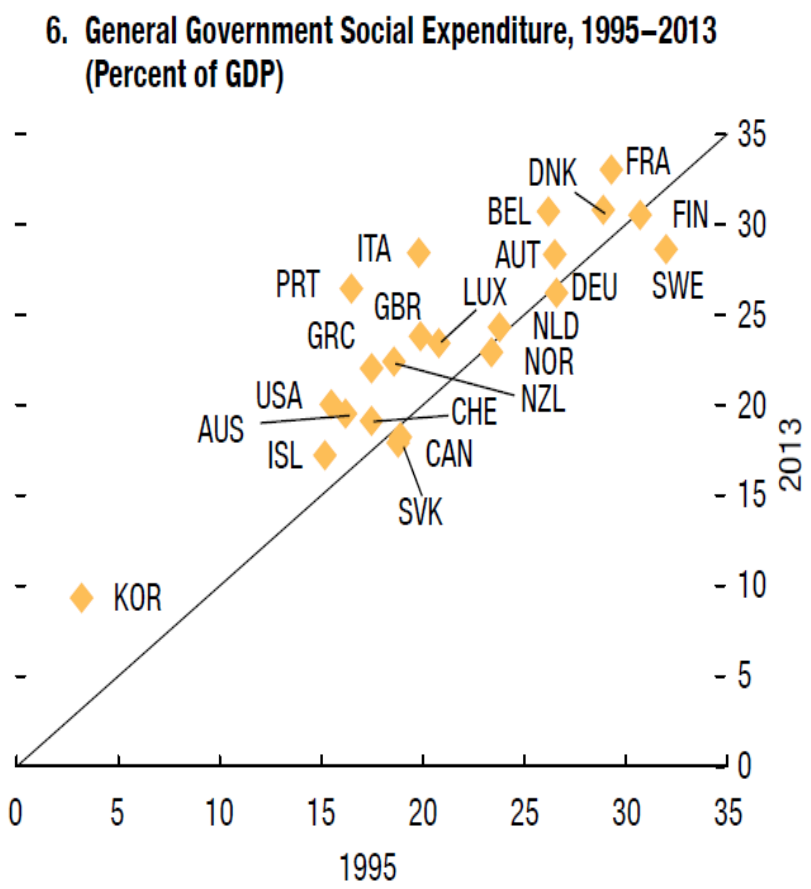
Figure 2.7. Advanced Economies: Fiscal Stabilization Coefficients and General Government Expenditure over Time



The extent of fiscal stabilization is relatively stable over time, but when it does change, the shift tends to be large.

A related question is whether the marked **increase in the size of government** and the **extent of social programs** in advanced economies during the 1980s and 1990s (see Figure 2.7, panels 3–6) **is associated with** a steady and widespread **rise in stabilization coefficients** (Debrun, Pisani-Ferry, and Sapir 2008).





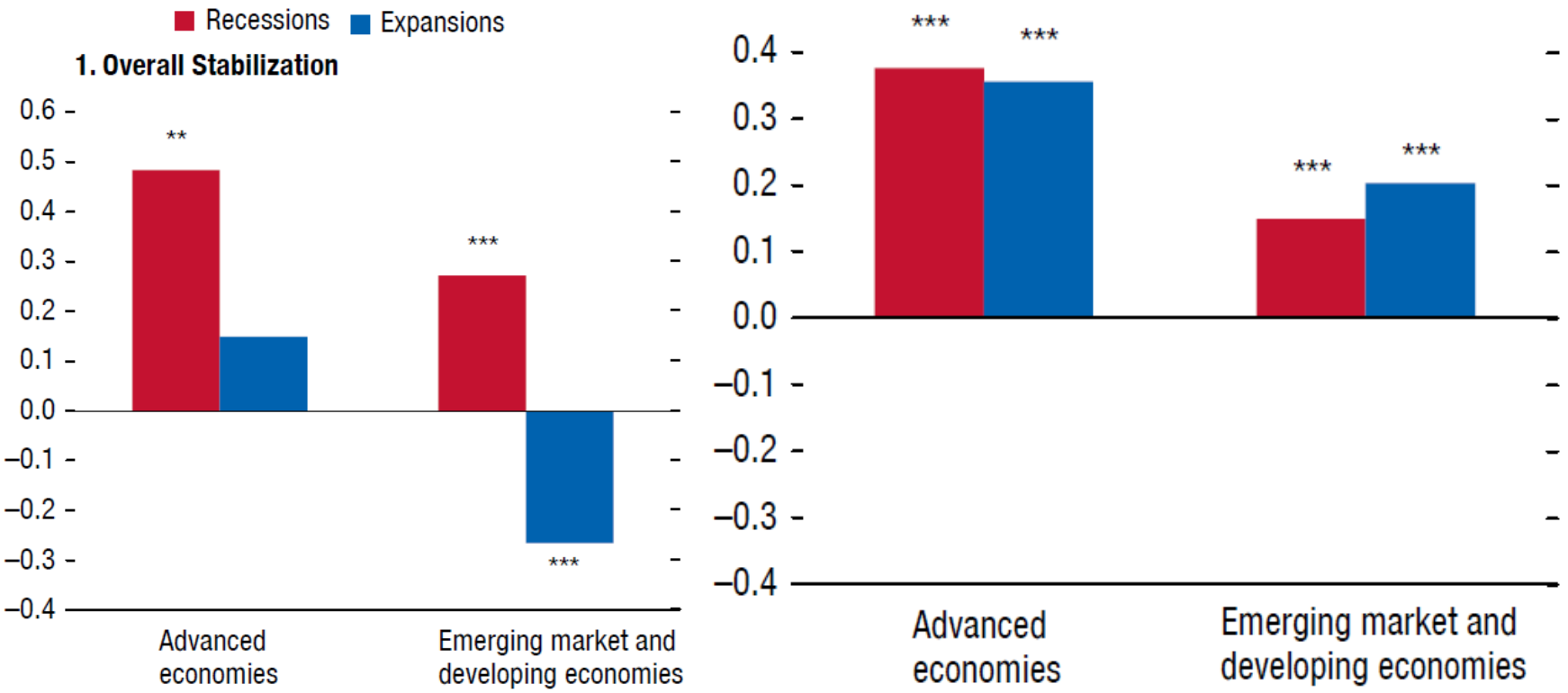
- A comparison of stabilization coefficients in these advanced economies at two points in time [1995 compared with 1980 (panel 5); 2013 compared with 1995 (panel6)] shows that the coefficients change rather **infrequently**

Fiscal Stabilization and the Business Cycle

Do countries pursue fiscal stabilization to the same extent during downturns as upturns?

Figure 2.8. Fiscal Stabilization over the Cycle

Fiscal stabilization tends to be more pronounced during recessions and is virtually absent during expansions.



Symmetry in the fiscal

- Symmetry in the fiscal response between good and bad times is important for three main reasons:

1. **rebuilding buffers ahead of the next cyclical downturn;**
2. **reducing the risk of overheating; and**
3. **avoiding a ratcheting up of public debt over successive cycles**.

- But fiscal stabilization tends to operate **mostly during recessionary** episodes and is virtually absent during expansions (Figure 2.8, panel 1 in previous slide)
- Automatic stabilizers have the expected countercyclical effect regardless of country group, although the effect is **clearly smaller in emerging** market and **developing** economies (Figure 2.8, panel 2 1 in previous slide).

Seeking to smooth fluctuations in economic activity?

- More fundamentally, the desirability for any country of seeking to smooth fluctuations in economic activity depends on the nature of the output shocks and
  - in particular on whether these shocks reflect permanent variations in potential output (supply driven) or the more short-lived fluctuations in aggregate demand that usually shape the business cycle.
- In principle, **fiscal measures** can **mitigate the impact of shocks that affect aggregate demand**, whereas other shocks—such as those that affect **relative prices—may not** always warrant a fiscal response.
- Empirical approaches suggest that the response of the budget balance is stronger in the face of demand shocks (Figure 2.9, next slide).
  - The question as to whether this differentiated fiscal policy response reflects **deliberate decisions** **or intrinsic properties of automatic stabilizers** would be worth a detailed investigation,
- **Overall, the picture that emerges is that fiscal stabilization policies seem asymmetric through the cycles**.
  - Countries tend to **deliver fiscal stabilization** when it is expected to be more needed—that is, **during cyclical downturns** when aggregate demand lags potential output.
  - **But during expansions**, fiscal policy changes **unrelated** to automatic stabilizers seem to systematically **interfere** with automatic stabilizers

In emerging market and developing economies, fiscal policy is on average **procyclical** (the coefficient is negative) during **expansions**, fueling aggregate demand when the economy is already **growing above potential**.

Various factors can explain the procyclical bent of fiscal policies in good times.

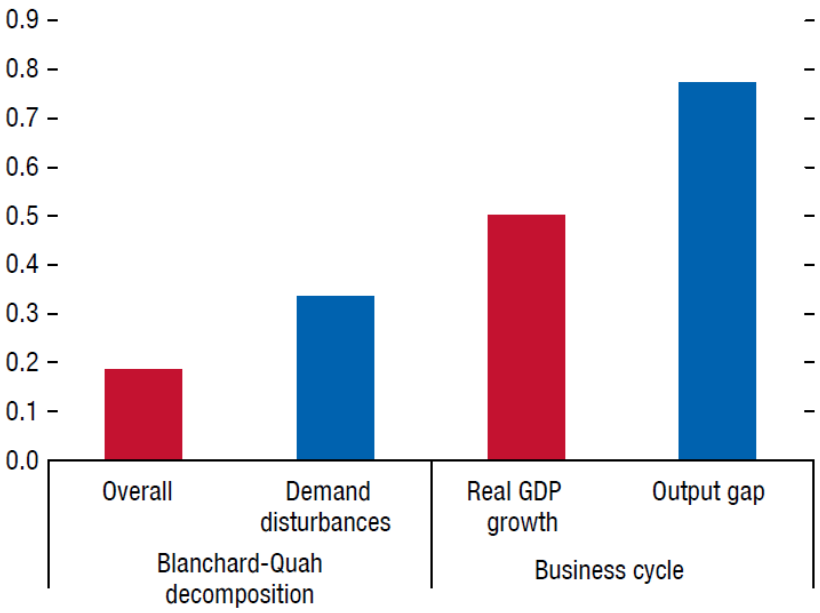
First, a rapidly growing pool of revenues complicates efforts to keep a tight lid on total expenditure, **as individual ministries compete for resources.**

Second, because potential output is unobservable, **policymakers** might be tempted **to interpret** temporary revenue gains as permanent, **leading to higher spending or tax cuts** that further fuel booming aggregate demand.

Third, a countercyclical fiscal policy may simply be inappropriate.

Figure 2.9. Advanced Economies: Fiscal Stabilization and Demand Shocks

The budget balance appears to respond more strongly to demand shocks in advanced economies.

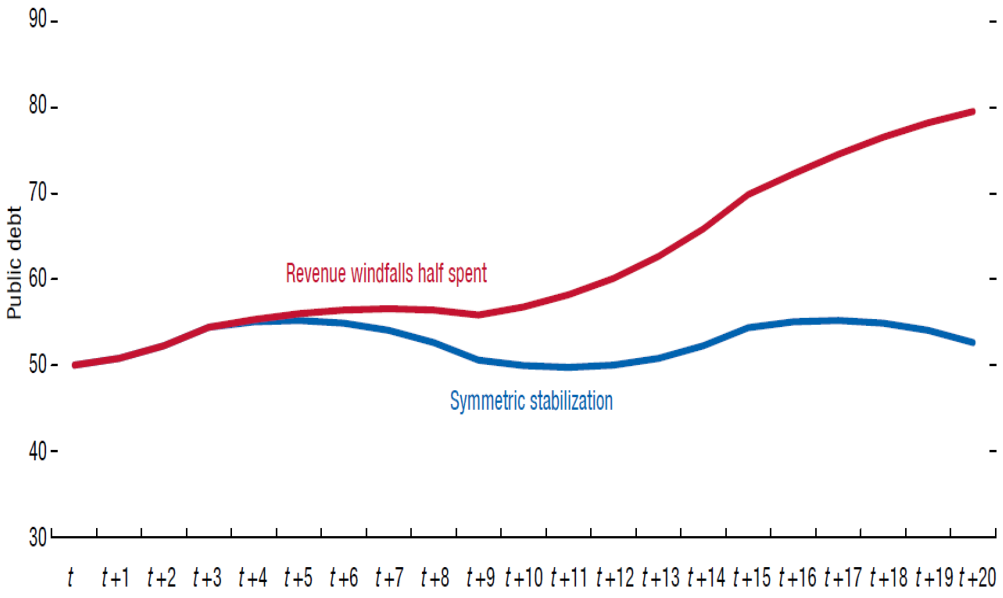


Sources: European Commission; Organisation for Economic Co-operation and Development; and IMF staff estimates.
Note: The bars represent simple averages of country-specific point estimates.

Asymmetric response versus symmetric stabilization impact in the in the debt-to-GDP ratio

Figure 2.10. Asymmetric Stabilization: Unpleasant Public Debt Arithmetic
(Percent of GDP)

A tendency to spend revenue windfalls during good times and to allow budget balances to reflect revenue shortfalls during bad times leads to an upward drift in the ratio of debt to GDP over time.



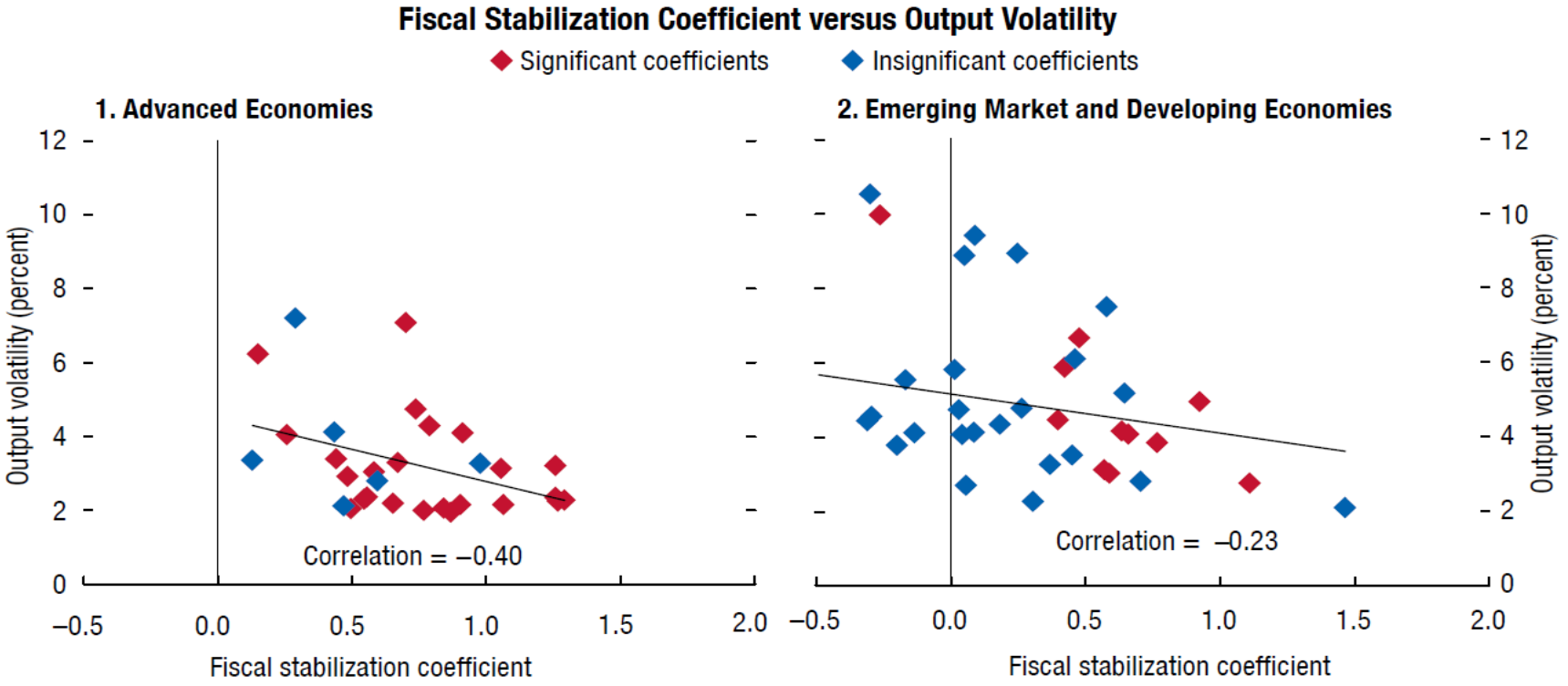
Source: IMF staff estimates.
Note: The simulations are based on the stock-flow identity between debt and the overall balance. Other assumptions are nominal potential growth of 4 percent, an automatic stabilization coefficient of 0.5, an implicit interest rate on public debt of 5 percent, and symmetric cycles with the output gap smoothly oscillating between –2 and 2 percent. No fiscal adjustment is built into the scenario. *t* denotes the initial year

Illustrative simulations suggest that a systematic **asymmetric response** whereby half of cyclical revenue windfalls is spent during good times **while the deficit fully absorbs shortfalls in bad times** would be associated with a non-negligible **upward drift in the debt-to-GDP ratio** (Figure 2.10).

Under fairly benign macroeconomic assumptions, asymmetric stabilization could, after 20 years, **lead to a debt-to-GDP ratio much higher** than with **symmetric** stabilization

Figure 2.11. Fiscal Stabilization and Output Volatility: Cross-Country Correlations, 1980–2013

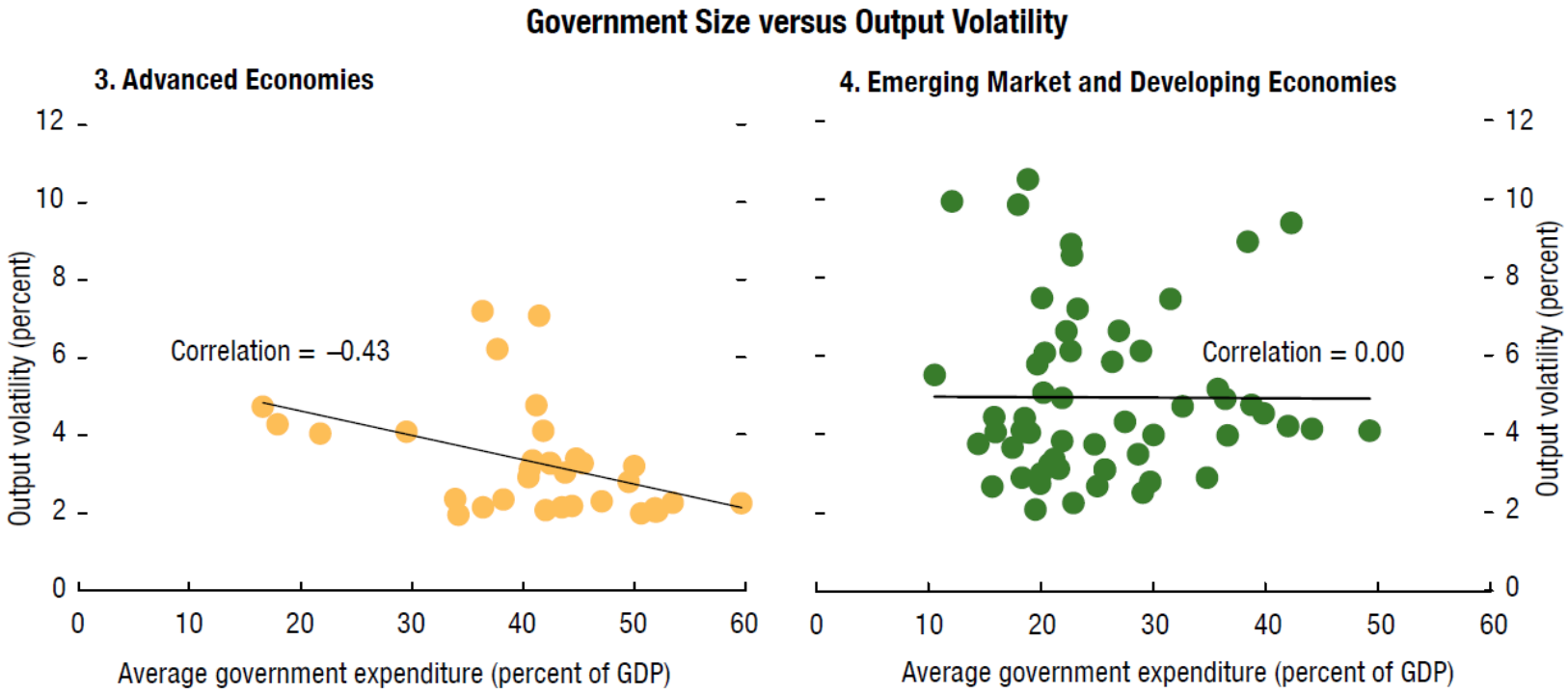
In advanced economies, larger governments and greater fiscal stabilization are associated with lower output volatility. In emerging market and developing economies, there is no apparent link between output volatility and government size.



Does Fiscal Stabilization Reduce Output Volatility?

The eventual success of fiscal stabilization **depends on how much of a given variation in the fiscal balance** ultimately makes its way into **GDP.**

Broad cross-country correlations suggest that **greater fiscal stabilization** is in general **associated with lower growth volatility** (Figure 2.11, panels 1 and 2).



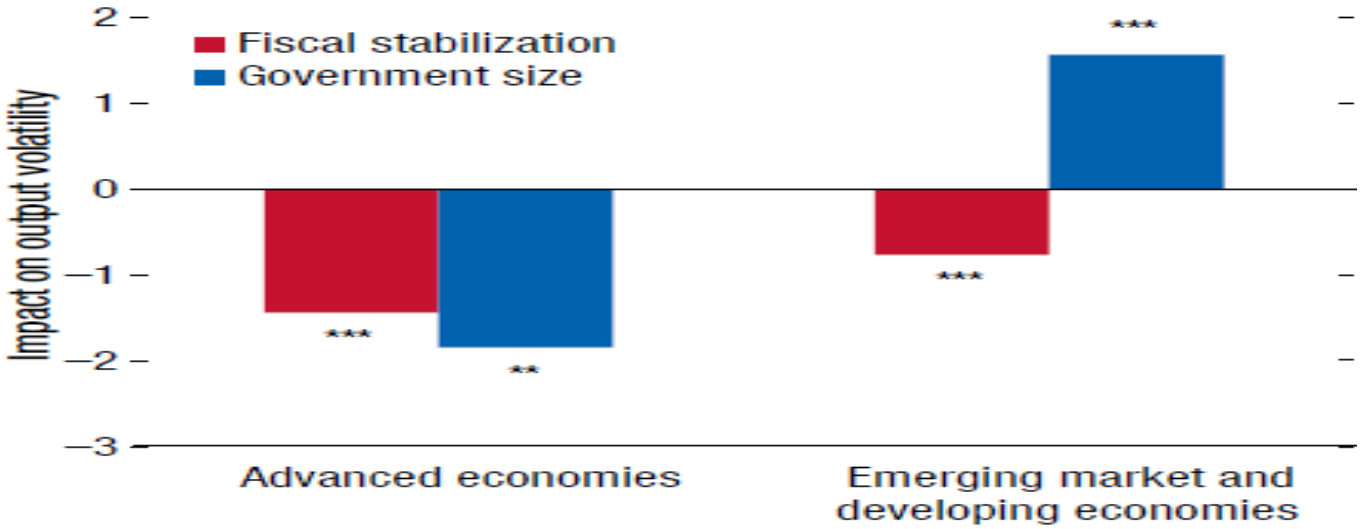
Sources: European Commission; Mauro and others 2013; Organisation for Economic Co-operation and Development; and IMF staff estimates.
Note: Output volatility is defined as the standard deviation of the real GDP growth rate over the sample period. Emerging market and developing economies include emerging market and middle-income economies as well as low-income developing countries. For a list of countries in each group, see Economy Groupings in the Methodological and Statistical Appendix.

However, there is a **marked difference between advanced economies** and **emerging and developing** economies regarding the contribution of automatic stabilizers:
in advanced economies, the correlation between government size and output volatility **is negative** (Figure 2.11, panel 3) , as expected, while
in emerging and developing economies, **this correlation vanishes** (Figure 2.11, panel 4).

Figure 2.12. Impact of Fiscal Stabilization and Government Size on Output Volatility

(Percent)

After taking into account potential determinants of output volatility, greater fiscal stabilization appears to dampen volatility by a significant amount in advanced economies and by a lesser but still noticeable amount in emerging market and developing economies.



Sources: Mauro and others 2013; World Bank; and IMF staff estimates.

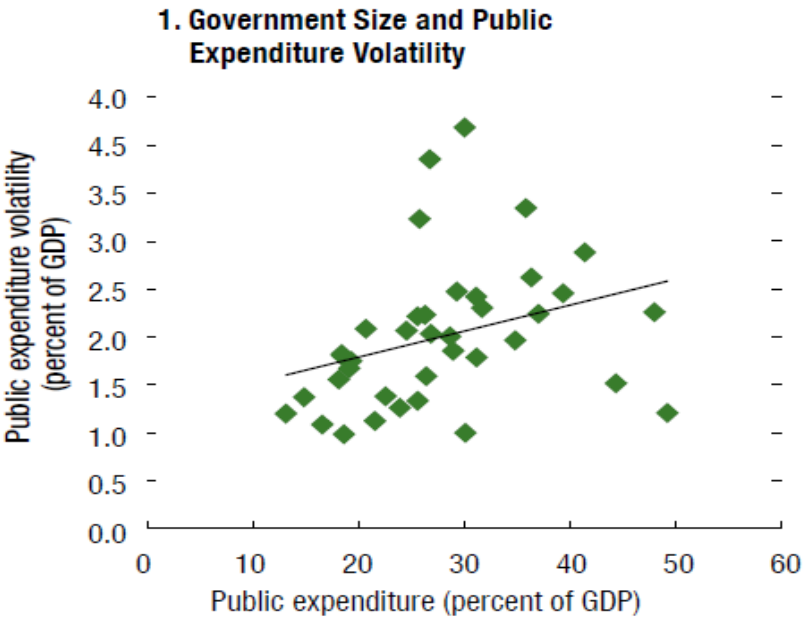
Note: Estimates are based on Arellano-Bond (1991) system generalized method of moments. Output volatility is defined as the standard deviation of the real GDP growth rate over five-year fixed windows. Emerging market and developing economies include emerging market and middle-income economies as well as low-income developing countries. For a list of countries in each group, see Economy Groupings in the Methodological and Statistical Appendix.

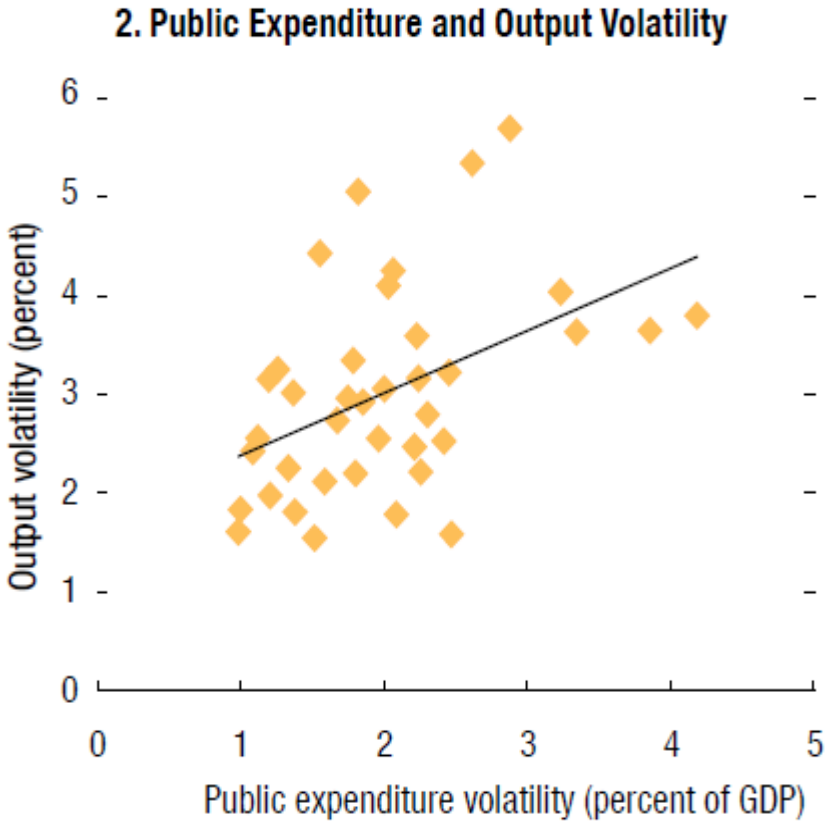
** $p < 0.05$; *** $p < 0.01$.

Bigger Governments tend to take fiscal action that have a larger macroeconomic impact, irrespective of the cycle, which in turn can translate into greater growth volatility

Figure 2.13. Emerging Market and Developing Economies: Government Size and Output Volatility

In emerging market and developing economies, larger governments tend to exhibit greater expenditure volatility. In turn, more volatile government spending is associated with more unstable output.

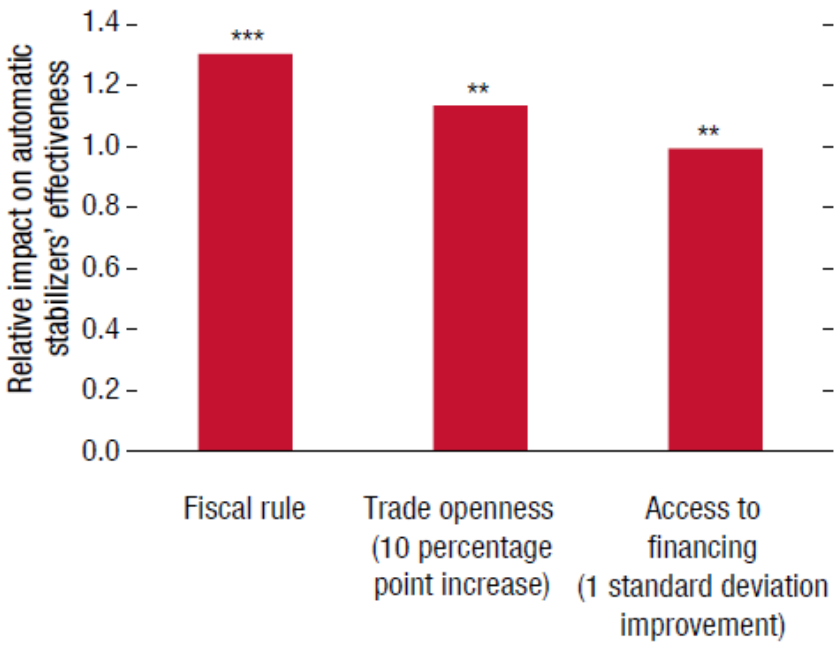




Factor that boost automatic stabilizer

Figure 2.14. Advanced Economies: Factors that Boost the Effectiveness of Automatic Stabilizers

Three factors appear to affect the impact of automatic stabilizers on output volatility: a fiscal policy rule to constrain policy discretion, openness to trade, and a country's ability to access financing.



A look at potential determinants of the stabilizing effect of automatic stabilizers shows that three variables appear to matter (Figure 2.14):

1. **The adoption of a fiscal policy rule** aimed at capping public debts, budget deficits, or public expenditures **more than doubles the intensity of the negative link** between **government size** and **output volatility.**
2. **Openness to trade** also matters. An **increase in trade flows by 10** percent of GDP is associated with a **doubling** of the dampening effect of government size on growth volatility.
3. **Easier financing conditions** seem to **increase the mitigating effect** of government size on output volatility.

Fiscal policy can substantially reduce output volatility

- To sum up, fiscal policy can substantially reduce output volatility.
- However, certain **costs potentially associated with large governments** can **negate the benefits** of automatic stabilizers in emerging market and developing economies.

- By contrast, **automatic stabilizers** seem to have a **strong moderating** effect on **output variations** in advanced economies.
- More broadly, easier financing conditions and fiscal rules — both contributing to fiscal space—

  seem to create conditions that **allow stabilizers to operate** more freely.

two important policy implications:

This analysis has two important policy implications:

1. **First,** fiscal frameworks aimed at cementing governmental **commitment to debt sustainability** should explicitly incorporate the **flexibility needed to allow for fiscal stabilization** in bad times while enforcing strict control over expenditure in good times.
    1. This can be achieved by the use of **escape clauses** or the formulation of such **limits in cyclically adjusted terms**, as is the case in a growing number of countries (next Figure 2.15).
2. **Second,** because **automatic stabilizers have adverse side effects**, efforts to enhance their effectiveness should focus on **modalities that minimize inefficiencies.**

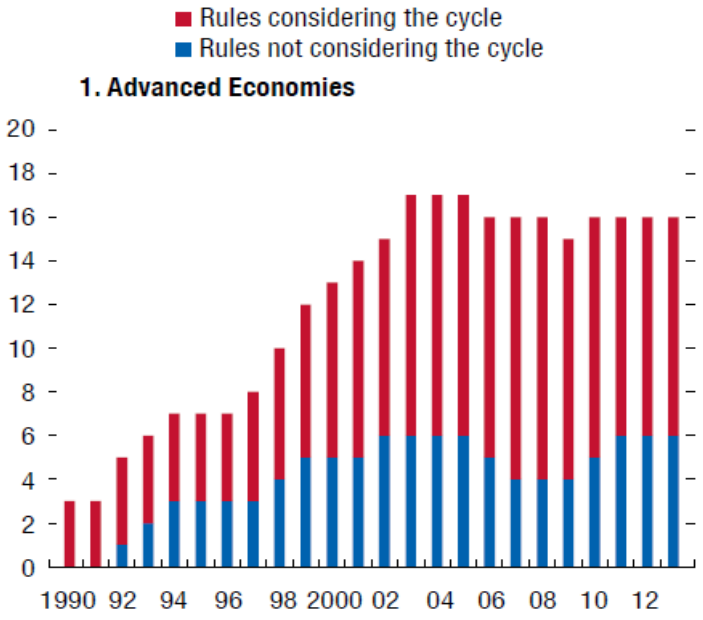
For instance**,**

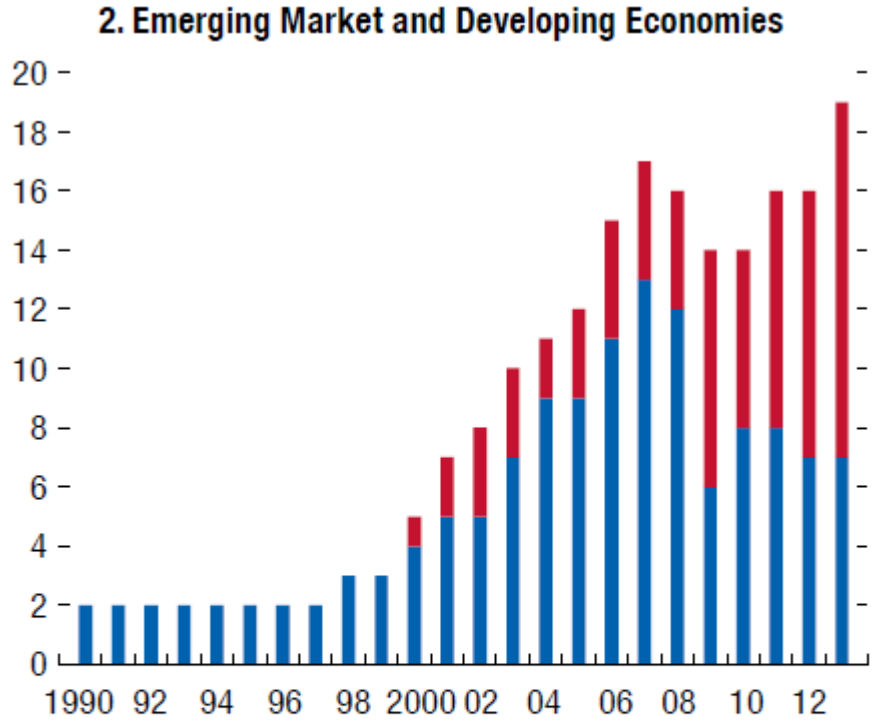
- **raising marginal tax rates** to make the tax system more **progressive** or
- **expanding social transfers** could potentially have an adverse impact on individual incentives to work and create jobs.

Escape clauses or deficit limits in cyclically adjusted terms to cape the deficit

Figure 2.15. Budget Balance Rules: Contingent on the Economic Cycle?
(Number of rules)

In advanced economies, deficit caps embedded in fiscal rules often vary with the state of the economy, leaving room for automatic stabilizers to operate more freely. A similar trend is apparent in emerging market and developing economies after the global financial crisis.





Source: IMF Fiscal Rules database.
Note: Rules refer to national budget balance rules. They are considered to take into account the cycle if their target is specified in cyclically adjusted or structural terms or if they are associated with a well-specified escape clause.

Conclusions

Automatic stabilizers play a central role in fiscal stabilization.

- They account for up to **two-thirds of overall fiscal stabilization** in advanced economies
- Fiscal stabilization **moderates the variability of output**, with positive repercussions on medium-term growth, particularly in advanced economies.
- Overall, countries willing and able to use fiscal policy as a stabilization tool can benefit **from letting automatic stabilizers play freely** during both downturns and upturns.
  - When automatic stabilizers fall short of stabilization needs, governments could consider options to better incorporate stabilization measures into the design of taxes and transfers.
  - **sound fiscal institutions** in the form of well-designed fiscal rules and mediumterm frameworks **can promote fiscal stabilization** by enabling uninterrupted access to borrowing at favorable conditions, **ensuring expenditure control over the entire cycle, and leaving flexibility to respond to output shocks.**

IFM risk after 2015

"Our own research shows that boosting efficient infrastructure investment can be a powerful impetus to growth both in the short run and in the long run," Lagarde, (April 2015) noted.

Lagarde also pointed to recent IMF research, which fleshes out priorities and payoffs in the areas of *productivity growth, labor force participation, and trade*.

- First, reversing the decline in productivity growth in advanced economies requires lowering barriers to entry in product and services markets.
- Second, removing barriers to labor force participation is key to tackling inequality and ensuring broad-based growth.
- Third, there are potentially huge global gains from further trade reform and integration.