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The "Lean vs. Clean" Debate in Monetary Policy: New Evidence[1]

Abstract: This paper explores the ongoing debate on the role of monetary policy in preventing and addressing financial crises, known as the "lean vs. clean" dilemma. The central question is whether central banks should act preventively to avoid financial bubbles and imbalances (the lean approach), or whether it is more effective to respond only after they burst, focusing on mitigating the consequences (the clean approach). Through a review of theoretical literature and historical experiences, the paper highlights the advantages and limitations of both approaches. Special emphasis is placed on post-crisis reforms and the role of macroprudential policy as a complementary instrument to monetary policy. The paper shows that neither approach offers a universally applicable solution, but places a slight emphasis on the lean approach and suggests that the new framework for monetary policy must include a combination of preventive measures, effective responses after a crisis outbreak, international coordination of central banks, as well as improvements in forecasting models and early warning systems.

Keywords: Monetary Policy, Financial Stability, Lean vs. Clean, Macroprudential Policy, Central Banks.

JEL Classification: E30, E52

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1. Introductory Remarks

In recent decades, large-scale structural changes have taken place in the financial sector (Koziuk, 2025). Financial markets and institutions have undergone a radical transformation and a rapid expansion, driven by the general trends of deregulation, liberalization, globalization, as well as advances in computer technologies. International capital flows have intensified, markets have developed new and sophisticated instruments, and the speed of financial transactions has drastically increased, significantly reducing transaction costs. The degree of interdependence among financial institutions from different countries has grown dramatically. However, the interdependence extends beyond financial institutions to real sector companies due to the rising prevalence of global corporations and so we have been witnessingthe growing global dependence of local firms on their suppliers, customers, or the overall economic climate. At the same time, there was a development of the digital workplace (Mićić and Mastilo, 2022). At the same time, these structural changes unfolded much faster than the evolution of the supervisory and regulatory framework (Fabris, 2006).

Such an environment has proved very conducive to the development of financial and economic crises, which have been gradually shifting from local to regional and global in scope. These developments posed serious challenges for policymakers to identify risks in time, properly assess them, and mitigate their costs.

Empirical evidence suggests that financial sector leverage is indeed procyclical (Laseen, Pescatori & Turunen, 2015a). This means that there are internal cycles in which good news lead both to higher demand and greater supply of credit (White, 2009). This positively affects asset prices and consumption, fueling even greater optimism and further credit demand. Increased demand pushes up asset prices, which begin to rise above fundamental values. This implies that initially rational optimism turns into irrational exuberance, and at a certain point—when there are no new investors—the bubble bursts and a crisis emerges. It should also be noted that some authors argue that asset bubbles cannot form unless there is some form of expansionary monetary policy beforehand (Borio & White, 2004; Gali & Gambetti, 2014).

Given that crises impose extremely high costs on society, the debate over the role of central banks in relation to financial bubbles is one of the most important issues in modern macroeconomic theory and practice. The "lean vs. clean" dilemma can be viewed as a choice between preventive action—attempting to avert imbalances in financial markets—and a reactive approach, in which institutions focus on cleaning up after crises once they occur (Mishkin, 2011). As Laseen et

al. (2015b) emphasize, the key questions are whether central banks can identify emerging asset price bubbles, what the implications of their bursting are, and whether monetary policy is the appropriate response to potential bubbles.

Historically, monetary policy was primarily oriented toward price stability and inflation control (Fabris, 2024). Financial stability often remained secondary, which became apparent during the period of financial market deregulation in the 1980s and 1990s. However, a series of crises—from Japan's stagnation in the 1990s, through the Asian crisis of 1997–1998, to the 2008 global financial crisis—showed that neglecting imbalances can have severe consequences for economic growth and employment (Reinhart & Rogoff, 2009).

The concrete policy question that arises is whether policy should be more restrictive than it would otherwise be if there is evidence of growing imbalances in the real economy or rising systemic risks in the financial system? Or should policymakers rely on an alternative strategy—namely, that monetary policy should be content to "clean up the mess" afterward (White, 2009)?

At first glance, it may seem logical that regulators should intervene and prevent excessive inflation of asset prices. However, experience shows that identifying bubbles is extremely difficult, that monetary intervention can produce unintended consequences, and that in many cases, solutions focused on mitigating the aftermath of a burst bubble have been more effective than preventive action. On the other hand, examples such as the global financial crisis have demonstrated how dangerous it was to ignore housing market price bubbles, suggesting that preventive action should have been taken before they burst.

Ultimately, the answer to this question should depend on the relative costs of each approach. Even if we assume that monetary intervention could be effective in halting the spread of crises and restoring the financial system, the question remains whether the costs of such interventions might outweigh their benefits. Historical experience clearly shows that, under certain circumstances, confidence in the central bank can deteriorate rapidly. For instance, if aggressive purchases of government bonds (or worse, private securities) are interpreted as debt monetization, it could lead to a sudden rise in inflation expectations and, in extreme cases, to exchange rate destabilization (White, 2009).

History has clearly shown that crises have occurred in the past and will occur in the future. We also know that when crises do occur, they carry significant costs. While their exact timing remains unknown, preventive action can make them less frequent and less destructive.

This paper examines the theoretical foundations of both approaches, their practical reach and limitations, as well as the possibilities for integrating them into a modern monetary policy framework.

The paper is structured into five parts. Following the introductory remarks, the second part provides a review of the literature addressing this issue. The third part discusses the advantages and disadvantages of the lean and clean concepts. The fourth part proposes a new framework for monetary policy, and the fifth part presents concluding remarks.

2. Literature Review

For a long time, traditional macroeconomic models (e.g., IS-LM) paid little attention to the financial sector, treating it as irrelevant to systemic instability. Crises were explained by external shocks or rigidities in labour and product markets. This approach had dominated during the postwar period until the 1980s, when models began to emerge that incorporated financial frictions and credit cycles. Kiyotaki and Moore (1997) developed a model of credit cycles in which changes in collateral values amplify economic fluctuations. Bernanke, Gertler, and Gilchrist (1999) introduced the concept of the financial accelerator, whereby shocks to the balance sheets of banks and firms can lead to reduced lending, thereby deepening recessions. These works demonstrated that the financial sector is not neutral but rather an active generator of cycles.

Borio (2014)) and Claessens, Kose, and Terrones (2013) developed the concept of the finanscial cycle, which lasts longer than the business cycle and has stronger implications for systemic stability. These theoretical findings provided the foundation for advocating preventive measures (lean), but also raised questions about the limitations of monetary policy as an instrument. On the other hand, theoretical arguments for the clean approach rest on the claim that it is almost impossible to identify bubbles in real time. As Greenspan (2002) emphasized, central banks should not target asset prices because doing so could lead to errors and hinder growth.

Laseen et al. (2015) argue that while there are theoretical reasons for leaning against the wind, much work remains before this becomes a viable option in practice. They stress that an unexpected increase in policy interest rates—for example, to prick an emerging asset price bubble—does not reduce risk to the financial system. Such a policy lowers output, inflation, and asset prices without fundamentally mitigating financial risks. They conclude that using monetary

policy systematically to react to financial risks, such as excessive risk-taking as it builds up over time, could nonetheless be worthwhile.

Bernanke and Gertler (1999, 2001) contend that monetary policy should not target asset prices because bubbles are difficult to identify in real time. Greenspan (2002) highlights that attempts at bubble prevention are risky and that central banks have limited instruments for such interventions. Svensson (2010) adds that targeting asset prices could undermine the credibility of inflation targeting. These authors believe that it is more effective to react after bubbles burst, by lowering interest rates and stabilizing the financial system.

Laseen et al. (2015a) emphasize that leaning against the wind requires financial sector leverage to be procyclical, but empirical evidence is mixed and suggests that procyclicality varies across sectors and over time. They add that leaning against leverage without clearly distinguishing why leverage is increasing could lead to policy mistakes that worsen emerging financial stress, possibly inducing a full-blown crisis.

After the global financial crisis of 2008, more and more authors pointed to the necessity of preventive action. Cecchetti, Genberg, Lipsky, & Wadhwani (2000) and Cechetti, Genberg, & Wadhwani (2003) stress that including asset prices in the reaction functions of central banks can dampen economic fluctuations. Borio and White (2004) argue that financial imbalances cannot arise without excessive monetary expansion and that central banks must raise interest rates during bubble periods. Trichet (2005, 2009) maintains that it is the responsibility of central banks to react symmetrically—raising rates during asset price booms and lowering them after busts. Taylor (2008) argues that excessively loose policy prior to the crisis explains its severity. Mishkin (2011) and Woodford (2012) highlight that inflation stability is not a sufficient guarantee of financial stability, since crises can also occur under stable inflation. Leroi (2015), using the case of South Africa, concluded that monetary policy should lean against the wind.

Claessens et al. (2013) argue that no single approach is universally applicable. In countries with developed and flexible financial systems, the clean approach may be sustainable. By contrast, small and vulnerable economies are often forced into a lean approach to prevent destabilization. In their view, the best outcomes are achieved by combining both approaches—preventive measures alongside rapid responses when crises erupt.

From this brief literature review, we can conclude that the theoretical framework provides arguments for both approaches: lean as a mechanism for reducing systemic risk, and clean as a pragmatic response to the limited ability to identify and control bubbles.

3. Clean versus Lean

3.1. Basic Assumptions of the "Clean" Strategy

The *clean* approach implies that central banks should not actively attempt to prevent financial bubbles, but rather focus on mitigating their consequences once they burst. Proponents of this approach argue that it is very difficult to identify financial bubbles in advance and that monetary policy, if applied too aggressively, can trigger unintended consequences. This approach is summarized by the premise: *the central bank can't lean, but can clean*. The rationale behind this view rests on three key elements: the difficulty of identifying bubbles, the risks of mistiming monetary policy, and the belief in the effectiveness of instruments aimed at cleaning up after the bust (Bernanke & Gertler, 2001).

1. *The difficulty of identifying bubbles* – Financial bubbles are rarely obvious in real time. They are usually clearly recognized only after they burst, when prices collapse and shock the economy. The problem lies in the absence of a single, universally accepted criterion for measuring "overheating" in the markets. Different indicators, such as the price-to-earnings (P/E) ratio, property price trends, or the pace of credit expansion, may signal potential imbalances, but never with absolute certainty. Hence, monetary policy—by definition broad-based and affecting the entire economy—is an uncertain instrument for targeting bubbles. If a central bank raises interest rates to curb a presumed bubble, there is always the risk that no bubble actually exists and that price increases are fundamentally justified. Such a move could unnecessarily slow down the economy.
2. *Potential adverse effects of monetary measures* – Using restrictive monetary policy preventively may have severe negative effects on the real economy. For example, raising interest rates to contain speculative movements in housing or stock markets also increases borrowing costs for firms and households, reducing investment and consumption. Consequently, economic growth slows down and unemployment may rise. In this way, an attempt to prevent a potential bubble could itself trigger the

very recession central banks aim to avoid. Precisely because of such risks, many economists argue it is preferable to allow a bubble—if it exists—to develop, while central banks prepare to react swiftly and decisively once it bursts.

3. *More effective tools for cleaning up after the bust* – Experience shows that central banks are often more effective when using their traditional instruments to mitigate the aftermath of a bubble. Once a financial crisis materializes, policy rates can be aggressively lowered to stimulate liquidity and lending activity. Central banks can also provide direct liquidity support to banks to prevent panic and systemic collapse. In extreme cases, quantitative easing (QE)—the purchase of government and corporate bonds—can be deployed to further secure stability and support economic growth. In addition to monetary measures, fiscal policy plays a key role. Through public investment, subsidies, or tax incentives, governments can cushion the shock and stimulate aggregate demand. A coordinated mix of monetary and fiscal policy therefore represents the most effective response mechanism to crises triggered by bursting bubbles.

The application of the so-called *clean* approach—focusing on damage control rather than the preventive "pricking" of bubbles—has numerous historical precedents. The Federal Reserve has predominantly pursued this type of policy over the past two decades, repeatedly emphasizing that monetary tightening was applied only in response to potential inflationary implications of rising asset prices, rather than as a reaction to accumulated credit imbalances or increasing systemic exposures (White, 2009). For instance, in the late 1990s, the Fed allowed the dot-com bubble to develop. When it eventually burst, the U.S. central bank responded quickly by cutting interest rates, enabling a relatively rapid economic recovery and averting a deeper recession.

By contrast, Japan's experience in the 1990s illustrates the risks of an excessively restrictive stance. The Bank of Japan chose to aggressively raise interest rates in order to contain rising property and stock prices. The result was prolonged economic stagnation, known as the "lost decade," during which growth was minimal and deflation became a chronic problem.

3.2. Basic Assumptions of the "Lean" Strategy

In contrast to the *clean* strategy, the *lean* approach advocates preventive action by central banks. Unlike the *clean* strategy, which assumes it is better to respond after a bubble bursts and focus on mitigating its consequences, the *lean* approach emphasizes the need for central banks to act proactively. The main idea is that the costs of prevention are lower than the costs of remediation, given that financial crises often result in deep and long-lasting disruptions in the real economy.

This approach gained prominence after the global financial crisis of 2008. At that time, it became evident that although massive fiscal and monetary stimulus packages succeeded in stabilizing economies and preventing an even deeper collapse, the price of such a strategy was the creation of new imbalances, including a dramatic rise in public debt, long-term pressures on budgets, and an increased reliance of markets on central bank support (Borio & Lowe, 2002).

Advocates of the *lean* approach argue that proactive central bank action reduces systemic risk and prevents domino effects in the financial sector. The idea is that it is better to prevent the formation of imbalances that could destabilize the entire economy, rather than allow them to expand unchecked and then attempt to repair consequences that may prove dramatic and enduring. The key arguments for the lean approach are:

1. *Prevention is better than remediation* – The resolution of financial crises often requires massive interventions by central banks and governments, carrying significant fiscal and social costs. Crises usually result in higher unemployment, declining investment, loss of confidence, and weakened productive capacity of the economy. If crises can be addressed preventively, the overall costs of remediation can be multiple times lower.
2. *Systemic risk and the domino effect* – Financial crises rarely remain confined to a single sector. The collapse of one major financial institution can trigger a chain reaction and destabilize the entire system. Preventive measures by central banks—through controlling credit expansion, strengthening oversight, and curbing risky behavior—can significantly reduce the probability of systemic collapse and thereby safeguard the broader economy.
3. *The role of macroprudential measures* – One of the key strengths of the *lean* approach lies in its emphasis on macroprudential policy. Central banks do not necessarily have to rely solely on interest rates, which often

exert broad and unspecific effects. Instead, regulatory and supervisory tools—such as raising capital requirements for banks, restricting riskier forms of lending, introducing countercyclical buffers, or conducting stress tests—enable more targeted and less intrusive interventions (BIS, 2014). In this way, the growth of financial imbalances can be curbed more precisely without jeopardizing broader economic growth.

There are several examples that support the validity of this approach. Canada and Australia are cases of countries that, through stricter banking supervision and macroprudential policies, managed to avoid severe disruptions during the global financial crisis. The European Union, learning from the 2008 experience, developed an institutional framework for coordinating macroprudential policies by establishing the European Systemic Risk Board (ESRB), which centralizes oversight and ensures information-sharing among national regulators (ECB, 2016).

At the global level, the Bank for International Settlements (BIS) has consistently advocated the strategy of *leaning against the wind*, arguing that preventive suppression of bubbles and risky behaviour is the key to long-term stability.

4. New Monetary Framework

Although both approaches have their advantages, there are also serious criticisms. The *clean* approach is often accused of creating moral hazard, as market participants expect central banks to rescue them in case of a crisis, as well as the fact that crisis resolution can entail significant social costs. On the other hand, the lean approach can lead to a premature recession, since restrictive measures introduced at the wrong moment suppress growth (Woodford, 2012). The political economy of decision-making also plays an important role. Governments often prefer short-term growth, while preventive measures by central banks may be politically unpopular. This creates a conflict between long-term stability and short-term political goals (Reinhart & Rogoff, 2009). The following table presents the characteristics of both approaches.

Table 1: Comparative overview of the 'lean' and 'clean' approaches

Aspect	Lean	Clean
Basic idea	Preventive action to stop bubbles from forming.	Reaction only after a bubble bursts.
Main arguments	Prevention costs are lower than resolution costs; reduction of systemic risk.	Difficulty in identifying bubbles; avoiding premature recession.
Instruments	Raising interest rates, macroprudential measures (LTV, DTI, CCyB).	Lowering interest rates, quantitative easing, liquidity support.
Advantages	Reduces the probability of systemic crisis; long-term stability.	Flexibility; lower risk of mistimed intervention.
Disadvantages	May cause premature recession; politically unpopular.	Creates moral hazard; risk of severe and costly crises.
Examples	Canada, Australia, EU (macroprudential framework).	USA (tech bubble in the 1990s), Japan (lost decade).

However, new challenges have necessitated new methods of conducting monetary policy (Fabris, 2025). We believe that monetary policy should have primacy in preventing the outbreak of crises (*lean* approach), even though during expansionary periods this may seem unpopular and unnecessary, as it slows down growth, but experience has shown that the consequences of crises can be many times greater. In other words, the loss of growth today due to monetary tightening is much smaller than the potential loss of growth tomorrow as a result of a crisis outbreak. Essentially, this is the dilemma of a *small loss of growth today versus a large loss of growth in the future*.

In our view, the elements of a new monetary framework should include the following:

1. *A New Mandate for Central Banks* – In addition to their traditional responsibility for maintaining price stability, central banks must also assume explicit responsibility for financial stability. Today, some central banks treat financial stability as a secondary objective, while, to the best of our knowledge, the Central Bank of Montenegro is the only central bank that has established financial stability as its primary mandate. Experience clearly shows that the collapse of the financial system poses a far greater challenge than inflation—except in cases of extremely high inflation.

   To enable central banks to effectively fulfill this task, it is essential that banking supervision, where it has been transferred to independent agencies, be restored to the remit of central banks. Moreover, a Financial Stability Council should be established as a coordinating body bringing together all financial system regulators, chaired by the central bank.

A potential challenge lies in the fact that price stability and financial stability may sometimes appear as conflicting objectives. In the short run, this requires certain trade-offs, but in the long run the two goals are compatible and mutually reinforcing. Whenever doubts arise as to whether priority should be given to controlling inflation or safeguarding financial stability, primacy should be granted to financial stability.

2. *Strengthening the Macroprudential Framework* – Under stable economic and financial conditions, monetary policy should continue to prioritize price stability, whereas macroprudential policy should serve as the first line of defense against the build-up of imbalances in the financial system. The essence of macroprudential policy lies in its countercyclical nature – during expansionary phases, banks should be required to hold higher capital buffers, stricter lending standards should be imposed when risks are rapidly accumulating, and financial institutions should maintain adequate levels of liquid assets on their balance sheets. In this way, the probability of destructive bubbles forming is reduced, and the need for abrupt and potentially painful monetary policy interventions is mitigated, thereby avoiding unnecessary slowdowns in economic activity in the case of minor disturbances.

   Macroprudential policy also enables targeting of specific sectors without necessarily raising interest rates across the entire economy. This allows central banks to reconcile the goal of preserving financial stability with the objective of fostering economic growth. The European Central Bank and the ESRB play a key role in coordinating such policies among EU member states (ECB, 2016).

   Nevertheless, the experience of many countries shows that macroprudential measures, although important, are often insufficient to contain growing imbalances, especially when they become systemic and affect multiple segments of the financial market. In such cases, active monetary policy responses are indispensable—through gradual but determined tightening of financing conditions, i.e., raising policy interest rates. The synchronized action of monetary and macroprudential policy makes it possible to contain risk accumulation in a timely manner, prevent destabilization of the financial system, and preserve a stable framework for long-term sustainable economic growth.

3. *International Coordination and Increased Accountability of Key Central Banks* – The globalization of the financial system and economic activity has meant that economic and financial crises are increasingly less local in nature and increasingly global. The rapid transmission of shocks through international financial flows, trade, and capital movements demonstrates

that no economy, not even the largest, can remain insulated from global disruptions. In this context, international coordination among central banks becomes indispensable in order to safeguard financial stability and prevent crises from spilling over from one country to another. A particular responsibility rests with the major central banks, since their decisions have the most far-reaching consequences for the global financial system. Smaller central banks, on the other hand, operate with far more limited instruments and capacities, and therefore cannot independently cope with global crises or fully mitigate their domestic effects. Cooperation, information sharing, and joint action are thus crucial for maintaining stability in a globalized financial environment.

Timely information exchange is also of critical importance. For instance, had the Federal Reserve warned other central banks in the spring of 2007 about the imbalances developing in the United States, the global financial crisis might have had less severe consequences, triggered earlier monetary policy action, and lasted for a shorter period. Whether existing international institutions such as the IMF and the BIS are sufficient for this coordination, or whether new ones are needed, remains an open question.

4. *Monitoring Imbalances Beyond the Financial System* – While many crises are closely linked to the financial system itself—through overly rapid credit expansion, the weakening of capital and liquidity requirements, or other channels of financial destabilization—it is important to emphasize that crises may also originate outside the financial sector. They can arise, for example, from excessive public borrowing, from geopolitical shocks and armed conflicts, from climate change, energy disruptions, or even natural disasters that seriously disturb economic flows. In such circumstances, it is evident that central banks do not possess the tools to prevent the emergence of such imbalances. However, they are obliged to implement preventive measures aimed at strengthening the resilience of the financial system, improving the regulatory framework, conducting stress tests, and deploying macroprudential policies in order to mitigate the risk of negative spillovers from external shocks onto the domestic financial market and the real economy. In this way, central banks cannot eliminate the root causes of crises originating outside the financial system, but they can significantly mitigate their consequences and preserve stability through a proactive strengthening of financial system resilience.

5. *Incorporating Climate and Geopolitical Risks into the New Monetary Framework* – Contemporary global economic trends show that climate change and geopolitical shocks are becoming increasingly important sources of macro-

economic and financial imbalances. Climate change leads to a greater frequency of natural disasters, energy shocks, and supply chain disruptions, all of which directly affect inflation, production, and financial stability. For this reason, a growing number of central banks are integrating climate stress tests and scenarios into their analyses, developing indicators of the exposure of banks and the real economy to climate risks.

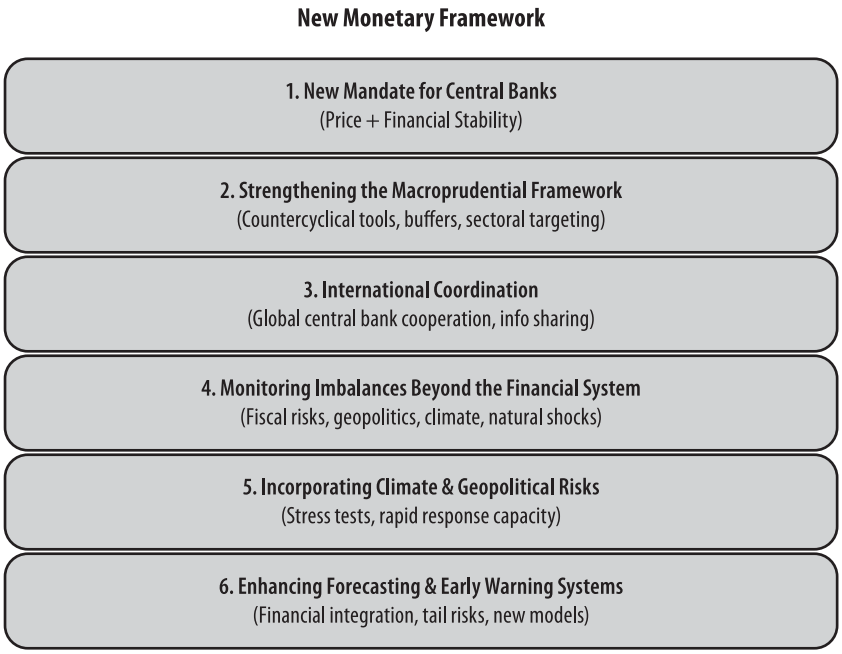
Geopolitical risks, on the other hand—armed conflicts, trade wars, sanctions, and the fragmentation of global markets—exert a powerful transmission effect through energy prices, capital flows, and investment expectations. Central banks must therefore strengthen their capacity to rapidly assess these shocks and adapt their policy responses, since standard macroeconomic models are often insufficiently sensitive to such extraordinary events. The new monetary framework should systematically incorporate the monitoring and integration of climate and geopolitical factors, in order to identify risks in a timely manner that could threaten monetary and financial stability.

6. *Enhancing Forecasting Techniques and Early Warning Systems* – The global financial crisis of 2008 clearly revealed the serious limitations of the then-dominant macroeconomic forecasting models and early warning systems. None of them succeeded in signaling the crisis in advance, underscoring their structural weaknesses. Most models focused narrowly on inflation dynamics and the output gap, while neglecting financial imbalances, asset price developments, and systemic risks. As a result, they conveyed a misleading picture of stability, even as significant risks were accumulating beneath the surface.

   Improvement of existing models is therefore essential in several directions. First, the financial sector must be more strongly integrated into macroeconomic projections, particularly through the monitoring of credit cycles, real estate prices, and sectoral debt levels. Second, models must become more flexible and scenario-based, explicitly incorporating rare but high-impact events (so-called "tail risks"). Third, early warning systems should combine quantitative indicators with qualitative assessments, including data beyond traditional statistical sources—such as market expectations and geopolitical indicators.

   Ultimately, crisis forecasting will never be perfectly precise, but by improving methodology, enhancing data availability, and fostering international experience-sharing, it is possible to significantly reduce the risk of surprises and build more resilient policies capable of responding in a timely manner to the accumulation of imbalances.

This new monetary framework can be illustrated with the following diagram.



5. Conclusion

The "lean vs. clean" debate remains one of the central issues of modern monetary policy and economic theory. Although the clean approach dominated for a long time, relying on the assumption that identifying bubbles with precision is nearly impossible and that central banks should focus exclusively on price stability, the experience of the 2008 global financial crisis unequivocally revealed its profound shortcomings. The costs of "cleaning up" after bubbles burst proved far greater than the benefits gained from policy flexibility.

By contrast, the lean approach advocates preventive action, aiming through tighter monetary policy to reduce the likelihood of sudden and destructive crises. While there is a risk of premature tightening and negative impacts on economic growth, the benefits of this approach lie in preserving the long-term stability of the financial system and reducing the accumulation of imbalances. Experience has shown that ignoring risks can lead to far greater shocks and deeper recessions.

The most realistic and effective path, however, does not lie in a rigid choice between the lean and clean approaches, but rather in their combination within a new framework of monetary and macroprudential policy. Macroprudential measures such as countercyclical capital buffers, stricter lending standards, stress tests, and the monitoring of imbalances can serve as the first line of defense against bubble formation, while monetary policy should remain focused on price stability yet retain prepared to respond should risks escalate.

In addition, the globalization of the financial system requires stronger international coordination among central banks. Crises are no longer local; they spread rapidly across borders, and the measures of individual smaller economies are often insufficient to prevent or mitigate them. Large central banks, such as the Federal Reserve and the European Central Bank, bear a particular responsibility, given their policies have global implications. At the same time, smaller central banks must strengthen the resilience of their systems while also building mechanisms for cooperation and information exchange.

Finally, improving forecasting models and early warning systems is a crucial component of crisis prevention. The traditional models, which focused narrowly on inflation and the output gap, failed to predict the 2008 crisis. New approaches must integrate the financial sector, credit cycles, and asset prices, as well as scenarios incorporating rare but highly disruptive events. Integrating quantitative and qualitative indicators, including geopolitical and climate risks, can significantly enhance the system`s capacity to identify potential shocks in a timely manner.

These considerations point to the fact that modern monetary policy can no longer be one-dimensional and exclusively oriented toward price stability. A contemporary framework requires an integrated approach that combines prevention, timely response, international cooperation, and improved forecasting models. Only in this way is it possible to preserve stability and reduce the likelihood of repeating deep and devastating financial crises in the future.

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