The Mayekawa Lecture:
The Way to Stability and Growth in the World Economy

by John B. Taylor

I. Introduction

The establishment of this lecture series was originally the outcome of discussions which led to my selection as the inaugural lecturer. My address, "The Way Back to Stability and Growth in the Global Economy" (Taylor [2008]), occurred at a fragile moment for the economies of the world. How fragile it was, we would not know until a few months later.

A major concern at that conference, however, reflected in my speech, was not so much potential deflation (a problem on which Japan finally seemed to be making some progress), but inflation. The year 2008 was characterized by sharp global increases in energy and food prices, the latter leading to social unrest in many poorer countries, some of which enacted food export restrictions. The price of a barrel of Brent crude reached nearly $150 in July 2008.

The IMF would soon echo inflation concerns saying that "The global economy is in a tough spot, caught between sharply slowing demand in many advanced economies and rising inflation everywhere, notably in emerging and developing economies." In this respect, it echoes the findings of Obstfeld (2013) in the Mayekawa Lecture at the 2023 BOJ-IMES Conference, Tokyo, Japan, May 31–June 1, 2023. It also goes back even further to Taylor (1988) which was prepared while I was a visiting scholar at the Bank of Japan.

The Mayekawa Lecture listed the major problems that I identified and drew parallels with events during Governor Mayekawa's eventful tenure (1979–84). While noting the important difference in economic vantage points between the late 1970s or early 1980s and 2008, I stressed the importance of a comprehensive "Mayekawan" approach to research and policy when considering the numerous economic difficulties. The difficulties I listed were:

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(1) high and rising global inflation,
(2) financial instability and risks,
(3) high and rising prices of energy, food, and many other commodities,
(4) continuing high current account imbalances,
(5) globally inconsistent exchange rate policies, and
(6) rising protectionism and isolationist sentiment.

As Mayekawa stressed many years ago, it was a challenge for policymakers to adopt a more comprehensive international policy focus that recognized the important interaction of these economic problems simultaneously, instead of approaching them separately.

All six of these concerns resonate strongly—once again—in today's economic, political, and geopolitical conjuncture, and I would suggest that the holistic Mayekawan approach remains badly needed to find the best policy paths going forward. I endeavor to explain this in my lecture today by focusing on a series of charts and tables.

II. Taylor Rule and Behind the Curve

Let me begin with the following figure based on data for the Bank of Japan as shown in Figure 1. It shows the "Call Money Rate" for Japan. In particular, Figure 1 shows the interbank interest rate for Japan for the ten-year period from early 2014 to early 2024. It clearly demonstrates the very easy policy of the Bank of Japan during this period. It was not until recently that the call money rate rose, and this was still at very low levels. Clearly the rate would have to rise further to be in the neighborhood of 2 percent and thus to be consistent with interest rates globally.

The next figure (Figure 2) shows the interest rate as it would be set by the Federal Reserve System. Various rules are shown, and all the rates are well above the rate shown on Figure 1 for Japan. In early 2024, the rate was above 5 percent, which is well above the interest rate set by the Bank of Japan.

To see the actual interest rate, please take a look at Figure 3. It shows the actual Federal Funds Rate set by the Federal Reserve Board from early 2022 through early 2024. It is clear that the Federal Reserve decided that its monetary policy was behind the curve, and it had to catch up. It went from near zero to over 5 percentage points.

The chart in Figure 3 going forward comes from the following equations for the federal funds rate, which is denoted as r in Figure 4, where the inflation rate is p, and the real GDP gap is y. If one plugs in the variables into the equations, one gets values as in Figure 4.

To get a better sense of how far off the Federal Reserve was from the basic rules, and the possible damage that is caused by the deviation, take a look at Figure 5 and Figure 6. Figure 5 shows the Federal Funds Target Range. Figure 6 shows the actual deviations. Clearly the actual rate was too low according to the Taylor rule starting in early 2021, and it had not come close to catching up until 2023. It was during this period that inflation started to go way above the Federal Reserve's own target of 2 percent. This is very obvious in Figure 7. Also, the impact on the unemployment rate,

shown in Figure 8, is very clear.

III. Concluding Remarks

These charts and the associated remarks about the charts have shown that the Federal Reserve got well behind the curve based on a rules-based monetary policy in the United States. This occurred at the same time that the Bank of Japan got behind the curve, though with a longer lag in the case of Japan. The paper has also outlined a method to get back.

By reviewing the years leading up to the present monetary situation, it provides the background needed for analyzing current and future monetary policy decisions. Using actual data, it also points to high inflation data from other parts of the world with a special emphasis on countries in South America which is close to the United States. As shown in Figure 9, countries in South America such as Brazil, Columbia, Chile, Mexico and Peru have had very high inflation. And the same is true for many other regions of the world. Inflation has become a global issue.

The answer to the key question "Are We Entering a New Era of High Inflation?" is clearly "yes," unless monetary policy makers continue to adjust policy. There are now more reasons than ever for central banks to use a more rules-based policy. Central banks should start now with policy rules that markets understand. The policy interest rate would increase as inflation rises, as has already begun to happen in the United States. It would of course be a contingency plan, as are all rules. This would greatly reduce the chance of a large damaging change later.

Figure 1 Call Money Rate—Japan
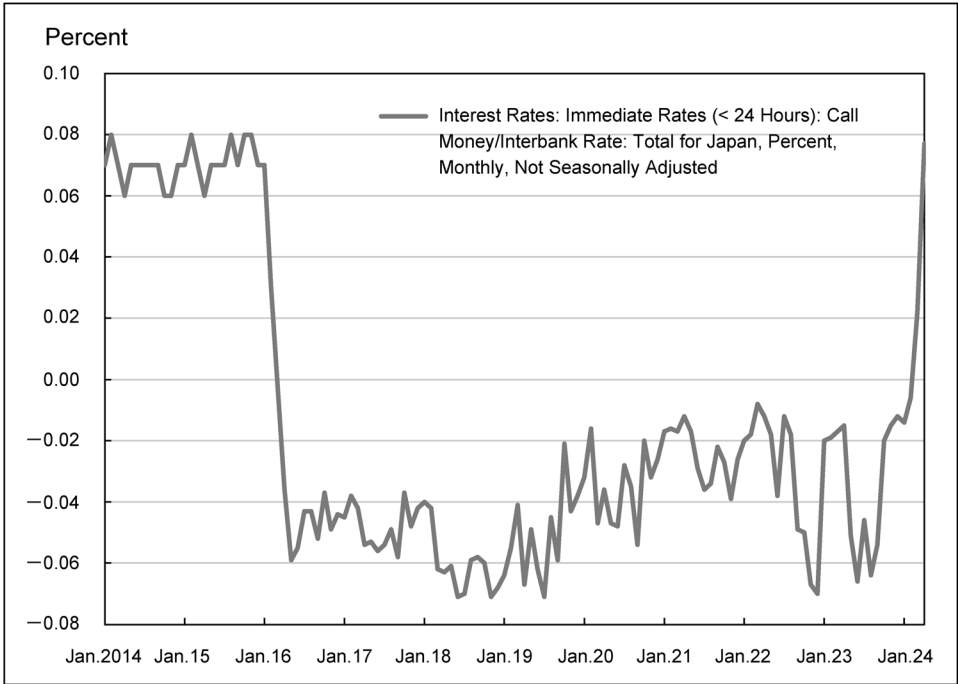
Source: Federal Reserve Bank of St. Louis, *Federal Reserve Economic Data*.

Figure 2 Monetary Policy Rules as Reported in the Federal Reserve Report

Taylor (1993) rule	$R_t^{T93} = r_t^{LR} + \pi_t + 0.5(\pi_t - \pi^{LR}) + (u_t^{LR} - u_t)$
Balanced-approach rule	$R_t^{BA} = r_t^{LR} + \pi_t + 0.5(\pi_t - \pi^{LR}) + 2(u_t^{LR} - u_t)$
Balanced-approach (shortfalls) rule	$R_t^{BAS} = r_t^{LR} + \pi_t + 0.5(\pi_t - \pi^{LR}) + 2min[(u_t^{LR} - u_t), 0]$
Adjusted Taylor (1993) rule	$R_t^{T93adj} = max[R_t^{T93} - Z_t, \text{ELB}]$
First-difference rule	$R_t^{FD} = R_{t-1} + 0.5(\pi_t - \pi^{LR}) + (u_t^{LR} - u_t) - (u_{t-4}^{LR} - u_{t-4})$

Note: $R_t^{T93}, R_t^{BA}, R_t^{BAS}, R_t^{T93adj}$, and R_t^{FD} represent the values of the nominal federal funds rate prescribed by the Taylor (1993), balanced-approach, balanced-approach (shortfalls), adjusted Taylor (1993), and first-difference rules, respectively.
R_{t-1} denotes the midpoint of the target range for the federal funds rate for quarter $t-1$, u_t is the unemployment rate in quarter t, and r_t^{LR} is the level of the neutral real federal funds rate in the longer run that is expected to be consistent with sustaining maximum employment and inflation at the FOMC's 2 percent longer-run objective, represented by π^{LR}. π_t denotes the realized four-quarter price inflation for quarter t. In addition, u_t^{LR} is the rate of unemployment expected in the longer run. Z_t is the cumulative sum of past deviations of the federal funds rate from the prescriptions of the Taylor (1993) rule when that rule prescribes setting the federal funds rate below an effective lower bound of 12.5 basis points.
The Taylor (1993) rule and other policy rules generally respond to the deviation of real output from its full capacity level. In these equations, the output gap has been replaced with the gap between the rate of unemployment in the longer run and its actual level (using a relationship known as Okun's law) to represent the rules in terms of the unemployment rate. The rules are implemented as responding to core PCE inflation rather than to headline PCE inflation because current and near-term core inflation rates tend to outperform headline inflation rates as predictors of the medium-term behavior of headline inflation.
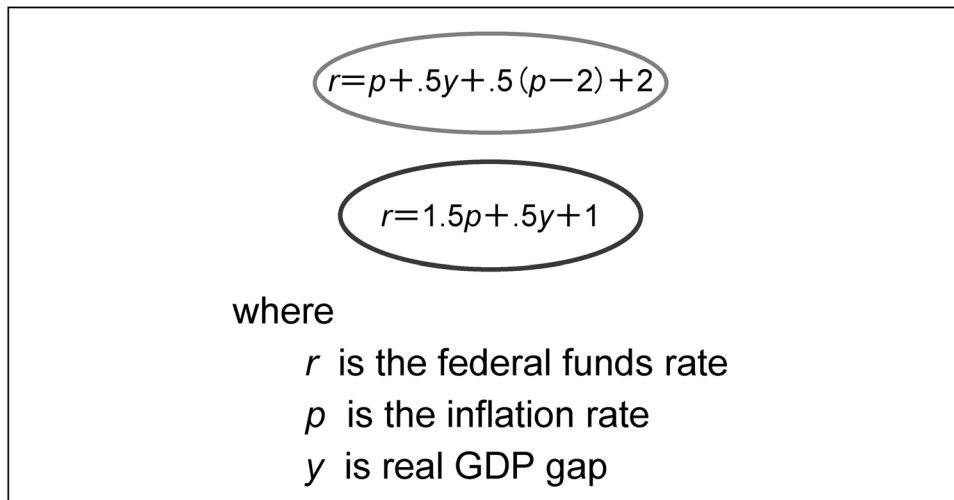
Source: Board of Governors of the Federal Reserve System (2024)

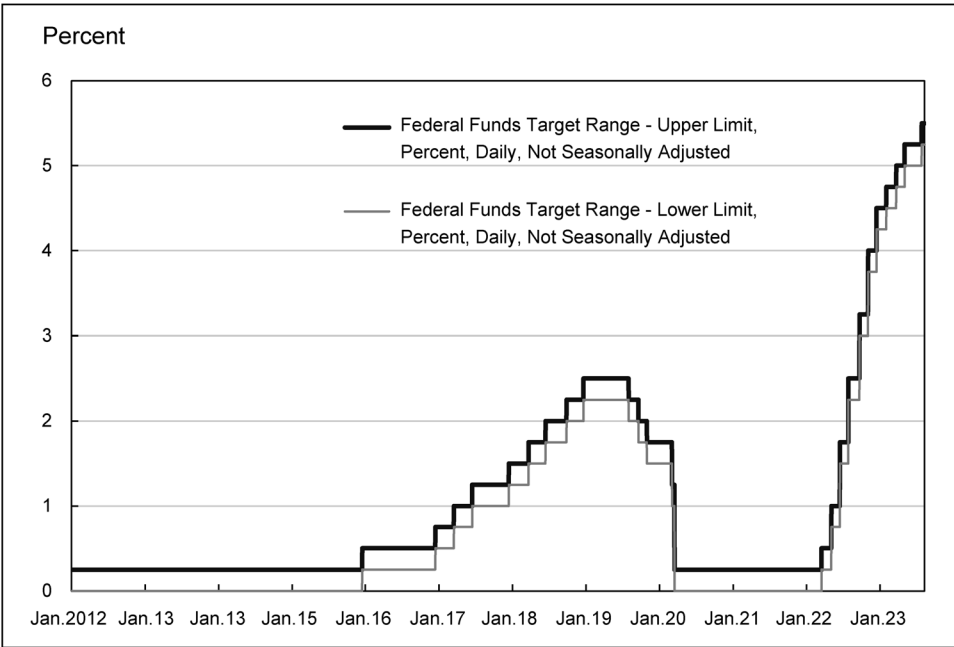**Figure 3   The Federal Funds Effective Rate**
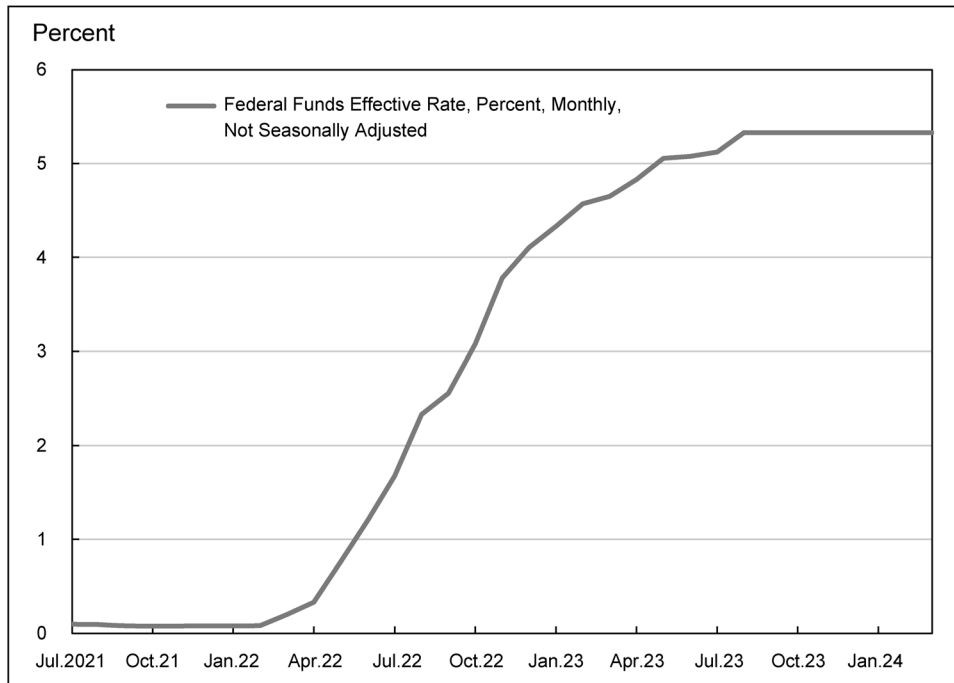
Source: Federal Reserve Bank of St. Louis, *Federal Reserve Economic Data*.
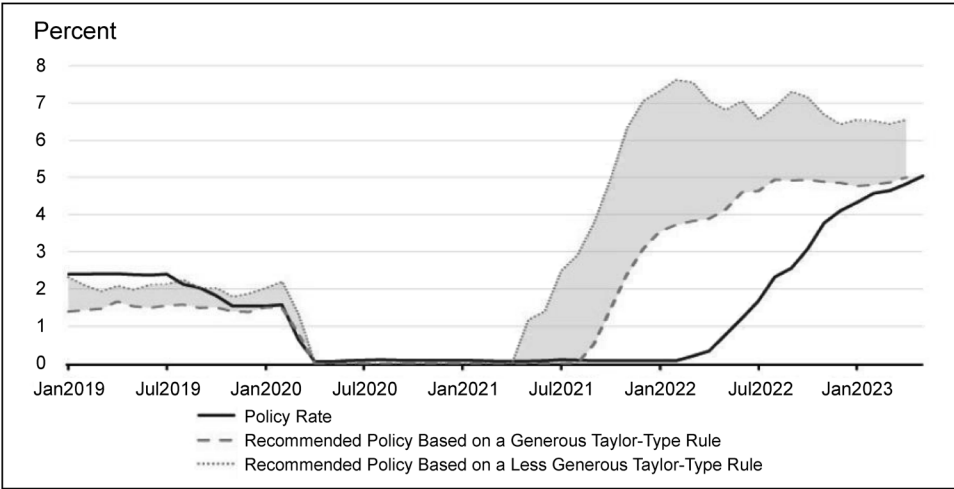
Figure 4   A Simple Version of the Taylor rule

$$r = p + .5y + .5(p-2) + 2$$

$$r = 1.5p + .5y + 1$$

where
  r is the federal funds rate
  p is the inflation rate
  y is real GDP gap

Source: Taylor (1993)
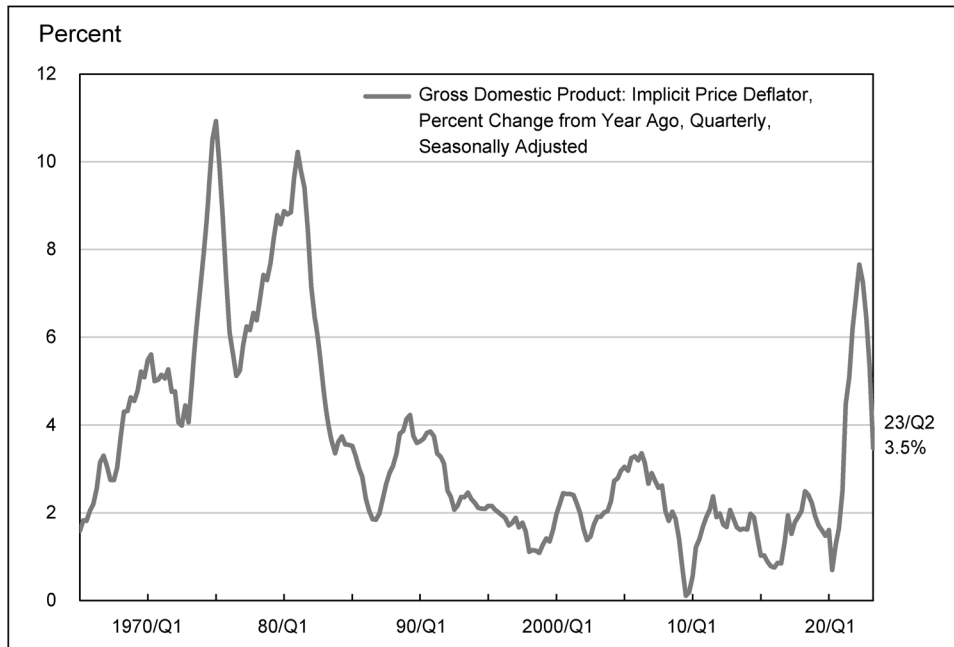
Figure 5   Federal Funds Target Range

Source: Federal Reserve Bank of St. Louis, *Federal Reserve Economic Data*.

Figure 6   Actual Policy Rate and Policy Rate Recommendations from Taylor-Type Rules in US
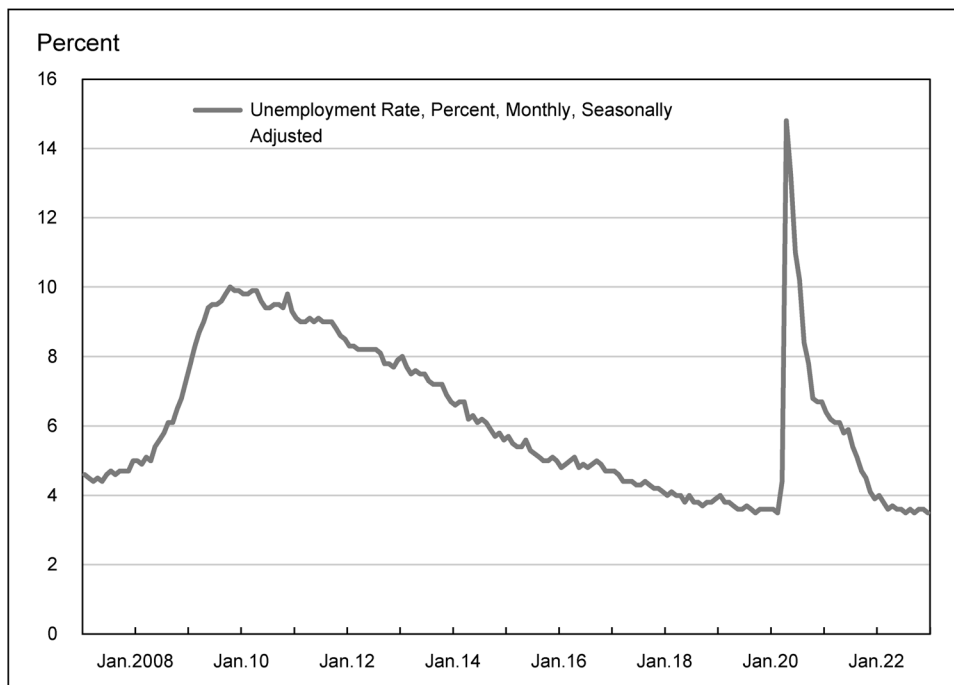

Source: Bullard (2023)

Figure 7   The Inflation Rate in US
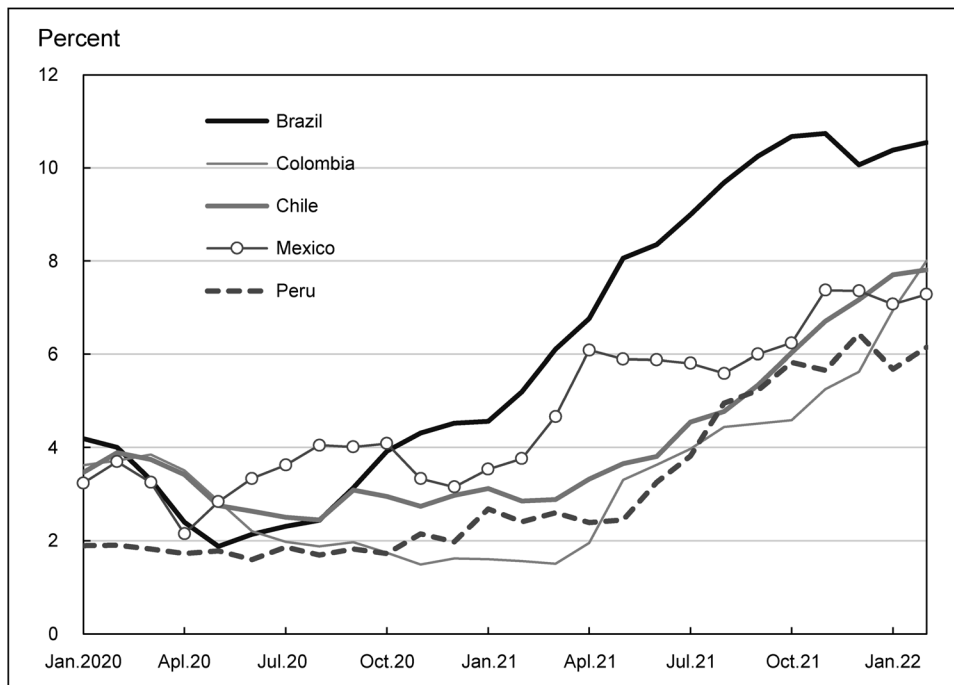

Source: Federal Reserve Bank of St. Louis, *Federal Reserve Economic Data*.

Figure 8   The Unemployment Rate in US

Source: Federal Reserve Bank of St. Louis, *Federal Reserve Economic Data*.

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Figure 9   Inflation Rate in Latin America from January 2020 to January 2022

Note: Peru refers to Lima
Source: Haver Analytics

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