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### **Adopting an Alternative Monetary Policy Framework<sup>1</sup>**

We believe that the recovery is proceeding, but at a disappointingly slow pace. Indeed, the incoming news during the past few months has prompted substantial downgrades in staff forecasts for economic growth; moreover, downside risks have increased substantially. Under these circumstances, the Committee may wish to examine possible ways to deliver additional monetary stimulus, such as introducing a new framework for setting policy. Examples of the type of framework that we have in mind include but are not limited to announcing an intermediate target for the level of prices or an intermediate target for the level or growth of nominal income. Taking such a step could provide a focal point for private expectations, allowing the Committee to influence those expectations in a way that would facilitate macroeconomic stability.

To presage the conclusion, we will argue that the adoption of the *level* of nominal income or prices as the intermediate target of policy would stand the best chance of success. By promising to make up for past undershooting of nominal income growth or price inflation, such a framework affords the possibility of stimulating current economic activity by boosting expected inflation and reducing real long-term interest rates. This strategy has considerably more appeal than intermediate targets that focus on the *growth* rates of these variables. Moreover, we see a target for the level of nominal income target, whether implemented permanently or as a transition to a well-specified long-term framework, as a somewhat more attractive option than a price-level target. However, implementing a change in the policy framework would present several noteworthy challenges, such as ensuring that any associated commitment on the part of the Committee in the future would be deemed credible by the public, particularly under present circumstances.

*What are the key characteristics of a monetary policy regime?*<sup>2</sup>

For our purposes, a regime can be thought of as comprising several ingredients. The first and most fundamental are the long-term *objectives*. Throughout this memo, we assume that the long-term objectives of policy remain as they have been: the fulfillment of the dual mandate of “price stability,” taken to be inflation of two percent or a bit below, and “full employment.”<sup>3</sup> In formal

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<sup>2</sup>A *regime*, as we use the term here, is a narrower and more restrictive concept than a *framework*. The latter need not include an intermediate target, a formal set of indicators known to the public or commitment devices, for example. Consistent with this definition, the Committee currently does have a framework—with the dual mandate pinning down long-term objectives, plus a communications strategy. Arguably, the prescriptions of a selection of inertial Taylor-type rules serve as indicators. Whether the current framework constitutes a regime, by our metric, depends on whether one can take the central tendency of the Committee’s forecast as an intermediate target.

<sup>3</sup>At this point, we skirt over numerous technical issues that the Committee would have to concern itself with, including the extent to which the definition of “price stability” would vary with the price index that was chosen as

treatments, these mandates can usefully be thought of as two arguments that would appear in a quadratic loss function, namely, the output gap and the gap between inflation and its desired level.<sup>4</sup> The second ingredient of a monetary policy regime—and the one that is the focus of this memo—is an *intermediate target*, which would differ depending on the regime selected. It should be clear that the intermediate target can differ—and indeed generally does differ—from the long-term objectives of policy, although the former must be chosen with the latter in mind. Third, there is one or more policy *instruments* selected for the tactical implementation of policy. As the name suggests, the intermediate target lies between the short-term, tactical manipulation of policy instruments and the ultimate achievement of long-term objectives; thus, the intermediate target should be thought of as the means to an end, rather than an end in itself. Fourth, a regime would have some *indicators* used to assess the stance of policy and as criteria for judging the progress of the policy regime in achieving its goals. Fifth, there could be one or more *commitment devices* used to constrain policy discretion and manage private agents’ expectations. And finally there is a *communications strategy* built on a foundation of transparency and accountability to convey policymakers’ intentions to the public and guide beliefs over time.

The success of any policy rests heavily on the *credibility* of the regime. Credibility, and the related idea of *time consistency* of the long-term plan for monetary policy, can be thought of as the product of the *perceived willingness* of the policymaker to carry out the policies implied by the regime and the *perceived ability* of the policies to achieve the desired objectives; if either is zero, the policy change will not be credible. Policy announcements can be made more credible through the use of *commitment devices* that make the perceived cost of not following through with the announcement greater than the cost of proceeding as promised. In addition, the credibility of a newly announced policy can be enhanced by public demonstrations of a solid consensus on the Committee—particularly if the Committee shows it understands and accepts the likely costs of sustaining the regime over time—and, conceivably, on support in Congress. Commitment can also be reinforced through building a reputation through time. The process of securing a favorable reputation can be facilitated by public *accountability* of policies; that is, the demonstration of success by some specific criteria. Indeed, over time, the communications of the Chairman, and the Committee more broadly, because they put reputations on the line, are perhaps the most reliable commitment device of all.

*What are the main economic arguments for adopting a new framework?*

The current policy framework has focused on a communications strategy to shape the public’s expectations about the future course of monetary policy. Policy is often characterized by outside observers as broadly following the prescriptions of a simple Taylor-type policy rule. Roughly speaking, policy rates appear to respond mainly to forecasts of inflation and unemployment, but much less to past inflation.

the target variable, if applicable, as well as how to define “full employment” and how to communicate the meaning of that definition to the public under circumstances where the definition may evolve over time.

<sup>4</sup> Another argument that often appears in the loss functions that are typically used to formalize monetary policy regimes with macroeconomic models is a penalty on either the change in the federal funds rate or the deviation of the level of the funds rate from its “neutral” level. Arguments of this nature can be justified either as goals in their own right, or as hedges against model uncertainty because policy exercises without such a penalty normally prescribe policy rate settings that vary wildly across a extreme range of values.

The introduction of an intermediate target may be desirable insofar as it can provide greater clarity about the future conduct of policy, and hence enhance the ability to operate through an expectations channel. Even if policy is reasonably well approximated historically by a Taylor rule, the private sector may doubt whether such a rule can be relied upon to gauge future policy – particularly when target variables are well away from their desired values. Moreover, an intermediate target can serve an internal purpose by providing a coherent framework for the Committee to discuss policy decisions and evaluate progress. The current framework achieves some of these benefits, as evidenced by the stability of long-run inflation expectations during the downturn, but there may be scope for considerable improvement.

Policies that target nominal income or the price level are appealing because they perform well in achieving policy objectives consistent with the Federal Reserve’s dual mandate. In particular, the academic literature suggests that such policies may provide a good approximation to optimal policy under the assumption that policymakers minimize fluctuations in the output gap, and of inflation around a mandate-consistent target rate. Moreover, research suggests that intermediate targets which focus on stabilizing the *level* of nominal income or prices can perform much better than intermediate targets that focus on the *growth* rates of these variables, or than a Taylor-type rule that puts little weight on past inflation.

To understand these potential benefits, consider the following example. Let’s assume that the FOMC announces an intermediate target,  $T^*$ , which could either be a path for the (the log of the) price level,  $p^*$ , or nominal income,  $yn^* = p^* + y^*$ , where  $y^*$  is (the log of) the desired level of output. For illustrative purposes, let’s also assume that if the FOMC chooses price level targeting, its sets  $p^*$  to rise 2 percent per year; if it chooses nominal GDP targeting,  $yn^*$  is set to rise at 4½ percent per annum—a rate consistent with long-run inflation of 2 percent per year and potential GDP growth of 2½ percent. The target path also requires setting an initial condition or starting point. For convenience, we use late 2007 (the peak of the previous business cycle) as the starting point for both  $p^*$  and  $yn^*$ .<sup>5</sup>

The upper left panel of figure 1 shows the path of the nominal income target under these assumptions. Currently, the gap between estimated nominal income and its target level is nearly 11 percent, which implies that achieving the target within a relevant timeframe would necessarily involve fairly rapid growth in nominal income in the years ahead.<sup>6</sup> For example, achieving the target in about five years—as depicted in the figure—would require nominal income rising 6½ percent per year on average, or 2 percentage points above the growth rate of the intermediate target. The right-hand panel of figure 1 shows the implications of a price-level target. The price-level gap in 2011:Q2 is a modest 1½ percent; nevertheless, the inflation rate needed to close the price-level gap exceeds 2½ percent—or about ½ percentage point above the mandate-consistent rate—to reach the target over a four year horizon. Of course, the time required to

<sup>5</sup> It is quite possible that the financial crisis has reduced potential output, at least temporarily. This possibility points to an issue in establishing and updating a target path for nominal income, namely, when and how to respond to perceived changes in potential output. One of the virtues of targeting nominal income is its relative robustness to fluctuations in productivity. Nevertheless, policymakers would, presumably, like to change the path of  $yn^*$  when the evidence of a shift in potential is sufficiently convincing. Changing the target too frequently runs the risk of undermining the credibility of the regime.

<sup>6</sup> To the extent that the target was adjusted downward to reflect lower potential output growth during the financial crisis, the gap between actual nominal income and the target would be reduced, but would probably still exceed 10 percent based on reasonable adjustments.

actually hit the target could be longer, particularly for the nominal income target. Nevertheless, if private agents are confident that the announced target will be met eventually, then a necessary implication of such a strategy is that the FOMC will pursue some combination of elevated inflation and real growth for a time in the future.

How might policymakers implement this sort of strategy in order to achieve convergence to the announced target? In the case of nominal income targeting, the strategy would require policymakers to commit to adjusting its instruments to eventually eliminate the gap between actual nominal demand  $T$  and the intermediate target  $T^*$ . (In practice, the gap would be eliminated *in expectation*, meaning that the *forecast* of demand, conditional on appropriate policies, would achieve the target. In reality, shocks would accelerate or delay this outcome). In the context of the current economic situation, in which  $T$  is well below  $T^*$ , this commitment would translate into a pledge to keep policy rates low and the balance sheet large in the future in order to achieve the rapid demand growth required to hit the target. As emphasized in the literature, a credible commitment to keep policy rates low even as expected inflation rises above its desired level reduces long-term real interest rates upon announcement of the policy, imparting a boost to output growth even in the near term. By contrast, under the current framework, the FOMC does not promise to completely make up all shortfalls in nominal demand. In particular, the Committee does not attempt to balance any past undershooting of its desired rate of inflation with an offsetting period of above-target inflation. Accordingly, private agents under the current framework should expect real interest rates to increase more sharply as the economy recovers than would be the case under price level targeting or nominal GDP targeting.

It is useful to illustrate how a level target that makes up for past price-level declines can improve on a policy that does not, at least when past shortfalls are substantial. To do so, we use a highly stylized three-equation New Keynesian model to contrast the path of an economy buffeted by adverse shocks under two frameworks—one in which monetary policy targets the *level* of nominal income, and one in which policy follows a simple Taylor rule that depends only on current inflation and the output gap.<sup>7</sup> In figure 2, a sharp and persistent decline in aggregate demand is assumed to push policy rates to zero (lower left panel) under either policy rule. Under the Taylor rule, inflation and the output gap gradually revert to baseline as the economy recovers. By contrast, inflation overshoots its desired level of 2 percent under the nominal income target, which reduces real interest rates considerably (lower right panel) relative to the Taylor rule, and cushions the output decline. The expectations channel allows markedly different channels for inflation and output under the two simulations, even though the nominal policy rates are nearly identical.

From a tactical perspective, the level targeting framework entails a *forward commitment* to adjust policy rates to achieve the target, even when this framework would require keeping policy rates near zero even as nominal demand grew rapidly (in which case policymakers would raise interest rates in the absence of the commitment). This strategy differs markedly from simply offering *forward guidance* under a standard framework. In the latter case, policymakers

<sup>7</sup> Clearly, these simulation results should be interpreted with caution. For example, the stylized characterization of the Taylor rule lets “bygones be bygones” to a greater degree than implied by estimated Taylor rules would suggest.

communicate expectations about the future path of policy rates, but would raise interest rates if nominal demand surged.

In the model simulations, the ability of an intermediate target to cushion the impact of adverse shocks depends, first and foremost, on the public viewing the FOMC's commitment to the target as highly credible. But commitment to a level target may easily be doubted: benefits are entirely front-loaded, while costs are incurred late, at least to the extent that the private sector believes that the Committee cares mainly about keeping inflation and output near-target, and puts much less weight on price level stability.<sup>8</sup> It is quite plausible that the private sector would believe that future Committees would raise rates more quickly than originally promised in the face of rapid growth in aggregate nominal spending, especially if such growth led to inflation rising above policymakers' desired rate; or at a minimum, such a situation could make it difficult to maintain a consensus. If the commitment problem is severe enough, then expectations will not adjust completely to the change in policy framework, thereby reducing the benefit of making the change.

The benefits of these sorts of expectational effects are especially important during periods like the current one when the zero lower bound is binding. However, the success of a new regime is likely to depend in important ways on whether policymakers envision it as a temporary expedient or as a permanent change in the policy framework, as those considerations may influence its credibility with the public. Moreover, to have any prospect of delivering large effects, a new framework must be a substantial departure from the old. If the FOMC chose not to target the level of prices or nominal GDP, but instead decided to implement a formal inflation targeting regime with a 2 percent objective, that change would be unlikely to produce substantial expectational effects because the new regime would not be greatly different from that already in place. Similarly, if the Committee were to adopt a price-level target and key the target path off the 2007:Q4 level as portrayed in figure 1 above, the resulting price-level gap of 1½ percent might be too small to achieve significant benefits; it might be better in this context to choose a different target path that admitted a larger initial gap.

We would be remiss if we did not mention several other caveats to the economic argument outlined above. First, the ability of a new policy framework (particularly some form of level targeting) to deliver lower long-term real interest rates depends critically on bond yields and inflation expectations adjusting in the rational, anticipatory manner discussed above. Clearly, the benefits would be smaller to the extent that actual and expected inflation exhibit less forward-looking behavior. Second, the stimulative effects on output and inflation of such policies would be smaller to the extent aggregate demand is relatively insensitive to movements in long-term real interest rates. In particular, the interest sensitivity of the economy may be noticeably lower when economic conditions are especially weak, perhaps reflecting more severe collateral constraints for both firms and households. Finally, as we emphasize below, strategies involving forward commitment may not provide a material stimulus to aggregate demand in the absence of direct and tangible actions in support of the commitment, because such actions may be necessary to the credibility of the program.

<sup>8</sup> This is an example of the time inconsistency problem. To the extent that it bears on policy decisions, time inconsistency undermines the error-correction property of level goals described above.

*What about other intermediate targets?*

In principle, policymakers could consider a wide spectrum of possible intermediate targets, ranging from monetary aggregates to exchange rates, equity prices, commodities, credit aggregates, house prices, aggregate price indexes, and nominal income. And targets for each of these could be specified either in levels or in growth rates.

The desirability of a particular intermediate target depends on whether it is a useful means of achieving ultimate policy objectives. In evaluating whether a target is useful, one major consideration involves assessing whether achievement of the target would be likely to translate into success in realizing policy objectives. Thus, assuming that monetary policy could hit its intermediate target exactly, how well would doing so advance the FOMC's ultimate goals of achieving price stability and maximum sustainable employment? A second important consideration is the degree to which policymakers can control their target given their available instruments.

Using stock prices, the exchange rate, or some other asset price as an intermediate target would not seem likely to advance the Federal Reserve's objectives under the dual mandate particularly well, even assuming that policymakers had the ability to successfully target particular asset prices directly. First, the appropriate choice of target path for any asset price would depend on distinguishing fundamental from non-fundamental movements in prices, a famously difficult task.<sup>9</sup> Accordingly, policymakers would find it difficult to judge how much inflation would likely be created, and over what horizon. Second, a program of this nature, maintained over an extended period, could entail a balance sheet expansion of indeterminate size, as well as possibly large effects on the relative prices of targeted and other assets. Third, achieving the target could prove infeasible, given that the Federal Reserve is legally prohibited from (directly) buying many types of assets. Finally, serious political consequences might emerge from such a strategy.

*What are the merits of a permanent increase in the target rate of inflation?*

Given the challenges documented above in establishing and maintaining a commitment to a level target, the question naturally emerges of how much benefit one could accrue from a simpler change, namely a permanent increase in the target rate of inflation. After all, some have argued that the most straightforward way to mitigate the effects of the ZLB is to announce a higher target inflation rate. Moreover, Committee participants might find it easier to achieve consensus about raising the long-run inflation objective than specifying a level target, if the latter was seen as potentially allowing an unacceptably large burst in inflation. However, such a choice would imply forgoing some of the benefits that anticipated higher inflation might yield in terms of lower long-term real interest rates. Moreover, for a (credible) increase in the inflation target to provide substantial expectational benefits, the Committee might need to set it at a relatively high level—say, 4 percent, rather than the 2 percent (or a bit less) currently favored by most

<sup>9</sup> To take one concrete example, one could target the exchange rate but the optimal response to exchange rate fluctuations would depend in material ways on whether the exchange rate is moving because of a persistent productivity shock in some country or industry, or because of a transitory shift in portfolio asset preferences, or some other reason. A change in the incidence of one type of shock versus the others would change how, and how well, hitting the intermediate target translates into achieving the longer-run objective.

participants. In addition, ensuring the credibility of a new, higher target could be difficult; after all, what assurances would the public have that the FOMC would not change the target later when it was expedient to do so?<sup>10</sup> And, there remains the problem that an inflation target, regardless of the target rate, would be regarded by some as inconsistent with the dual mandate's requirement that the Federal Reserve pursue "price stability."

*What are the relative merits of targeting the level of nominal income and the price level?*

Our previous discussion emphasized that a level targeting framework—whether defined in terms of prices or nominal income—is potentially appealing when policy is constrained by the ZLB, as long as the commitment to maintain a highly accommodative policy stance in the recovery phase is credible, and asset pricing and inflation determination is sufficiently forward-looking. Moreover, a level target could be useful as a communications tool to help clarify the conditions under which policy rates are to remain low.

Even abstracting from ZLB considerations, level targets have a number of desirable features that might make policymakers give them serious consideration as a permanent feature of the monetary policy framework. First, a price level or nominal income target may be useful in cushioning the impact of supply shocks: Because the public believes that any rise in prices due to a relative price shock will eventually be reversed (reflecting the stationarity of the price level around its deterministic trend), the impact on current inflation may be reduced. Second, the greater stability of the long-run price level tends to limit unexpected wealth transfers between debtors and creditors, which may lead to lower inflation risk premiums, and provide a more stable backdrop for long-term financial planning. Finally, the increased clarity provided by an intermediate target may facilitate communication about current and future policy rates even in normal times. However, notwithstanding some important similarities between nominal income targeting and price level targeting, there are also some major differences, and each approach has its pros and cons.

There are several potentially attractive features of a *nominal income target*. First, it would be easier to describe in terms of the dual mandate, because it incorporates both the price level and the level of real activity. Second, when evaluated across an array of policy models, a nominal income target tends to perform reasonably well in terms of its implications for the variability of output and inflation—when the economy is buffeted by adverse supply shocks. Third, in the context of the current situation, a nominal income target might be seen as likely to have some advantage in reinforcing market perceptions about the strength of the Committee's desire to keep interest rates low for an extended period to support the recovery. In addition, a nominal-income policy might allay concerns that an adverse supply shock at this juncture could prompt a tightening in policy, because such shocks push prices and real output in opposite directions, leaving nominal GDP relatively unaffected. Finally, as noted in our discussion of figure 1, the gap between actual and target nominal income might be on the order of 10 to 15 percent currently. Thus, nominal income targeting would seem to have the potential to exert a

<sup>10</sup> To the best of our knowledge, only once has an inflation targeting country raised its target without also changing the targeted variable. That was New Zealand in 1997 when that country widened its bands from 0-to-2 percent to 0-to-3 percent. New Zealand went on to experience poor economic performance for a time, albeit for reasons having nothing to do with the change in target.

more sizeable quantitative effect on the expected path of real interest rates than a price level target.

One drawback of a nominal income target is that it may be more difficult to describe to the public than a price level target, and possibly more difficult to monitor to the extent that revisions to nominal GDP are relatively larger than price revisions. A second important risk of a nominal income target is that it could lead to sizeable inflation pressures if the public believed that the Federal Reserve's nominal income target incorporated an unrealistically high assessment of potential output growth. This risk could be regarded as particularly severe in the context of the ZLB, as policymakers could well be concerned that the boom phase might be associated with unacceptably high inflation. In this situation, the public's perception of a substantial chance that policymakers would renege in the face of high inflation would undermine confidence in the nominal income target. Alternatively, the public might be concerned that the Federal Reserve was not sufficiently wary about the risk that the policy could lead to an unanchoring of long-run inflation expectations, or perhaps even perceive that nominal income targeting was a "smokescreen" for boosting inflation.

One advantage of a *price level target* is that it would seem relatively straightforward to describe how it worked to the public, at least assuming a conventional measure of prices was targeted. Another appealing feature of a price-level target is that the upside risk to inflation in the boom phase would be considerably lower than under nominal income targeting, at least under plausible assumptions about a target price path (recalling that the price level in figure 1 is within 5 percent of its target).

A price level target has significant shortcomings. First, it might be more difficult to persuade the public and the Congress that such a rule is consistent with the dual mandate. Second, although price level targeting would probably mitigate the impact of commodity price shocks on inflation, supply shocks could still have an adverse influence on the public's expectations about monetary policy, and in determining the path of recovery. The implications of relative price shocks could be particularly troubling if inflation expectations did not adjust in a way that minimizes the initial impact on the price level, and if inflation was relatively insensitive to the output gap (i.e., the slope of the Phillips Curve was low). Indeed, under a price-level target, policy makers could be compelled to tighten even under conditions of very weak aggregate demand.

On balance, our sense is that the adoption of a nominal income target has a reasonable chance of success in facilitating a stronger economic recovery, and in mitigating the effect of any additional adverse shocks, so long as it is communicated successfully to the public. In particular, given the gap between current nominal income and a plausible target path in the current environment, a credible implementation of a nominal income targeting framework has the potential to have a significant impact through expectations channels. On the other hand, a nominal income rule might entail a greater risk of future inflation than Committee participants wish to incur. The cost of entering into a nominal income rule and then reneging in the face of high inflation could be severe. These costs might be manageable; for example, at the expense of further complication, a nominal income regime might be augmented with escape clauses that would allow preemptive tightening in the event that long-run inflation expectations showed significant drift—helping to convey that the policy framework was consistent with temporarily

higher inflation in the boom, but would not allow a potentially problematic unanchoring of long-run expectations.

*Is it preferable to adopt a permanent level target, or a temporary target?*

In addition to choosing whether to specify nominal income or the price level as the intermediate target, the Committee would also have to decide how long the target would remain in effect. One possibility would be to adopt a *temporary* intermediate target. A key element of this approach is its explicit state-contingent nature, meaning the Committee would make no pledge to continue the policy after the target path was attained. In the context of the current environment, this strategy would probably entail adhering to the framework until well after policy rates “lifted off” from zero. A second possibility would be to commit to adopting the framework on a permanent basis. A third alternative would be to announce the adoption of a temporary target, but leave open the possibility that the framework might be retained for a longer period.

There are at least two important reasons why the Committee might desire to adopt a temporary target. First, it might believe that the intermediate target would work well in particular situations such as when the ZLB was binding (and in the immediate aftermath), but could still be uncomfortable with its implications as a long-term framework for policy.<sup>11</sup> Second, the lack of empirical experience with either nominal income or price level targeting may dissuade policymakers from making a long-term commitment to these frameworks.

However, a potential shortcoming of a temporary target is that the public may have greater reason to doubt that the Committee would follow through with a one-time commitment than if the policy were adopted permanently, especially if the commitment were made during a time of economic duress. Future conditions might develop that would make it difficult to resist a preemptive exit from a policy that had already served its original purpose. As discussed above, to the extent that commitment was questioned, the beneficial effects arising through an expectations channel would be less likely to show through.

Turning to the specific alternative targets, it seems unlikely that price level targeting would be regarded as a satisfactory long-run framework for the reasons mentioned above. While it may be rationalized as consistent with the dual mandate in specific circumstances—such as a ZLB situation—it would be much more difficult to make this case in normal times. Thus, price level targeting would most likely be implemented as a temporary expedient. Moreover, the credibility problem would likely to be especially acute to the extent that the likely successor to it—the “usual” post-Volcker monetary policy framework of the past quarter century—would attach a sizeable weight on stabilizing the output gap as well as inflation. Potential conflicts between satisfying the interim objective—which focuses exclusively on prices—and longer-term dual mandate considerations could seriously undermine credibility.

In addition to being more attractive as a temporary strategy than price-level targeting, nominal income targeting seems much more viable as a long-term framework. Even if the

<sup>11</sup> Most of the benefit from a temporary target would presumably arise from constraining policy from rising too rapidly once lift-off has occurred.

Committee did not commit immediately to adopt this framework on a permanent basis, the perception that it was a viable long-term option might well serve to buttress its credibility.

*What could be done to encourage the public to believe in the commitment to a level target?*

A key theme of this memo has been the importance of credibility for any change in regime to be successful, especially during a ZLB episode when conventional policy instruments are circumscribed. Consistent with that idea, the various elements of a policy regime should be selected to work together to fortify the framework. Credibility can be a fragile thing, and so the accompanying communications strategy needs to be constructed and managed to build the reputation of the regime. Similarly, the choice and implementation of the instruments—the tactical part of the regime—needs to be managed, at least initially, to demonstrate the commitment of the policymakers to the achievement of the intermediate target.

Under current conditions, the central issue that attends the adoption of an intermediate target is how to make credible any policy commitment. It is important to recognize that the Committee would be considering a new policy under critical circumstances, and in an unfavorable economic situation. An intermediate target specified in terms of the level of the target variable is arguably even more vulnerable to this critique because the “price gap” or “nominal income gap” will widen if inflation and growth remain unusually low. Larger deviations of prices or income from their target levels would imply larger future policy adjustments, which could threaten the credibility of the target if the adjustments seem implausibly large; by contrast, a policy that targets inflation and resource utilization is less exposed to this compounding problem. Furthermore, attempts to implement a level target could be perceived as an act of desperation at the present time, and so undermine confidence in the economic outlook. Still, to the extent that a new regime, announced under highly stressful conditions, is seen as viable for normal times as well, the short-term costs of implementation could be cast as a down payment on a strongly performing long-term regime. Acceptance of that view by the public would likely enhance the credibility of the new policy during the initial period when the economy was still weak and conventional policy was constrained by the ZLB.

In the current context, the mere announcement of some target, accompanied by promises of future policy action, would seem insufficient to successfully implement a new regime. This would be a strategy in search of tactics for implementation. The Committee might therefore elect to adopt one or more of the short-run policy actions described in the companion memo. For example, the Committee could commit to buying whatever volume of Treasury securities is necessary to pin the 10-year Treasury yield at, say, 2 percent for as long as it takes to achieve a specific, verifiable outcome, say, raising nominal income growth to 5 percent per year for a year. By itself, these and other unconventional actions would be examples of a tactic in search of a longer-term strategy. And they would likely to fail in the same way the SNB’s recent exchange-rate intervention has apparently failed. If, however, the FOMC were to promise that—as part of a general strategy—it would maintain some particular tactical action for as long as needed to achieve a specific, verifiable outcome, then something more successful might be achieved. For example, the FOMC could announce that the funds rate will remain near zero, and its balance sheet would remain at its current size, until an appreciable portion of the nominal income gap is closed. A measure of policy credibility would be earned from tactics such as this because private agents could readily see whether the Committee is willing to carry out the actions necessary to achieve its announced goal; in addition, credibility would be reinforced as progress was made

towards achieving the target, demonstrating the ability to hit the target, thereby making further progress easier. Moreover, it would be evident that these sorts of tactics would be wasteful except as a precursor to the announced new nominal income regime, itself a useful commitment device.

Credibility could be also enhanced in a number of other ways. Several of the candidate devices discussed in an accompanying memo share the feature that the Committee makes its resolve and ability to hit its target clear by putting “skin in the game.” Aggressive policy tactics, like the bond-rate fixing one meted above, can serve in this role if they imply that the Federal Reserve incurs substantial costs if it does not carry through on its promise to implement the new regime. Another way to achieve this would be to sell put options wherein the Fed loses money if it does not deliver. In addition, the Committee could announce interim policy goals and thereby make a demonstrable effort to explain and achieve such goals in order to build up a reputation over time. Such efforts could be facilitated by a program of public communication, with well-defined measures of accountability and regularly scheduled benchmarking wherein the Committee could publicly discuss the efforts undertaken to achieve the intermediate objectives.

To guard against potential losses in credibility, the Committee would have to consider how to deal with issues such as periodic revisions to the data without leaving private agents with the impression that the FOMC is trying to evade its commitments. In a similar vein, the Committee may also wish to consider “escape clauses” that adjust target variables for the effects of certain discretionary events, such as increases in indirect taxes. So long as these contingencies are specified in advance, as opposed to being seen as opportunistically invoked as they occur, they are unlikely to present any serious difficulties; of course, too many escape clauses could weaken public confidence in the commitment to the target.

*What is there to learn from the international experience?*

There is remarkably little experience with either price level targeting or nominal income targeting. The one historical precedent for price-level targeting is when Sweden abandoned the gold standard in 1931 and attempted instead to maintain the September 1931 price level. The policy did avoid the debt deflation that plagued countries still operating under the gold standard, but whether there is much to take from this for modern times is questionable. Moreover, price-level targeting in Sweden was maintained for less than two years. That said, it has been observed that some inflation targeting countries—the Euro area and the U.K. in particular—have in fact kept the price level quite close to what would have been implied by the price-level counterpart to their inflation targeting regime suggesting that price level targeting might not have been a great stretch, at least over the applicable period. No country has formally targeted nominal income.

*What challenges does one face in implementing an intermediate level target?*

There are a number of implementation issues that the FOMC would have to address if a new framework were adopted:

- i) The Committee would have to begin by choosing the target variable. If nominal income is chosen, the Committee would have to settle on a definition of nominal income and with it how to handle revisions to the data. Broadly similar issues, albeit less consequential, arise for a price level target.

- ii) The Committee would have to choose a horizon over which to achieve the target. Given that nominal income (and, arguably, the price level) adjusts slowly to policy, controllability means that the target horizon cannot be too short. The choice of precisely how long a horizon would presumably be influenced by policy preferences.
- iii) The FOMC might wish to establish a more formal communications strategy in connection with an intermediate targeting regime. This may entail more frequent production and dissemination of FOMC members' projections. The new approach might not require the introduction of substantial changes in the language regarding inflation and output.
- iv) The presence of some form of commitment technology is very important. The particular choice of a set of policy instruments—including, for example, forward guidance, the size and composition of the balance sheet—could serve this purpose, at least in part. See the companion memo for more on this topic.
- v) The new regime would require an internal system for monitoring progress including, perhaps, high-frequency measures of the targeted variable and associated indicator variables.
- vi) Last but not least, as noted, success depends on the credible commitment of policymakers to carry through with promises of policy actions beyond the period in which the ZLB is binding. Output may well be growing rapidly and inflation climbing at this time. Such an outcome could sorely test the fidelity of the Committee to its original commitment. Cohesion among Committee members is vital.

*Appendix: a checklist for adopting a formal targeting regime*

As noted, the adoption of a formal regime for targeting an intermediate variable as a method for achieving the Committee's long-term dual mandate of objectives involves a great deal more than just picking a nominal aggregate to target. Here is a checklist of decisions that the Committee would have to consider.

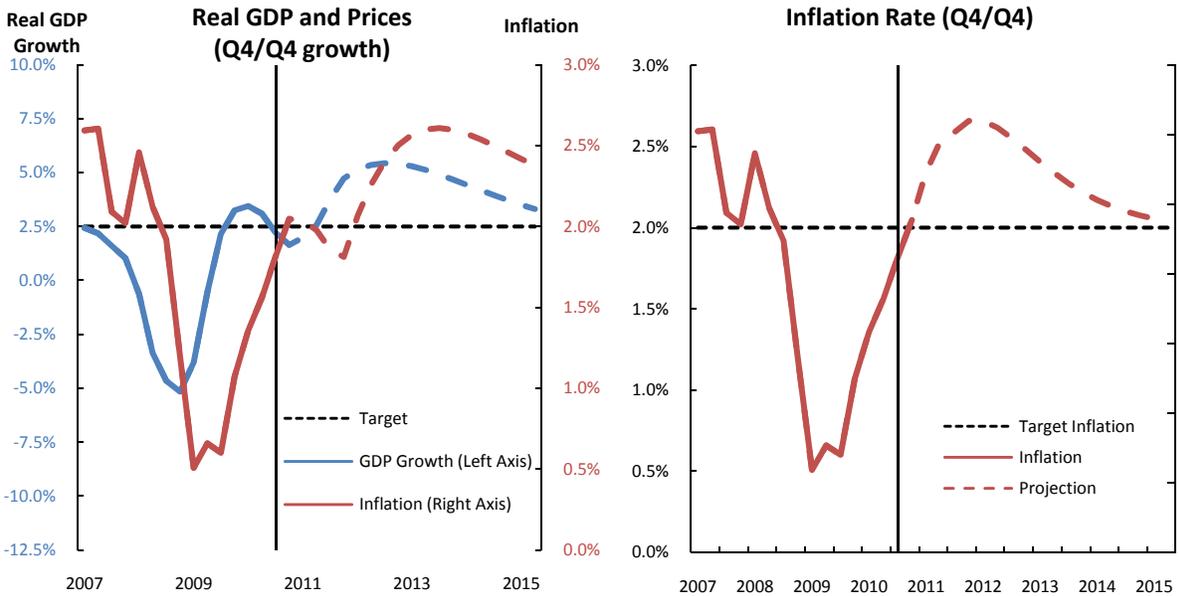
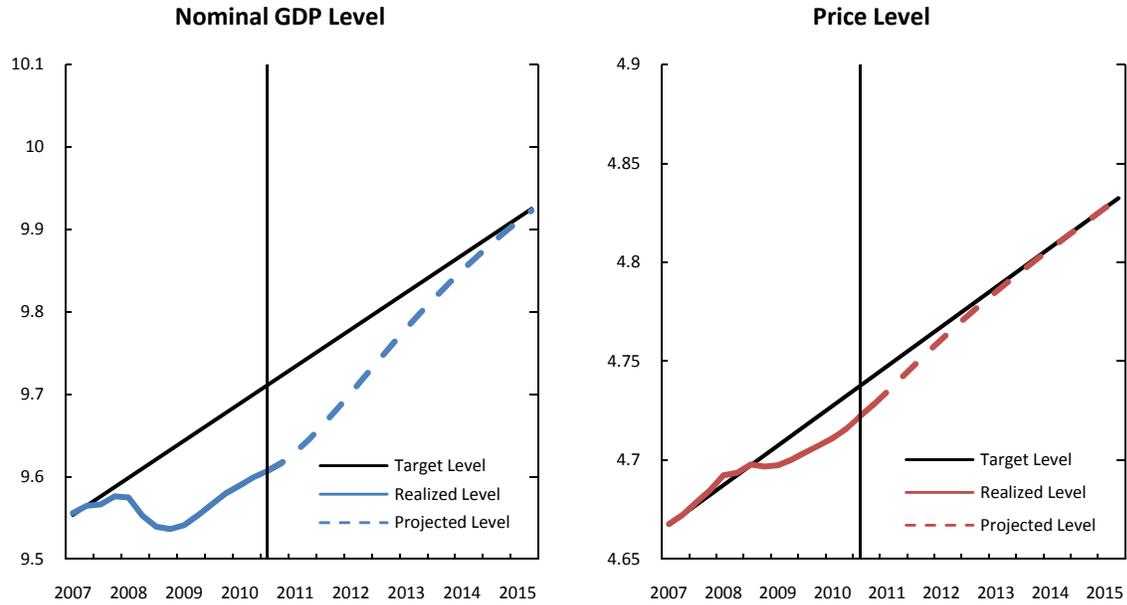
1. Target nominal income, or prices?
2. Target a level or a growth rate?
3. Should the new regime represent a temporary transition to a different, more permanent regime once the economy has recovered, or should it be permanent?
4. If a price-level or inflation target is selected, should an arguably ideal index be constructed? Or should a currently familiar ('salient') index be chosen?
5. Should revisions to the targeted variable affect the choice of the target? If not, how does one accommodate revisions as a matter of policy?
6. If a familiar target for the price-level or inflation rate is chosen, which one should it be? The PCE price index? The CPI? The GDP price index? A core version of these indexes?
7. If nominal income is chosen, how should it be defined? Nominal GDP? Nominal personal income? Or something else?
8. If a growth target is selected, what should the target rate be? Should it be a fixed constant or should it differ with time in reflection of current circumstances?
9. If a level target is selected, at what rate should the target level path grow?
10. If a level target is selected, at what level and date should it commence? Should it be pinned down from history? Or should it be chosen conditional on current circumstances?
11. Given the possibility of the target being well away from current values, should interim targets be considered so as not to force too rapid an adjustment?

12. If the path for the target depends on estimates of potential output growth, how should revisions for this part of the target be implemented and how often should such changes be contemplated?
13. Should 'escape clauses' be entertained in the intermediate target to abstract from one-time events such as indirect tax increases?
14. Should the target be a path of point targets, a range, or a floor?
15. Assuming a target level, should there nonetheless be bands around the target path (or target rate)? If so, what meaning should be attached to departures from those bands?
16. What changes in policy tactics should be adopted to support the new regime?
17. What sort of commitment/reputation building devices should be considered?
18. What communications strategy would work best for the new regime?

**Figure 1**

**Nominal Income Targeting**

**Price Level Targeting**



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**Figure 2: Aggregate Demand Contraction under Alternative Policies**

