

# **Financial Integration and Monetary Policy Coordination: Discussion**

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Bank of Canada, Ottawa, November 2023

## *Preamble*

Thanks and kudos to the conference organizers

Congrats to Javier and Louphou for this excellent, insightful theoretical contribution

Model addresses and revisits key (evergreen) policy issues for monetary policy design in open economies

As expected, Javier gave outstanding analytical synthesis of the paper

To provide some kind of complementarity, in my slides I deliberately refrain from algebra. Focus on bottom line, intuitions, and policy implications (input for general conversation that I am confident will follow...)

Applicability to real-world case studies is actually quite explicit in the paper. Quoting the conclusion: The characterization [of policy responses] is independent of the specific shocks driving the economy and provides general guidelines for *concrete policy discussions on monetary policy coordination*

And in fact, as Maury's epigraph suggests, the themes of the paper are very much relevant nowadays. (More on this later)

*Disclaimer:* probably a good time to emphasize that the views expressed here are mine, and do not necessarily reflect the position of the Federal Reserve Bank of New York, the Federal Reserve System, or any other institution with which I am affiliated

## *Roadmap*

- The evergreen question: To coordinate or not to coordinate
- How does this paper contribute to the debate
- Some freewheeling thoughts about model strategy and implications for policy-makers (until the chair stops me for running out of time).
- *Here and there, a few questions for the authors in italics*

## *Monetary policy: To coordinate or not?*

### Long-standing debate

Starting with Hamada (1976), Canzoneri and Henderson (1991): analysis of monetary interdependence similar to analysis of 'tariff wars' in the trade literature

Essential message: there are significant gains from coordinated response to macroeconomic shocks

Typical example: uncoordinated reaction to inflationary pressures (say oil price shock) leads to excessive monetary tightening and output contraction in the world economy (echoed in Maury's epigraph)

A slightly more nuanced thought experiment under different outlook assumptions:

Consider a multi-country economy facing a shock requiring system-wide monetary accommodation. Each country faces a trade-off between output and inflation.

Question: Should policymakers act unilaterally and lower the policy rates significantly or should they seek for a coordinated monetary policy intervention?

Unilateral monetary expansion in the Home country (say, the US):

Impact: Decrease in domestic and to a lesser extent foreign interest rates with further real depreciation of the US dollar. Can be accompanied by a rise in oil prices

(Open note:

We are in Ottawa, cannot overlook the commodity price angle...

World expansion supports increased world demand for oil. Also oil becomes less expensive in local currency for consumers in non-US dollar regions, boosting their demand for oil thus raising oil prices expressed in US dollar.

Incidentally paper considers oil prices in Section 5.2: they don't make a dent in the general conclusions.

Close note)



## Implications:

- US economy: positive demand effect through lower real interest rate (expenditure-changing effect) and through expenditure switching effect toward US produced goods. Upside risk to inflation projection might depend on the extent of pass-through of dollar depreciation and oil prices increase
- Rest of the world: benefits from lower world interest rate (positive effect), suffers from real appreciations of their currencies. Net impact on real activity depends on the relative strength of the two

The strengthening of foreign currencies might help in counterbalancing the negative inflationary effect from rising oil prices. Instead, for the countries that are pegging their currencies to the US dollar, inflationary pressures might exacerbate further.

Coordinated policy expansion:

Impact: decrease of domestic and foreign real interest rates with possible smaller pressures on currencies.

Maybe increase in oil prices turns out to be more contained with respect to the unilateral scenario.

## Implications:

- US economy: positive demand effect through lower real interest rate (expenditure-changing effect). Upside risk to inflation projection might depend on the extent of pass-through of oil prices increase.
- Rest of the world: positive effect from lower world interest rate. Upside risk to inflation might be higher than previous scenario as oil price increases are not counterbalanced by currency appreciation. For emerging economies that are pegging their currencies to the US dollar, inflationary pressures might rise as interest rates need to be lower.

To sum up: in response to the shock the coordinated response of the system would be likely to consist of an accommodative monetary policy including many countries.

Conversely, in a scenario without cooperation, provided that some countries cut rates and therefore lower real interest rates in the system, some other countries may avoid a cut altogether.

The average monetary stance is less expansionary than in a scenario with a coordinated cut, because the subset of accommodative countries has only a limited impact on the average system-wide equilibrium real interest rate.

General assessment: Meh. It's complicated

There is some evidence that expenditure shifting and expenditure changing effects broadly offset each other.

Cooperation needs commitment (binding agreement) and imposes constraints on sovereignty: difficult to achieve and maintain

Reputation concerns in repeated games can make cooperation unnecessary: policymakers 'do the right thing' even in the absence of coordination

Cooperation may be counterproductive [Rogoff (1985)].

In practice: institutional attempts at cooperation in the mid 80s (Plaza, Louvre) were problematic and short-lived.

At the end of the day, literature concludes that gains from cooperation are bound to be minimal or controversial or both.

Even overlooking institutional complexities (if cooperation were as simple as Fed and ECB talking to each other in the corridors of the BIS in Basel, we would be cooperating all the times. Ask Claudio how many meetings he organizes per year...)

More or less, here is where we are before Bianchi and Coulibaly.

*How does this paper contribute to the debate?*

It's all in the title: Financial integration matters. The standard over-tightening result of original literature is not robust. The financial channel (effect of monetary policies on world real interest rate) may lead to over or under-tightening in a Nash equilibrium relative to cooperative outcome

Depends on output gap (recession vs. overheating); sectoral labor intensity (affecting responsiveness to changes in production); response of trade balance to monetary accommodation (generalized Marshall-Lerner conditions)

Paper defines under- or over-tightening relative to cooperation. Crucial question is how significant are the gains from cooperation (that is, what does “under” or “over” mean in practice).

Some preliminary attempt toward a quantification in Section 4.6, Figure 4. Gains from coordination are found to be substantial

*Quibble:  $r^*$  is set at 4% (yearly) in the calibration. Very high for 21st century standards*



The story: Suppose economy faces a recessionary shock; policymakers ease monetary stance, face inflationary pressures

Wages are sticky

To mitigate inflation, employment should move from low labor-intensity sector (where prices are more responsive to changes in production) to high labor-intensity sector (where prices are less responsive to changes in production)

Assumption: non-tradable sector (say, core services ex housing) is more labor-intensive than tradable sector (say, core goods).

Thus: shift in employment towards non-tradables leads to reduction in inflation pressures

Demand for non-tradables depends in equilibrium on world real interest rate through changes in NFA accumulation. Assumption: generalized Marshall-Lerner conditions hold

If all central banks expand monetary policy under cooperation, real interest rates fall significantly boosting demand, trade deficit increases, employment moves into non-tradables, output/inflation trade-off improves: each central bank can do more to fight recession without major inflationary repercussions

Under Nash, however, central banks do less to fight recession fearing inflationary consequences: over-tight monetary policies relative to cooperation

Reverse outcome if world economy faces overheating: under same assumptions, central banks want to fight inflation and want employment to move toward tradables.

If all central banks tighten monetary policy under cooperation, real interest rates increase significantly, employment moves out of non-tradables, each central bank can do more to fight inflation without major recessionary repercussions

Under Nash, however, central banks do less to fight inflation fearing recessionary consequences: under-tight monetary policies relative to cooperation

To sum up: under/over-tightening flips sign depending on assumptions on cyclical conditions (output gap), pattern of sectoral labor intensity, 'Marshall-Lerner' conditions (response of trade deficit to monetary policy).

### *Thoughts 1. Role of nominal rigidities including international pricing*

In the paper wages are sticky but the Law of One Price holds. So we are in a Producer Currency Pricing (PCP) world. Also Cobb-Douglas aggregator (unit intratemporal elasticity of substitution, constant shares of consumption expenditure).

How do these assumptions affect size of gains from coordination?

Consider lessons from open-economy macro literature since the mid 1990s. Let me try a (hopefully fair) synthesis based on my own research.

In a world with high exchange rate pass-through and only tradables (à-la-Friedman, such as a PCP regime) optimal policy consists in a commitment to provide a nominal anchor for the economy, and intervene when shocks in the economy threaten to destabilize marginal costs and move employment and output from their potential levels.

Optimal policy is 'inward looking'. Foreign firms' markups are unaffected by Home shocks, so that an 'inward-looking' policy in the Home country does not have repercussions abroad.

Under PCP, national objective function for Foreign policymakers is identical to the Home objective function: The non-cooperative rules remain the best policy rules.

There is no need for coordination, as optimal monetary policies in a Nash equilibrium deliver a worldwide constrained efficient allocation (conditional on the presence of monopolistic distortions).

That is, international policy cooperation is redundant: by ‘keeping one’s house in order’, policymakers are already able to achieve economic efficiency.



But.

But the strong result of no gains from international coordination is not robust and depends on model specification.

In general, gains may remain small or become larger (e.g. when nontraded goods play a key role, as in this paper).

In a Dollar Pricing world with a dominant currency, world welfare increases when monetary policy rules are designed in a cooperative way.

However, the cooperative and noncooperative optimal policy rules coincide for the rest of the world but not for the Home country issuing the reserve currency.

The 'contribution' to cooperation is therefore unilateral: only the Home country is expected to modify its rules. This raises an interesting issue, as of whether there is any incentive for this country to enter any binding cooperative agreement as regards stabilization policy.

*So: invoice currency regime may affect size (and sign?) of over/under-tightening.  
Something for the authors to consider*

*More general question: if price stickiness is considered, should we care about tradables vs. non-tradables or rather sectors with price flexibility vs. sectors with price stickiness (core/super-core sectors)?*

*Even more generally, in setting optimal monetary policies shouldn't we just look at sectoral differences in the degree of pass-through of marginal costs to prices?*

## *Thoughts 2. Financial conditions*

The paper puts centerstage financial integration and mechanism of transmission goes through adjustment of nontradables.

Completely agree: welfare implications of increased market globalization appear mostly related to financial spillovers.

But things may get way more nuanced than the simple analytics of the paper suggests.

Monetary expansion affects financial conditions both domestically and abroad through impact on different asset classes

Home country stimulus lowers domestic longer-term yields. Capital flows out of Home country into financially interconnected economies

In the Foreign country credit expands, lowering yields and borrowing costs, and raising other asset prices such as equity. Financial spillovers translate into correlated movements in credit supply and borrowing costs across countries

When a country with a large economy such as the US eases monetary policy, this relaxes financial conditions in the rest of the world, stimulating economic activity and demand; the flipside is that a monetary contraction can cause credit to dry up

But this is not the only side of the coin

Even if it boosts economic activity in the short run, looser monetary policy at Home may be problematic in the rest of the world from a financial stability standpoint, as it can encourage increased risk-taking by global financial institutions, affecting leverage of global banks, capital flows, and credit growth in the international financial system

Global financial cycles can result in asset price bubbles and lending booms in emerging markets, increasing the probability of financial instability in the global economy

Of course, regardless of size and sign of spillovers from the Home country, independent (uncoordinated) policymakers in the rest of the world can generally adjust their own policy stances to keep output and inflation near their targets under a floating exchange rate regime

But interventions by Foreign policymakers are not without cost, and resulting policy dilemmas and trade-offs can be highly challenging

Finally, in the paper financial conditions only reflect monetary stances

In reality, domestic financial conditions can ease or tighten regardless of monetary stances, and still generate spillovers to the rest of the world

As an example, look at what is happening right now. Significant tightening in US financial conditions (mostly through higher longer-term Treasury yields)

Jury is out about the causes, but consensus is that term premia have played a key role relative to expectations of US monetary tightening, higher-for-longer rates, or realization of higher neutral rates ( $r^*$ ).

Exogenously tighter financial conditions in US translate into tighter financial conditions in Euro area, Japan, UK, Canada. There are spillovers unrelated to monetary policy.



*Should the paper consider exogenous shocks to world interest rates? Would they change the conclusions or the taxonomy?*

### *Thoughts 3. Covid and discombobulation*

While the paper provides a taxonomy that can be applied to different historical case studies, this is a paper written in 2023 and to a large extent motivated by recent international developments

Policymakers have moved from fighting a major recession to fighting a major spike in inflation in the space of few quarters

Important aspect of the paper: sign (and size) of over/under tightening can change as cyclical conditions change. Arguably, a continuing cooperative regime would have been better overall

Important aspect of Covid experience: discombobulation in consumption patterns. Move in consumption toward tradables first and then back to nontradables

During early shutdowns in response to epidemic, consumption expenditure was skewed toward core goods (tradables) because services (nontradables) were not socially viable (stop going to the gym, buy a Peloton instead)

But demand for tradables outstripped supply constrained by supply-chain bottlenecks. Major inflationary spikes.

Fiscal expansions fueled consumption boom

After reopening, consumption expenditure moves back toward nontradables. But nontradables prices being sticky, inflation remains persistent up to our days.

Which brings us to Maury's quote in the epigraph (September 2022).

He was worried about the uncoordinated policy response to inflationary pressures, that he thought "would drive the world economy into an unnecessarily harsh contraction". In other words, he was concerned about over-tightening under Nash in response to overheating (consistent with the old literature).

But according to the basic parametrization of the model, under conditions of overheating a Nash equilibrium would rather lead to under-tightening!

*Am I missing something?*

## *Conclusion*

Great paper with tons of food for thought. I recommend reading it while thinking about applications to specific case studies (stock market crash of 1987? Taper Tantrum? Covid?)

Extensions to be considered: deeper calibration exercise to assess quantitative implications; introduce price stickiness and differences in sectoral inflation persistence; dollar pricing

Would it be possible to "translate" the policy implications in terms of the current debate (inflation persistence in core goods vs. core services ex housing, shocks to term premia and financial conditions, consumption reallocation and discombobulation)?