Discussion of

Trade Wars, Currency Wars

by Stephen Auray, Mick Devereux, and Aurelien Eyquem

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June 1, 2021
ABFER
A Proposal to End the COVID-19 Pandemic

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DISCLAIMER: Staff Discussion Notes (SDNs) showcase policy-related analysis and research being developed by IMF staff members and are published to elicit comments and to encourage debate. The views expressed in Staff Discussion Notes are those of the author(s) and do not necessarily represent the views of the IMF, its Executive Board, or IMF management.
A Proposal to End the COVID-19 Pandemic

Prepared by Ruchir Agarwal and Gita Gopinath*

Authorized for distribution by Gita Gopinath

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Urgent steps are needed to arrest the rising human toll and economic strain from the COVID-19 pandemic that are exacerbating already-diverging recoveries. Pandemic policy is also economic policy as there is no durable end to the economic crisis without an end to the health crisis. Building on existing initiatives, this paper proposes pragmatic actions at the national and multilateral level to expeditiously defeat the pandemic. The proposal targets: (1) vaccinating at least 40 percent of the population in all countries by the end of 2021 and at least 60 percent by the first half of 2022, (2) tracking and insuring against downside risks, and (3) ensuring widespread testing and tracing, maintaining adequate stocks of therapeutics, and enforcing public health measures in places where vaccine coverage is low. The benefits of such measures at about $9 trillion far outweigh the costs which are estimated to be around $50 billion—of which $35 billion should be paid by grants from donors and the residual by national governments potentially with the support of concessional financing from bilateral and multilateral agencies. The grant funding gap identified by the Access to COVID-19 Tools (ACT) Accelerator amounts to about $22 billion, which the G20 recognizes as important to address. This leaves an estimated $13 billion in additional grant contributions needed to finance our proposal. Importantly, the strategy requires global cooperation to secure upfront financing, upfront vaccine donations, and at-risk investment to insure against downside risks for the world.

JEL Classification Numbers: H4, I1, L6, O4

Keywords: COVID-19, pandemic, economic crisis

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Trade Wars, Currency Wars

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IMFC5 Conference
\textbf{June 4, 2020}
VERY PRELIMINARY
Basic setup

- Two country model, Home (Foreign) population $n, (1 - n)$
- Preferences are
  \[ U = \log C_t - \chi \frac{1}{2} H_t^2 \]
- We assume no financial market trading across countries.
- Home country budget constraint is
  \[ P_{h,t} C_{h,t} + (1 + \tau_t) S_t P_{f,t}^* C_{f,t} = W_t H_t + \Pi_t + TR_t \]
- $\tau_t$ is tariff rate
Economic Policy

- Monetary policy may be used to either target inflation rates or exchange rates.
- Trade policy may be used to levy tariffs on imports
- Fiscal policy may be used to subsidize monopoly firms.

- Policy **without commitment**
  - Policymaker takes future policy as given
Outline of my discussion

- Summary: three policies and three key takeaways
- Questions and comments
Three policies

- Trade policy
- Monetary policy
- Fiscal policy
Three key takeaways

- Positive economics: intratemporal and intertemporal relative prices (tariff/subsidy and inflation/interest rates)

- Normative economics: importance of interaction among policies (e.g. super-Rogoff result)

- Realism: asymmetry among countries, as in exchange rate targeting and dominant currency pricing (related to exorbitant privilege?)
Spurious welfare reversals in international business cycle models

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Abstract

Several papers have documented spurious welfare reversals: incomplete-markets economy produces a higher level of welfare than the complete-markets economy. This paper first demonstrates how conventional linearization can generate approximation errors that can result in welfare reversals. Using a two-country production economy, we argue that spurious welfare reversals are not only possible but also plausible under reasonable values for model parameters. This paper then proposes an approximation method that modifies the conventional linearization by a bias correction. This method can be easily implemented and approximates welfare as accurately as a second-order perturbation method. © 2002 Elsevier Science B.V. All rights reserved.

Keywords: Linearization; Bias correction; Stochastic steady state; Risk sharing; Welfare

JEL classification: F3; F4

1. Introduction

Following Kydland and Prescott (1982) and King et al. (1988), the business cycle literature has extensively used the loglinear approximation method to solve dynamic stochastic general equilibrium (DSGE) models. Several papers have

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Patience, persistence, and welfare costs of incomplete markets in open economies

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Abstract

We investigate the welfare implications of alternative financial market structures in a two-country endowment economy model. We obtain an analytic expression for the expected lifetime utility of the representative household when sovereign bonds are the only internationally traded asset, and we compare this welfare level with that obtained under complete asset markets. The welfare cost of incomplete markets is negligible if agents are very patient and shocks are not very persistent, but this cost is dramatically larger if agents are relatively impatient and shocks are highly persistent. For realistic cases in which agents are very patient and shocks are highly persistent, the welfare cost of incomplete markets is highly sensitive to the specific values of these parameters.

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Keywords: Welfare; Incomplete markets; Patience; Persistence; Spillovers

JEL classification: F41; D42

1. Introduction

In recent years, numerical methods have been used to analyze a wide variety of open-economy dynamic general equilibrium models with incomplete asset mar-
RELATIVE PRICE DISTORTION AND OPTIMAL MONETARY POLICY IN OPEN ECONOMIES

JINILL KIM* · ANDREW T. LEVIN* · TACK YUN*

This paper provides a closed-form solution for optimal monetary policy in a two-country model with Calvo-type sticky prices. Initial price dispersion makes it suboptimal to completely stabilize the producer price index, and the optimal policy would entail a price-level targeting. The solution also indicates that the isomorphism of optimal policy rules between closed and open economy breaks down unless the utility function is logarithmic in consumption.

JEL Classification: E52, F33, F41, F42.
Keywords: Price Dispersion, Relative Price Distortion, Interdependence, Open Economy, Optimal Policy.

I. INTRODUCTION

Much of the recent literature in open macroeconomics has addressed the issue of how to conduct monetary policy in open economy models that include imperfect competition and nominal rigidities as mechanisms for non-neutralities of monetary policies. Many of the recent new models have been used to analyze the desirability of full price stability and the character of international policy interdependence in open economies. In
International Monetary and Fiscal Coordination in a Liquidity Trap
by
David Cook and Michael Devereux

Comments
by
Dale Henderson

June 10, 2010
Trade Wars, Currency Wars

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IMFC5 Conference
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Questions and comments

- How to compare across models?
  - Steady states in Table 1
  - Welfare analysis and the zero\textsuperscript{th} order

- What about commitment for monetary policy?
  - Trade policy commits, using a constant tariff.
  - Trade policy is harder to change.
  - However, what about independent CB?
  - Stabilization bias as well as inflation bias

- What about international financial markets?
Table 1: Currency wars

<table>
<thead>
<tr>
<th>Variable</th>
<th>Non-cooperative</th>
<th>Cooperative</th>
<th>Non-coop/Subsidy</th>
<th>Coop/Subsidy</th>
</tr>
</thead>
<tbody>
<tr>
<td>$C$</td>
<td>0.291</td>
<td>0.287</td>
<td>0.328</td>
<td>0.339</td>
</tr>
<tr>
<td>$C^*$</td>
<td>0.291</td>
<td>0.287</td>
<td>0.328</td>
<td>0.339</td>
</tr>
<tr>
<td>$Y_h$</td>
<td>0.437</td>
<td>0.460</td>
<td>0.554</td>
<td>0.555</td>
</tr>
<tr>
<td>$Y_f$</td>
<td>0.437</td>
<td>0.460</td>
<td>0.554</td>
<td>0.555</td>
</tr>
<tr>
<td>$S$</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
<td>1.00</td>
</tr>
<tr>
<td>$\pi_h$</td>
<td>1.014</td>
<td>1.036</td>
<td>0.973</td>
<td>1.00</td>
</tr>
<tr>
<td>$\pi_f$</td>
<td>1.014</td>
<td>1.036</td>
<td>0.973</td>
<td>1.00</td>
</tr>
<tr>
<td>$U$</td>
<td>-1.651</td>
<td>-1.699</td>
<td>-1.654</td>
<td>-1.604</td>
</tr>
</tbody>
</table>

Table showing equilibrium of Non-cooperative and Cooperative Monetary Policy, with and without offsetting subsidies for monopoly pricing.

cooperative monetary policy the terms of trade motive is eliminated, and each country chooses a much higher positive rate of inflation of 3.6 percent. The Table in fact indicates that monetary policy cooperation is welfare reducing. This is essentially the well-known Rogoff (1985) result that international cooperation may be counterproductive in face of discretionary monetary.

If subsidies are in place to offset the monopoly distortion, then Table 1 indicates that each country follows a sharply deflationary monetary policy in a Nash equilibrium, since the terms of trade motive then fully dominates the incentives for inflation in each country. Output and consumption are higher than in the absence of optimal subsidies, but the lower rate of inflation generates welfare costs which means that welfare is lower than in the Nash equilibrium without subsidies. Hence, eliminating the monopoly price distortion so much exacerbates the currency war that welfare falls for both countries. By contrast, if optimal subsidies are in place, and monetary policy is chosen cooperatively, inflation rates are zero, then the equilibrium is first-best, since all distortions are eliminated and inflation is zero.

To address the motivation discussed in the introduction, we conclude from these results that ‘currency wars’ may be either good or bad. If there is a pre-existing monopoly distortion, then, following the logic of Rogoff, we confirm that cooperation in monetary policy may be undesirable, whereas with optimal subsidies in place, cooperation supports the first best outcome.

Before we address the interaction of currency wars and trade wars, it is revealing to ask how the presence of exogenously determined tariffs would affect the outcome of the currency war in Table 1. Tariffs are inherently distortionary and, when equally applied by both countries, they