

Fabrizio Perri discussion of: Financial repression and the currency market under sanctions[†]

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1. Introduction

In recent years, the Washington consensus that free trade in goods and assets is desirable has been increasingly under attack. Policies such as capital controls, tariffs, and financial repression, which just a few years ago were viewed as relics of the past, are now routinely discussed and implemented in both emerging and developed countries. The goal of this insightful paper by Itskhoki and Mukhin (henceforth IM) is to illustrate under which conditions the use of financial repression might be desirable in a highly constrained economy, such as the Russian economy during the Russia–Ukraine war. In this discussion, I will complement the work of IM in two ways. First, I will briefly review the literature on financial repression and discuss how IM contribute to it. Then I will present a simplified version of the IM framework which I believe helps understand and clarify their findings.

2. Financial repression: narrow and broad

The concept of financial repression was first introduced by McKinnon (1973) and Shaw (1973) to describe policies and regulations in the financial sector geared to raise revenues for the government. A textbook example of financial repression is a ceiling on the return on government securities (below the market return on similar securities) and, at the same time, a minimum holding requirement of these securities for financial institutions.¹ IM take a broader approach to financial repression: their policy of interest is still regulation/taxation of financial transactions, but instead of focusing only on the ability of

†. The views expressed herein are those of the author and not necessarily those of the Federal Reserve Bank of Minneapolis or the Federal Reserve System.

1. For a summary of the recent literature discussing this type of financial repression and its effects on government finances, see Reis (2025).

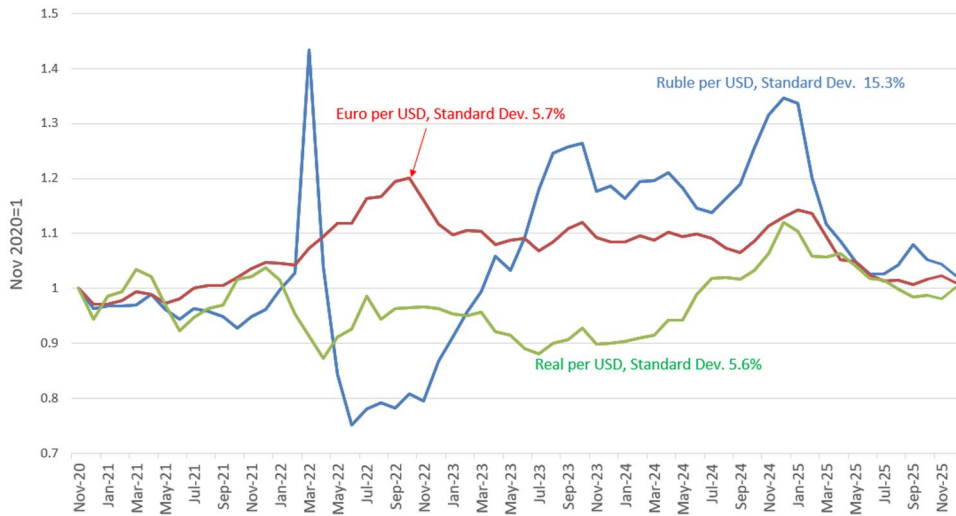


Figure 1 Three currencies against the USD: 2020–5.

this policy to raise revenues for the government, they ask whether the policy can steer a highly constrained economy towards a more desirable equilibrium. Clearly, in order for distortionary policies like financial repression to have a positive impact, the economy has to be away from the first-best. The question is through which channel financial repression can improve over existing distortions. One promising channel is the impact of financial repression on exchange rate fluctuations.² Countries in turmoil (like Russia or Ukraine) are likely to experience large fluctuations in the exchange rate. Figure 1 shows that over the 2020–25 period, Russia experienced fluctuations in its exchange rate against the US dollar which are three times as large as the fluctuations of the exchange rate of the euro or the Brazilian real. Obviously, these fluctuations are not exogenous, but they are the result of market responses to fundamental shocks. The two natural next questions are whether financial repression can mitigate these fluctuations and whether this mitigation can be desirable. In the next section, I will present a simplified version of the IM economy, with two objectives. The first is to elucidate, thanks to the simplifications, the core mechanisms highlighted by IM. The second is to help understand in which cases financial repression can be a desirable policy option.

3. A stripped-down framework

Consider a small open economy inhabited by a continuum of identical households trading assets with a government, which in turn trades assets with the rest of the world.

3.1. Households

Households receive constant endowments of non-tradable and tradable goods, denoted by y and y^* . They derive utility from consumption of the non-tradable good, c_t , consumption of the tradable good, c_t^* and also from holding a bond b_t^* , denominated in the units of the tradable good. The bond, which can be interpreted as an international or hard currency asset, pays, to the households, an interest R_{Ht}^* , which is set by the government and is the instrument of financial repression. As in IM, it is assumed that households can

2. For some additional work on this, see also Jeanne (2013).

only trade the bond with the government. Finally, the household's utility is also assumed to depend on aggregate consumption of the tradable good, denoted by C_t^* . The problem of households can be written as:

$$\max_{c_t, c_t^*, b_{t+1}^*} E \sum_{t=0}^{\infty} \beta^t U(c_t, c_t^*, b_t^*, C_t^*) \quad (1)$$

$$\text{s.t.} \quad \frac{c_t}{e_t} + c_t^* + \frac{b_{t+1}^*}{R_{Ht}^*} = \frac{y}{e_t} + y^* + b_t^* + T_t^*, \quad b_0^* \text{ given} \quad (2)$$

where

$$U(c_t, c_t^*, b_t^*, C_t^*) = (1 - \gamma)^{1/\theta} c_t^{\frac{\theta-1}{\theta}} + \gamma^{1/\theta} c_t^{*\frac{\theta-1}{\theta}} - \frac{\kappa}{2} (b_{t+1}^* - \Psi_t)^2 \gamma^{1/\theta} \frac{\theta-1}{\theta} C_{t+1}^{*\frac{-1}{\theta}},$$

β is the households intertemporal discount factor, e_t denotes the real exchange rate, that is, the price of the tradable good in terms of the non-tradable good, T_t^* denotes a transfer, in units of the foreign good, from the government to the household, γ is the parameter determining the relative importance of tradable versus non-tradable consumption, $\theta \geq 1$ is the parameter determining the elasticity of substitution of consumption mix to the exchange rate, Ψ_t represents a shock to the utility that the households receive from holding the bond b_{t+1}^* , and $\kappa \geq 0$ captures the importance of bonds in the utility. Note that the utility of the households is higher the closer their holding of the bond is to the ideal level Ψ_t . The utility from holding the foreign bond is also multiplied by the term $\gamma^{1/\theta} \frac{\theta-1}{\theta} C_t^{*\frac{-1}{\theta}}$, which represents the marginal utility from the consumption of the tradable good evaluated at the aggregate level of consumption of the tradable good, C_t^* . This rescaling simplifies the households' Euler equation we analyse below.

3.2. Government

The government in this economy acts as an intermediary for the households on the market for the international bond, that is, in each period it invests $\frac{b_{t+1}^*}{R_{Ht}^*}$ and returns the proceeds b_t^* to the households. It can also choose its own position (intervene) on that market, which we denote by A_t^* , so the government budget constraint, in units of the tradable good, can be written as

$$\frac{A_{t+1}^*}{R^*} + \frac{b_{t+1}^*}{R^*} + T_t^* = A_t^* + \frac{b_{t+1}^*}{R_{Ht}^*} \quad (3)$$

If in each period the government sets $R_{Ht}^* = R_t^*$ (no financial repression) and $A_t = 0$ (no interventions in the bond market), then the government simply acts as an intermediary for the households and invests their desired amount b_{t+1}^* on the world market. In this case, as it is clear from [equation \(3\)](#), government transfers T_t^* will be equal to 0 in every period. If instead the government chooses, in some periods, A_{t+1}^* different from 0 or $R_{Ht}^* \neq R_t^*$, the government has a role in the tradable bond markets, either through intervention or through financial repression. These policy actions will require or generate resources for the government, which will result in non-zero taxes/transfers T_t^* .

3.3. Shocks

The only source of uncertainty in this economy arises from the shock Ψ_t to the demand for the tradable bond, which is modelled as a standard autoregressive process:

$$\Psi_t = \bar{\Psi}(1 - \rho) + \rho\Psi_{t-1} + \varepsilon_t, \varepsilon_t \sim N(0, \sigma), 0 < \rho < 1 \quad (4)$$

where ρ captures the persistence of the process, σ its volatility and $\bar{\Psi}$ its steady state value. Note that this set-up is simplified relative to IM; however, it preserves the core elements of their set-up: the exchange rate determination, the shocks to utility from the tradable bond, and the market segmentation, where only the government can directly access world financial markets. In particular, the shock to the demand for international bonds captures a situation that a country at war, like Russia, might experience, where domestic households increase, for precautionary reasons, demand for international assets. Another way of interpreting this shock is to view it as a sudden stop, that is, an increase in the flow of capital away from the domestic economy, which has been thoroughly analysed in emerging markets (see [Calvo 1998](#)). The question is whether interventions or financial repression might be helpful for the country to deal with the sudden stop.

3.4. Equilibrium characterization and steady state

As it is well explained in IM, equilibrium paths for the relevant quantities in the economy are characterized by the following three equations:

$$\frac{C_t^*}{y} = e_t^\theta \frac{\gamma}{1 - \gamma} \quad (5)$$

$$\frac{C_t^{*-1/\theta}}{R_{Ht}^*} = \beta E C_{t+1}^{*-1/\theta} [1 + \kappa(\Psi_t - b_{t+1}^*)] \quad (6)$$

$$\frac{A_{t+1}^* + b_{t+1}^*}{R^*} - (A_t^* + b_t^*) = y^* - C_t^* \quad (7)$$

plus [equation \(3\)](#), which can be used to track the evolution of government transfers. [Equation \(5\)](#) is derived from the optimal choice of consumption of tradable and non-tradable goods, plus the market clearing for the non-tradable good. The equation links the exchange rate to relative consumptions of the two goods: the more expensive the tradable good, and the lower its weight in the utility, the less it is consumed. [Equation \(6\)](#) captures households' intertemporal decision regarding the holding of bonds. The additional term $\kappa(\Psi_t - b_{t+1}^*)$ on the right-hand side of the equation captures households' additional benefits of saving when their bond holdings b_{t+1}^* are below the target level Ψ_t . [Equation \(7\)](#) is derived by combining the households' budget constraint [\(2\)](#) with the government budget constraint [\(3\)](#), and it is useful to understand IM's results. The equation shows that the government can, by choosing an appropriate position in tradable bonds A_{t+1}^* , target any level of tradable consumption, C_t^* . This implies that, if the government is not restricted in its choice of A_{t+1}^* , then it will not need to impose financial repression, that is, manipulate R_{Ht}^* , to obtain a desired allocation. Lastly, in order to assess the welfare impact of different policies, it is useful to write

$$V_t = U(C_t, C_t^*, b_t^*) + \beta E V_{t+1} \quad (8)$$

where the variable V_t in [equation \(8\)](#) simply keeps track of the lifetime utility of households. Before analysing in more detail the effect of government policies on outcomes, I define a steady state equilibrium, that is, an equilibrium where all the variables are constant, and where there is no financial repression and no intervention. Using [equations \(5\), \(6\), \(3\), and \(8\)](#), it is immediate to show that

$$\begin{aligned} b^* &= \bar{\Psi}, C = y, C^* = y^* + b^* \frac{R^* - 1}{R^*}, e = \left(\frac{C}{C^*} \frac{\gamma}{1 - \gamma} \right)^{\frac{1}{\theta}} \\ A^* &= 0, V = \frac{U(C, C^*, b^*)}{(1 - \beta)} \end{aligned}$$

where all variables without a time subscript denote the steady state value of that variable.

3.5. Efficient allocation and policy regimes

In this simple economy, it is straightforward to show that, for any path of the demand for tradable bond Ψ_t , there exists an equilibrium in which $C_t = y$, $C_t^* = y^*$, $b_{t+1}^* = \Psi_t$, $A_{t+1}^* = -b_{t+1}^*$, which is also efficient. Note that, in the efficient equilibrium, non-tradable consumption of households is perfectly smooth, and their holdings of tradable bonds are equal to their optimal level Ψ_t , and the exchange rate is constant. Such an equilibrium can be achieved if the government sets $A_{t+1}^* = -b_{t+1}^*$ and $R_{Ht}^* = R^*$ in every period. To see this, note that when $A_{t+1}^* = -b_{t+1}^*$ and $R_{Ht}^* = R^*$ in every period, the country budget constraint (equation 7) implies $C_t^* = y^*$ and plugging this condition, plus $R_{Ht}^* = R^*$, into the Euler equation (6) yields that $b_{t+1}^* = \Psi_t$. Notice also that, using the government budget constraint (equation 3), transfers in this equilibrium are equal to $T_t^* = \frac{\Psi_t}{R^*} - \Psi_{t-1}$; that is, the government achieves the efficient equilibrium by transferring resources to the households when, say, their demand for bond holdings Ψ_t increases. And in order to make these transfers, the government needs to intervene to set $A_{t+1}^* = -b_{t+1}^*$, that is to borrow in international markets exactly when households want to save. To understand why government interventions are essential, notice that when Ψ_t increases, households want to increase their holdings of bonds. However, if transfers T_t^* are constant, their budget constraint (equation 2) implies that they have to reduce consumption of the tradable good. This implies that in absence of government transfers the efficient allocation, which displays constant tradable consumption, cannot be achieved. It is worth noting that the necessity of transfers (and interventions) to achieve efficiency is a result of the way IM model the shock Ψ_t , which is a shock that increases the households' desire to hold bonds. Acquiring bonds requires resources, but these resources cannot be obtained through private borrowing, because borrowing more would reduce the bond position, which the households value. Transfers from the government are the only way in which households can, at the same time, have higher bond positions and not reduce their consumption. So, in a sense, in the IM set-up government transfers (and interventions) complete the markets (or provide insurance) against this particular shock to the utility of bond holdings. The remainder of this section will discuss what happens when interventions are restricted (as they would be in a war economy like Russia or Ukraine) and whether, in such cases, financial repression might be desirable.

In order to do so, I approximate to the second order all the equilibrium conditions around the steady state, and numerically characterize how the economy responds to an unexpected increase in the demand for the tradable bond (a one-time increase in ε_t in equation (4)), under different policy regimes.³ The first regime is the efficient equilibrium described above. The second regime, labelled *Laissez-faire*, is the case in which the government does not intervene in any way, so that $R_{Ht}^* = R^*$, $A_t^* = 0$ in every period. In this case, the government acts as an intermediary between the households and the world financial markets and never imposes any financial repression. The third regime, labelled *Financial repression*, is the case in which the government is prevented from intervening, so $A_t^* = 0$ in every period, but it imposes financial repression, that is, it lowers the rate that households receive on their investment in tradable bonds, b_{t+1}^* . It is assumed that the government sets the amount of financial repression proportional to the excess demand (relative to steady state) for international bonds; that is, $R_{Ht}^* = R^* - \alpha(\Psi_t - \bar{\Psi})$, $\alpha \geq 0$. The parameters used to compute equilibrium paths under the three regimes are reported in Table 1. This numerical example is meant to be illustrative, so the economy is not fully calibrated to the moments of a typical emerging economy.⁴ However, some of the parameters are chosen to match some key moments. A period in the model economy is a quarter. The endowment values are set to match a share of the tradable sector of 35 per cent, and the discount factor is chosen to match an annualized world real interest rate of 2 per cent, which are standard targets. In the model, the steady state demand for international bonds is equal to the country's net foreign asset position. The average ratio of the net foreign asset position to annual GDP in Russia over the period 2012–2022 (10 years prior to the war) is around 20 per cent (using data from Lane

3. The second-order approximation is needed to get accurate values for the lifetime utility of households, V_t .

4. For the reader interested in how results change with parameters, the MATLAB and DYNARE codes used to produce results in this comment are available on the author's website.

Table 1 Parameter values.

Parameter	Symbol	Value
Discount factor	β	0.99
Consumption curvature	θ	2
Share of tradables in utility	γ	0.35
Importance of bonds in utility	κ	0.1
Non-tradable endowment	y	0.65
Tradable endowment	y^*	0.35
Steady state value of Ψ_t	$\bar{\Psi}$	0.8
Persistence of Ψ_t	ρ	0.9
Standard deviation of shocks to Ψ_t	σ	0.01
Response of financial repression to Ψ_t	α	0.05

and Milesi-Ferretti 2018), so $\bar{\Psi}$ is set to match that ratio. I assume that the increase in demand for bonds leads (in the case of no government intervention) to a further increase in the net foreign asset position of around 5 per cent of GDP. This number is chosen to match the typical magnitude of current account reversals during sudden stops episodes (see Calvo et al. 2004). Finally, an important parameter for assessing the impact of financial repression is α , which determines the differential between the world interest rate R^* and the domestic rate R_{Ht}^* . I set $\alpha = 0.05$, which implies that, at its peak, financial repression lowers the interest rate received by domestic agents by around 4 percentage points, relative to the world interest rate. Such an amount is in the range of the extent of financial repression on domestic rates found by the study of Giovannini and de Melo (1993).

Results are displayed in Figure 2, where the solid lines show the efficient outcomes, the dashed lines show the outcome under *Laissez-faire*, and the dotted lines show the outcomes under financial repression. Panel (a) shows the path for the demand for the tradable bond, Ψ_t , as a result of the shock, this path is the same across the three regimes.

Starting with the efficient equilibrium, note that consumption of the tradable good (panel b), and hence the exchange rate (panel c), is constant, while investment in bonds (panel d) increases to match exactly the increase in bond demand Ψ_t . How can the households sustain an increase in bond investment and constant consumption? They receive increased transfers from the government (panel e). How does the government obtain resources for the transfers? By intervening (specifically, borrowing) in the international bond market (panel h). Consider now the *Laissez-faire* scenario where the government cannot intervene in the international bond markets and does not impose financial repression. In this case, the government does not have any resources, so transfers (dashed line in panel e) are zero. In response to the increase in demand for international bonds, households increase their bond holdings and reduce their consumption of tradable goods. As a consequence, the exchange rate depreciates. Notice also that in this case, households suffer a welfare loss (panel f) relative to the efficient equilibrium, which in this example is quantified as over 0.15 per cent of lifetime non-tradable consumption. This is because, relative to the efficient equilibrium, their consumption of the tradable good is lower, and their bond holdings are further away from the target level Ψ_t . Can these welfare losses be ameliorated if the government engages in financial repression? The answer is no. Financial repression lowers the rate that the households receive on their investment (panel g), and as a consequence, relative to *Laissez-faire*, households consume more tradable goods (panel b) and the exchange rate depreciates by less (dotted line in panel c). However, the consequences of the higher consumption are that household bond holdings are further away from the desired level. Overall, the welfare losses under financial repression are higher than those in the *Laissez-faire* case. To understand why this is the case, consider that both in the efficient equilibrium and in the *Laissez-faire* allocation, the marginal rate of substitution between current and future tradable consumption is equalized to the marginal rate of transformation, which is the international interest rate R^* . Financial repression, by lowering the rate faced by households, has the only effect of

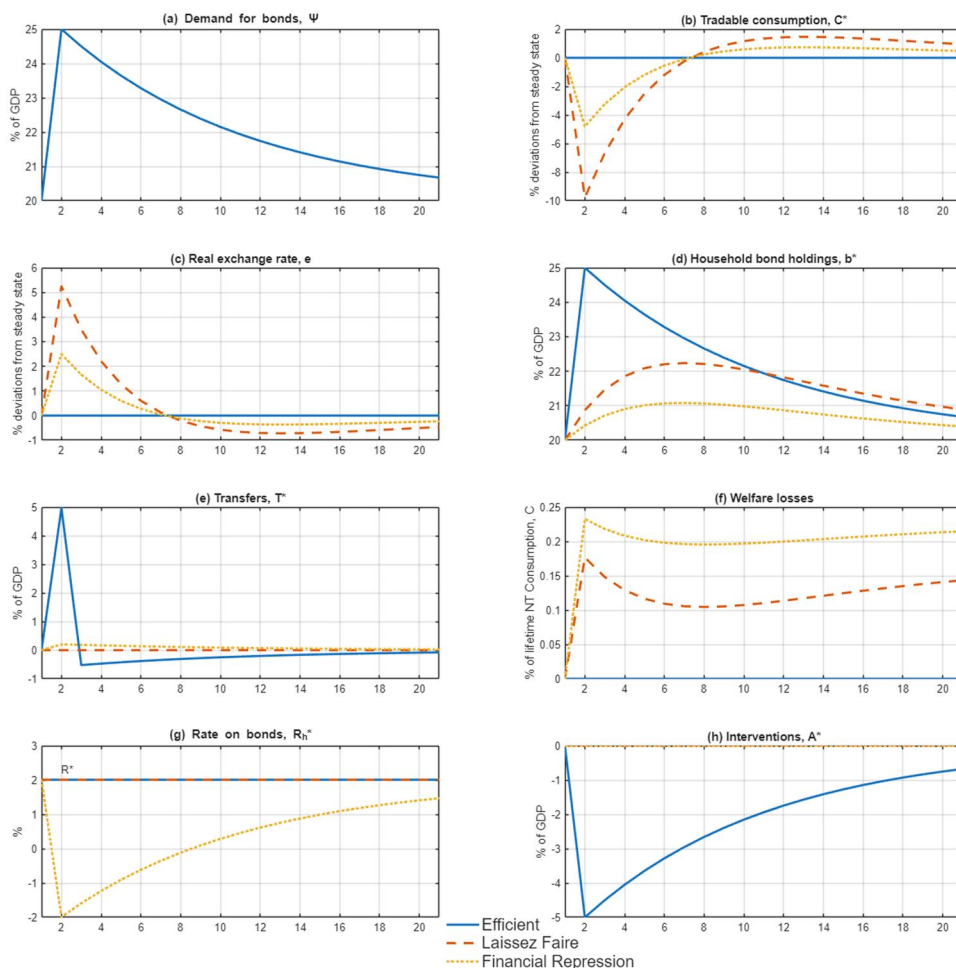


Figure 2 Responses to a shock to demand for bonds under different regimes.

inserting a wedge in the household inter-temporal allocation, so it necessarily lowers welfare. Concluding, financial repression does reduce exchange rate fluctuations in response to shocks, but these reductions are not desirable, at least in this simple version of the IM economy, as they are simply a signal of increasing financial distortions in financial markets.

4. Can financial repression ever be desirable?

In the previous section, we have elucidated one of the key findings by IM, that financial repression is not desirable, even when government interventions in the foreign exchange market are severely constrained. Is there a scenario in which financial repression might be a desirable policy instrument? Relative to *Laissez-faire*, financial repression does two things: it creates revenues for the government, and it reduces exchange rate depreciation. So, in order for financial repression to be desirable, it must be

that one of these features creates enough benefit for the economy to offset the costs created by the inter-temporal distortion it induces.

4.1. Raising government revenues

Let's first analyse the case of extra government revenues, which can be seen in the dotted line in panel (e). In the case of financial repression the government generates a small amount of revenues because it pays the households interest R_{Ht}^* and invests at a rate $R^* > R_{Ht}^*$. If this revenue can be used to finance an activity that has a high social return (like national defence or transfers for a severely constrained group of the population), financial repression might be desirable. However, two caveats are in order. The first is that if there are other, less distortionary, fiscal instruments, they should be used before financial repression. The second is that revenues from financial repression are likely to be small. As the government tries to extract more revenues lowering the rate on bonds, households strongly reduce their bond holdings, reducing the tax base. Probably, as has been highlighted by early studies on financial repression, to make it a more effective policy, it has to be accompanied by quantity restrictions on bond holdings. In the economy considered in the previous section, a financial repression policy that lowers the rate on household bonds by 4 percentage points was able to generate peak revenues of only 0.2 per cent of GDP. A more extreme financial repression policy that lowered the rate on household bonds by 12 percentage points would have only increased revenue to 0.6 per cent of GDP, despite lowering welfare by almost 1 per cent of lifetime consumption.

4.2. Reducing exchange rate depreciation

Panel (c) in [Figure 2](#) shows that financial repression can be very effective in reducing exchange rate fluctuations in response to a shock. Indeed, this simple framework can be used to show that if the government lowered the rate on household bonds R_{Ht} by 8 percentage points, relative to world interest rates, it would completely stabilize the exchange rate despite the shock to the demand for bonds. However, in the context of this baseline model, this would not be desirable. Can one change this set-up in a way that such a stabilization of the exchange rate would be beneficial? An important insight comes from the large literature on balance sheet effects during financial crises, showing that exchange rate depreciation can lead to a tightening of the borrowing constraints of producers, thus leading to a drop in output.⁵ To incorporate this insight in the simple set-up discussed in the previous section, one can simply make output (say, without loss of generality, of the non-tradable good), to decline in response to exchange rate depreciation.

Would such a simple modification make financial repression desirable, relative to *Laissez-faire*? The answer is a qualified yes. In the set-up where non-tradable output is endogenous, the *Laissez-faire* equilibrium is no longer constrained efficient. The reason is that when agents cut their tradable consumption in response to the shock to Ψ_t , they do not internalize that their decision depreciates the exchange rate, which in turn, through tightening of borrowing constraints of producers, reduces equilibrium output of the non-tradable good. This implies that the social cost of exchange rate depreciation is higher than its private cost, and a planner would want to limit exchange rate depreciation in response to a shock to Ψ_t . Since financial repression limits exchange depreciation, and in the set-up with endogenous output, it increases output, it might in principle be desirable. One must not forget, however, that financial repression is still a distortion, and so it still imposes the welfare costs discussed in the previous section. Whether the positive effect of extra output or the distortionary cost is going to dominate obviously is going to depend on the exact details of the economy analysed. A useful guiding principle is that the benefits of extra output are going to be (at best) linear in the amount of financial repression, while the welfare costs of the distortion are going to be quadratic in it ([Harberger 1964](#)); so small levels of financial

5. See, for example, [Calvo and Reinhart \(2002\)](#), [Céspedes et al. \(2004\)](#), [Cavallo et al. \(2005\)](#), [Bianchi and Coulibaly \(2026\)](#).

Table 2 Welfare benefits from financial repression (relative to *Laissez-faire*), in percentage of lifetime non-tradable consumption.

	Financial repression: $R^* - R_{Ht}^*$			
	1%	2%	4%	8%
$\delta = 1$	0.013%	0.014%	-0.007%	-0.16%
$\delta = 5$	0.025%	0.033%	0.025%	-0.12%

repression might be beneficial, but for large values of financial repression the quadratic distortionary costs are going to dominate. To show this, we can modify the set-up discussed in the previous section simply making output in the non-tradable sector, y_t , to be endogenously affected by the exchange rate, according to the following reduced-form equation:

$$\left(\frac{y_t}{y}\right) = \left(\frac{e_t}{e}\right)^{-\delta}$$

where y and e are the steady state level of non-tradable output and exchange rate and $\delta > 0$ represents the elasticity of non-tradable output to exchange rate changes. Table 2 reports the welfare benefits of financial repression (relative to *Laissez-faire*), in terms of lifetime non-tradable consumption equivalent, for four possible values of financial repression and for two possible values of δ , the elasticity of output to the exchange rate. The remaining parameters are set as in Table 1. Table 2 shows that for small financial repression, the benefits of repression are positive but small, even for large values of the elasticity of output to exchange rate. The table also shows that for a larger amount of financial repression, the welfare impact becomes negative and larger, signalling the dominance of the costs of distortion imposed by financial repression.

5. Conclusions

Should economists and policymakers reconsider financial repression, and in general taxes on financial transactions, as a useful policy tool, especially in economies where other policy instruments might be severely constrained? The paper by IM presents a simple and useful framework to answer this question. The answer, as I see it, is mostly no. The main objective of this discussion is to provide additional explanation for this, using a simplified version of their set-up. The key insight is that financial repression, interpreted broadly, is a tax on inter-temporal transactions, and as such, as is well understood, is quite distortionary. This implies two strong arguments against financial repression. The first is that, because of the high distortion, private agents' responses to financial repression are going to be strong, and that makes it hard for the government to collect a significant amount of revenues from it. The second is that high distortions imply high welfare costs, and even in severely constrained economies where financial repression might yield some benefits, it is hard for these benefits to outweigh their distortionary costs.

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