

Agénor, Pierre-Richard

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Global Health Challenges and the World Economy: Assessing the Benefits of Fiscal Policy Cooperation*

Pierre-Richard AGÉNOR



PIERRE-RICHARD AGÉNOR, Professor at the University of Manchester and Senior Fellow FERDI.

In the midst of the COVID-19 health crisis, many observers advocated the implementation of a global strategy to promote the production and equitable distribution of vaccines, prevent the emergence of infectious diseases, and reduce the risk of future pandemics. But what are the implications of this strategy for national tax and spending policies, and the world economy? What is the role, if any, of fiscal policy cooperation in that context? Dwelling on recent analytical research, it is argued that cooperation can be welfare-improving for the world at large, even when taxation is distortionary and governments face a trade-off between financing local public goods (such as infrastructure) and global public goods (vaccines).



* This Policy Brief is based on Agénor and Pereira da Silva (2023), which benefited from support by the Bank for International Settlements. The paper can be downloaded at <https://www.bis.org/publ/work1106.htm>

... / ... This is also the case when the levy used to finance the production of global public goods takes the form of a wealth tax, even under a high degree of financial openness. Moreover, optimal tax rates are not necessarily higher under cooperation – an important consideration from a policy perspective.

► Introduction

The COVID-19 pandemic made it painfully clear that, in today's globalized world, national borders cannot stop the propagation of viruses and communicable diseases. The lack of global vaccination in the initial stages of the pandemic entailed huge human and economic costs. Equally worrying, going forward, is the fact that scientists have provided compelling evidence to suggest that the rate of emergence of new diseases, driven in part by the unprecedented loss and fragmentation of tropical forests, is accelerating, and that their adverse consequences for human life and the world economy may dramatically increase in the future (Dobson et al. (2020)).

In that context, many observers advocated the implementation of a global strategy to prevent the emergence of infectious diseases and promote the production and equitable distribution of vaccines. Indeed, there is growing consensus that, in an interconnected world, collective investment in prevention may well be, in the future, the only way to avoid catastrophic tolls in terms of human life and large economic costs (de Bolle (2021)). Fundamentally, this strategy involves viewing health as a *global public good*, the provision of which requires collective action. Yet, this raises a host of issues, including how the production of these goods should be financed if adequate fees cannot be imposed to cover costs, what type of institutional arrangements should be put in place to promote production and ensure a fair distribution, and how to avoid free riding when benefits are nonexcludable. Also important are the extent to which countries should

coordinate their policy decisions on how to raise and allocate resources in that context (through, for instance, a general tax or earmarked levies), and how trade-offs between national expenditure priorities (such as, for instance, the need to invest in infrastructure) and the financing of global public goods should be addressed.

► A Formal framework

In a recent paper, Agénor and Pereira da Silva (2023) contributed to this debate in several dimensions. They consider a two-region, endogenous growth model of the world economy in which a multilateral health fund – in essence, an institution like the World Health Organization – produces a global public good (vaccines) based on voluntary contributions by national governments. Resources transferred to the fund are productive because vaccines improve individual health, and health improves productivity of all workers, wherever they are located. At the same time, in each region an equally productive local public good (infrastructure) must also be provided to domestic producers. Thus, there is a potential conflict, at the national level, between government resource allocation among alternative uses – spend domestically to provide a public input which benefits directly domestic firms, or transfer revenues to a global fund, whose production indirectly benefits workers at home. To highlight the nature of the trade-offs that policy-makers face between the provision of local and global public goods, the analysis considers both *separate budgets* and tax rates for the financing of each type of public goods, and the case of an *integrated budget*, with a single tax rate and the allocation of total revenues between the two categories of spending.

This setup is used to study strategic interactions between national fiscal authorities. Distortionary tax rates (with either separate budgets or an integrated budget) are chosen to maximize household welfare, taking explicitly into account

the effects of policy decisions on each economy's growth rate along the equilibrium path. Both the noncooperative (Nash) equilibrium, in which each region determines independently its contribution to the global fund in order to maximize its own welfare, and the cooperative solution, in which policymakers internalize the cross-border spillovers effects associated with vaccines, and jointly determine their contribution in order to maximize global welfare, are derived. The cases of financial autarky (in which case national saving must be equal to national investment) and financial openness (in which case a global constraint prevails on saving and investment) are considered separately.

► Main Results

Several important results emerge from the analysis. First, there is a fundamental trade-off between growth, welfare and the provision of the global public good. On the one hand, raising revenues to transfer to the global fund reduces savings and capital accumulation at home; on the other, greater access to the global public good improves health, which raises labor supply and productivity everywhere. Under separate budgets, there is therefore an *indirect* trade-off in setting each tax rate used to finance infrastructure spending and the transfer to the global health fund. This trade-off can be internalized by choosing optimally the tax rates that maximize household welfare. Second, under financial autarky, the noncooperative (Nash) equilibrium is inefficient; there is under-provision of vaccines. By contrast, cooperation enhances welfare, although, importantly, it does not necessarily entail higher tax rates. This depends on household preferences for health and the labor elasticity of production, which capture the channels through which vaccines can affect welfare.

When there is an integrated budget, and therefore a *direct* trade-off in the allocation of public expenditure between health (or contribution

to the global fund) and infrastructure, policymakers acting jointly internalize the fact that while spending more on health creates benefits by increasing the production of vaccines, it also generates costs for both regions – spending less on the local public good means lower production and lower income eventually, which reduces the tax base in each region, and therefore the total amount of revenue that can be raised. Thus, this time, cooperation definitely leads to a smaller, rather than a larger, share of spending on health, that is, a relatively smaller contribution to the global fund. At the same time though, welfare under cooperation remains higher than under independent policymaking.

Third, under financial openness, the noncooperative equilibrium remains inefficient, because it also fails to internalize cross-border leakages through capital flows. Finally, when the separate health levy takes the form of a wealth tax (namely, a tax on capital assets), cooperation also generates superior outcomes because it preserves the national tax base by mitigating cross-border leakages. At the same time, as illustrated in simple numerical experiments, when countries are financially integrated, the optimal health levy under cooperation is substantially *lower* than under independent policymaking – regardless of whether the tax is levied on wage income or capital assets – and the gain from cooperation can be fairly large. These are important considerations from a policy perspective.

Although these results are derived in a framework in which the focus is on global health, they are largely valid if, instead, the focus is on other public goods (the environment, security, and so on). If, for instance, pollution has an adverse effect on worker productivity (just like poor health does), and climate change can be mitigated through global cooperation to produce clean energy, the analysis would remain essentially the same – with a suitable reinterpretation.

► Policy Implications

From a policy perspective, one implication of the foregoing analysis is that cooperation can be beneficial in terms of providing a global health-related public good, regardless of how the resources transferred to the global fund are levied and the degree of financial integration. However, in practice cooperation in the production of global public goods raises a number of issues – some of which have been discussed thoroughly in the literature (see Sandmo (2016) and Buchholz and Sandler (2021)). Building consensus and support from individual governments for international tax cooperation, with the goal of financing a global public good may prove difficult – as illustrated by the recent debate on setting a global minimum corporate tax rate to avoid a *race to the bottom* – and may require strong multilateral institutions. Yet, setting up institutions that guarantee simultaneously both commitment and cooperation is challenging. As documented in the literature, increased funding for the provision of global public goods by some countries may have an adverse effect on funding by others – a typical *free rider problem*.

A second policy implication of the foregoing discussion relates to the benefit (or lack thereof) of cooperation when there is a direct trade-off between productive spending components. Recently, some international institutions have advocated large increases in infrastructure investment to sustain growth of the world economy at longer horizons. However, the analysis suggests that, if governments face a trade-off in allocating resources, the benefit of infrastructure for growth may not be the only (or even the main) consideration when global public goods provide a direct benefit in terms of individual health and welfare.

Finally, a third implication, from a policy standpoint, relates to the use of a wealth-based tax to finance the development and production of vaccines by a multilateral health fund. The key result

is that such a tax may enhance global welfare – even under financial integration. In practice, one argument for advocating a wealth-based tax to finance efforts to prevent the spread of infectious diseases is that income taxes are already quite high in many countries, and so are fiscal deficits and debt ratios (see International Monetary Fund (2023)). This situation has been made worse as a result of the COVID-19 pandemic. If financing through conventional taxes (or debt) is not an option, a low wealth tax assigned to a productive use may be an attractive option. Indeed, if compliance by taxpayers is influenced by the public's perception of the efficiency of resource utilization and how legitimate it is, the explicit earmarking of a wealth tax to the production of a global public good may be well received. In addition to side benefits – a reduction in inequality, which has increased significantly in recent years in many countries around the world (see Piketty (2020) and World Inequality Lab (2021)) – the tax can also be viewed as a measure of international solidarity.

At the same time, it is important to recognize that, regardless of its objective, the implementation of a wealth tax faces substantial challenges at both technical and political levels. As discussed by the OECD (2018) and Viard (2019), for instance, the experience so far has not been conclusive, with a number of countries eventually backtracking in their efforts to impose such a tax. Indeed, wealth taxes have proved difficult to administer and enforce. They may also have adverse effects on incentives to accumulate human capital (Blandin and Peterman (2019)) and make it harder for new entrants to accumulate wealth and build collateral, which could contribute to persistence in inequality.¹ It could also negatively affect incentives to innovate (Jones (2022)), with an adverse impact on long-term growth.

1. Sweden is a case in point. See Björklund et al. (2012), Waldenström (2018), and Bastani and Waldenström (2020), for instance.

Nevertheless, and although the formal analysis summarized earlier is too stylized to provide any real guidance as to what the common wealth tax should actually be, it is clear that accounting for tax avoidance, enforcement and collection costs would militate in favor of a relatively low rate, perhaps as low as 2 or 3 percent, with a fairly high exemption threshold and a narrow focus on the type of assets that should be subjected to imposition. Indeed, a low international tax rate would be wise because a recurrent argument is the fact that wealth taxes have often been implemented at the individual country level, in a context where the opportunity to engage in offshore tax evasion is high (see, for instance, Rotberg and Steinberg (2021)). As a result, to avoid a collapse of their tax base – or its shrinkage to only physical assets, such as land – countries have been forced to eliminate them.² The foregoing analysis suggests that, in line with some other, more policy-oriented contributions, cooperation can “solve” the problem in that case, by mitigating incentives for capital to move across borders.³

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2. The same issue arises in the context of federal states, where capital mobility between regions is *de facto* high. This is worth bearing in mind, given the current push in the United States by some progressive member states to introduce legislation aimed at taxing assets of the wealthy.

3. This analysis is therefore consistent with the views of those who have advocated a European wealth tax, for instance, on the ground that migration of wealthy taxpayers within the European Union would then become irrelevant (Landais et al. (2019) and Kleven et al. (2020)) and that enforcement would be facilitated by cross-border cooperation within the union (Saez and Zucman (2019)).

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Contact

www.ferdi.fr

contact@ferdi.fr

+33 (0)4 43 97 64 60

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Publication director: Patrick Guillaumont

