An international interface: democratic planning in a global context

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Abstract

There have been renewed discussions about alternative economic systems in recent years. Democratic planning is one of the options that has received a lot of attention, especially in view of the ways it could help address social and ecological challenges. However, little has been written about how a democratically planned economy could relate to other economies through trade or financial flows. This lack of interest is surprising, considering that any country aspiring to plan its economy democratically would have to take into consideration its integration in global value chains and that few would likely aim for complete autarky once fully democratized. In this article, we address this issue by delineating five principles that an institution responsible for international economic relations should follow in a democratically planned economy and giving an example of how it could function in practice.

Keywords: democratic planning, post-capitalism, economic planning, international trade

Authors:

Mathieu Dufour, Université du Québec en Outaouais, Gatineau, Canada.

Sophie Elias-Pinsonnault, Institut de recherche et d'informations socioéconomiques, Montréal.

Simon Tremblay-Pepin, Saint Paul University, Ottawa, Canada.

1. Introduction

Looming social and environmental issues, combined with growing technological capacities, have recently contributed to a rekindling of discussions about alternative ways to organize an economy on a large scale (Alexander et al., 2022; Clayton et al., 2021; Phillips and Rozworski, 2019). The demise of the Soviet Union in the early 1990s had signaled to many that capitalism was the only viable economic system (Fukuyama, 2006). However, a few decades later, it is looking increasingly inadequate to address the challenges of our times (Klein, 2015; Fraser and Jaeggi, 2018). These perceived limits of the existing economic system have prompted various proposals to amend economic governance. For example, some put forward increased economic regulation, progressive fiscal measures and significant investments to foster an ecological transition (Aronoff et al., 2019; Chomsky and Pollin, 2020; Ajl, 2021). However, one may legitimately wonder whether such measures would be sufficient given the scale of the changes needed in economic practices (Görg et al., 2017). As such, it may be more productive to imagine a

fundamental overhaul of the economic system. That is to say, for it to be orderly and comprehensive, an ecological transition should likely be accompanied by a systemic change, for which it would, in turn, be helpful to devise coherent sets of institutions.

One option that appears especially promising and is regaining popularity in the last decade is democratic planning. If the idea has a long history in socialist circles (Castoriadis, 1988; Pannekoek, 1947), it was formalized in the 1980s and 1990s. At that time, scholars were looking for alternatives both to capitalism and to authoritarian central planning associated with the crumbling Soviet Union They also refused to follow the pathway envisioned by market socialists who tried to design a more democratic market economy, leaving planning behind (Nove, 1983; Elson, 1988; Brus and Laski, 1989; Estrin, 1989). This gave rise to three coherent models of a democratically planned economy. In 1988, Pat Devine published a book introducing *negotiated coordination*, a model he continued to develop later with Fikret Adaman (Devine, 2022; Adaman and Devine, 2022a, 2022b). In 1991, Michael Albert and Robin Hahnel published two books (1991a, 1991b) presenting to an academic public and a broader audience *participatory economics* on which they have kept publishing - together and separately - since (Hahnel, 2021, 2022; Albert, 2021). Finally, in 1993, Paul Cockshott and Allin Cottrell proposed a computerized and democratized version of central planning in their book *Towards a New Socialism* about which they too have kept publishing (Cockshott et al., 2022).

There is no space here to present the three models in detail. We invite readers unfamiliar with them to read the books mentioned above or a condensed presentation available online (Legault and Tremblay-Pepin, 2021; Laurin-Lamothe, Legault and Tremblay-Pepin, 2024). Let's nonetheless summarize their main points of agreement. All models are socializing the means of production, adopting self-management as the way to organize production units, limiting income inequalities considerably, banning the capacity to accumulate large amounts of capital for private actors, and planning the economy in a way that allows broad popular participation. In recent years, all their authors have worked on ways to show how the models could be adapted to react to the ecological crisis humanity is facing.

As these models show, democratic planning has many promising features for a post-capitalist economy. However, its theorization has largely confined itself to the internal organization of an economy. This focus has been useful in clarifying the way democratic planning would function in practice, outlining some of its advantages and the constraints it would face. Nevertheless, there are two limitations to this analysis in the current context. First, economic processes currently take place globally, with value chains spanning the world, a fact that must be taken into account in any attempt to transition towards shorter circular cycles. In the short run, many inputs will likely come from abroad. Moreover, a mature, democratically planned economy would probably not be entirely closed, so there would be a need for an international interface between that economy and the rest of the world regarding trade and capital flows. In this paper, we aim to supplement the literature on democratic planning by analyzing the form such an interface could take, both in transition and in a mature, democratically planned economy.

In the next section, we detail how exchanges and capital flows occur across borders in a capitalist economy and problematize the current globalized setup by isolating some of the aspects that exacerbate environmental and social problems. Section 3 contains a short description of existing democratic planning models and the way they treat international economic relations. In a nutshell, we argue that however stimulating they may otherwise be, international economic institutions are underdeveloped in these models and that more work is required on that dimension. We embark on this task in section 4 by outlining a set of principles that could guide the elaboration of an international interface. We then illustrate in section 5 how it could work in a small open economy and provide some concluding remarks in section 6.

2. Trade and capital flows in a capitalist economy

Social and political institutions frame all economic systems, and capitalism is no exception (Petit, 1999). While economic dynamics under capitalism may have been disembedded to some extent from broader social processes (Polanyi, 1944), they remain structured by institutions such as markets, which in turn are subject to political regulation. Indeed, in mature capitalist economies, there is for example no such thing as a "free market" on a large scale in the sense of a market that would be wholly deregulated and independent from political influence (Chang, 2011). There are rules regarding what can be traded, how the exchange proceeds, the legal obligations of the participants, etc. There is a further layer of complexity for international transactions in that they straddle many sovereign jurisdictions with their own rules and regulations. For global exchanges to proceed, they must thus go through an interface that allows them to fit with different sets of rules and modalities, such as product norms in the case of commodity trade or currency exchange. In addition to this need for congruence, jurisdictions are, of course, at liberty to add or remove rules specific to commodity or capital movements between them, such as trade barriers or investment restrictions in some sectors.

In many ways, the existence of jurisdictions with their own rules and ability to control flows can be seen as a constraint on the expansive nature of capitalism. The logic of capital, framed by competitive pressures and a profit imperative, leads to a tendency to channel collective resources to incorporate an ever greater portion of the material and human world within a process of commodity production. Capital alternates between a financial and physical form, both of which are necessary moments in the system's reproduction. Financial capital is invested in means of production with the finality of producing a profit through the sale of the ensuing products, which then takes financial form until it is again invested in a line of production. In the process, a whole network of production, sale, and credit is put in place. While many considerations may guide location choices, the span of that network is not inherently inhibited by national borders.

In practice, borders do matter for exchange and investment patterns (Spornberger, 2022; Helliwell, 1997) for a whole array of reasons, such as cultural or regulatory differences between jurisdictions. However, there has been a tendency in recent decades to lower institutional barriers to trade and capital flows, enabling firms to organize value chains worldwide and increasing the separation between production and consumption. It is

estimated that nearly a third of world trade consists of exchanges between branches of the same firms (Dunn, 2015). Financial and trade liberalization are thus complementary, as the first allows a global allocation of capital while the second allows commodities to be moved more easily from the locus of production to the point of consumption. As such, it is perhaps not surprising that recent liberalization agreements typically include clauses dealing with both of these dimensions (e.g., CUSMA, 2018; CETA, 2016).

More generally, international interfaces under capitalism are designed to facilitate capital accumulation. That is to say, while individual firms or sectors may be granted some protection, these interfaces are geared to promote economic development. The general idea is to ease exchange and financial transfers so that firms can best organize provisioning, production, and sales. If we abstract from individual protection, which may benefit certain firms, pure capitalist logic would command an abolition of jurisdictional differences (though probably not of State intervention; Poynter, 2021), and the globalization tendencies of the last few decades have generally been accommodating to such a vision. Standards and regulations have converged, monetary conversion has been made more accessible, and barriers to trade and financial flows have been lowered. This tendency has put further pressure on the environment and hindered efforts to enact an ecological transition (Dufour, 2023). However, this is less a consequence of the design of international interfaces than a reflection of a systemic logic to which environmental or social objectives are extraneous.

There is a fair amount of planning in capitalism (Jones, 2020), but it is done by and for individual firms without much regard for any consequence that does not impact them (Dufour, 2022). In a sense, externalities are the general case, not the exception. As such, the ability of firms to plan production and move financial capital globally implies that they often won't have a particular stake in the preservation of any given resource unless they imperatively need it to keep functioning. Depletion can make sense if it allows a quick profit to be reinvested elsewhere, perhaps even in a different production line altogether. Consequently, firms typically see environmental and social regulations as constraints and resist them as such, possibly conditioning the choices they make regarding the location of their activities. These corporate decisions may, in turn, influence the governments of different jurisdictions to limit these regulations to attract investment. Indeed, to the extent that there has been convergence in environmental and social practices as economic processes were becoming more global, there is evidence that some of it has been downward (Vesilind, 2015; Beyranevand, 2015).

Under capitalism, international interfaces follow two primary principles. First, economic units such as firms should be allowed to organize and locate economic processes in the way that suits them best, which is typically viewed as leading to an efficient allocation and use of capital. Second, the trade of commodities should be allowed as much as individual parties desire. To these principles, different jurisdictions will impose various constraints, for example, to help domestic economic units, to respect specific regulations, to ensure certain norms and standards in products, or to control the pace of capital flows. Nonetheless, the two principles remain the driving force, which implies that capitalism can only meet social or environmental objectives if state intervention puts some

constraint or sufficient compensatory measures, such as redistributive fiscal policies. Meanwhile, individual entities will constantly try to circumvent those constraints and policies because they limit capital accumulation or exchanges. Trade and financial liberalization in recent years have exacerbated this issue by diminishing the controls in place and giving more leeway to individual actors.

In contrast with the liberalization process that occurred in recent years, whose impact on the environment, for example, is likely negative, a trade and financial flow policy subordinated to an objective of ecological transition would probably contribute to making things more sustainable (Abbas, 2013; Dufour, 2022, 2023). However, such a policy would likely be hard to put in place durably without important changes in the economic system itself meant to ensure the subordination of economic processes to social and environmental objectives. Democratic planning offers a systemic alternative that has the potential to adequately address social and environmental challenges (Planning for Entropy, 2022), but its implementation itself requires systemic political and economic changes. Given the current globalization of value chains, such a transition could probably not proceed smoothly in isolation. Economic relations and linkages must be modulated so circuits are as short as possible without precluding exchange when it makes sense. In this way, a proper trade and financial flow policy can help usher these changes during a transitional period by protecting and encouraging certain practices over others and favoring their sustainability and improvement once the system is mature.

While primarily concerned with the organization of the domestic economy, authors of existing models of democratic planning have given some thought to international trade and capital flows. In the next section, we review the proposed options and isolate some elements we integrate in a more general setup.

3. International economic relations in democratic planning models

There is currently no canonical form for an international interface in democratic planning models. There are several models of democratic planning, and to the extent that they include an external sector, it is adapted to the rest of the structure of those models. Each model differs sufficiently from the other to depict an external sector somewhat idiosyncratically. Consequently, we don't review every single existing alternative for this article. Instead, we focus on the three most well-known models (Pat Devine and Fikret Adaman's coordinated negotiation, Michael Albert and Robin Hahnel's participatory economics, and Paul Cockshott and Allin Cottrell's computerized central planning) as well as a more recent one by Daniel Saros (2014). Other models exist, designed for example by David Laibman (2015), Takis Fotopoulos (1997), Marta Harnecker (2019) or Cornelius Castoriadis (1988), but none of them fleshed out a detailed way in which their models could be integrated at the international level. Also, because of space constraints, we will omit the previously mentioned market socialism models in this review, although it might be useful to evaluate the way in which they tackle international issues in future research.

Pat Devine and Fikret Adaman's negotiated coordination model does not contain a specific proposal for international trade. In his first book on the model, Devine states that "the principles underlying the model of negotiated coordination could be applied to international economic transactions" (1988: 253), without giving more details on the way this would function. Their most recent work (Devine, 2022; Adaman and Devine, 2022a, 2022b) did not focus on that question either. Indeed, in a recent discussion about their model, Hannah Archambault and Luke Pretz underlined that negotiated coordination had not touched on the questions of imperialism, colonialism and North-South relationships (Archambault and Pretz, 2022: 208). Adaman and Devine (2022c: 221) responded that Devine had already mentioned in a previous publication that:

> Jurisdictions range from local governments, through regional and national governments, to international and global institutions. Indeed, comparable arrangements also exist to some extent for economic decision-making at all levels. The challenge is to democratize both the polity and the economy at all levels by including in the decision-making process the rightful social owners, those who are affected by the decisions being made. (Devine, 2002:84)

Even though this is an interesting take on the generalization of the model, it does not help much if we want to think about how an economy organized through negotiated coordination would enter into relationships with its non-democratic neighbors.

Conversely, Cockshott and Cottrell discussed international trade for two entire chapters in the first book on their model (1993: 137-164). In computerized central planning, the equivalent of money is based on the labor theory of value and is called a labor token. It cannot be accumulated or exchanged between individuals and only allows a specific individual to access consumption goods equivalent to the number of hours they worked. After the transaction, it loses all value, like a theater ticket. Each consumption good has a value in labor token, which represents the number of hours needed to produce it, plus a price based on its value but adjusted to reflect the fluctuation of supply and demand of this good.

Suppose such a democratically planned economy evolves in an international setting where at least some of the other countries are capitalist economies. In that case, labor token currency cannot be a trading vehicle with those countries since there is no way to devise an exchange rate between two forms of currency that have such different properties. Therefore, a trade ministry would emit a certificate of labor credit used as the democratically planned economy's international currency. When this economy wants to import foreign goods, it buys them with this currency. Certificates of labor credit could be exchanged abroad, but its use would be outlawed in the country, just like other capitalist currencies. The value of labor credit in other currencies would not be established by the ministry but by the demand of other countries for the goods produced in the democratically planned economy.

The rules the ministry of trade would follow are simple. First, the only goods that this economy can import are the ones for which the price in labor tokens is higher than their

labor cost (therefore, the goods in high demand). Similarly, the only goods it can export are those with lower prices than their labor cost (the goods in high supply). The decision to import a good from a specific country is based on the number of labor credits the ministry must spend to buy it according to the exchange rate. If it needs to spend less collective labor to buy the good abroad than it needs to produce it at home, the good should be imported. Following the same logic, if a good can be exported at a price higher than its labor cost, it should be exported. According to Cockshott and Cottrell, "if these conditions are satisfied it is self-evident from the labour theory of value that foreign trade will yield an overall saving in effort to the country" (1993: 149). In essence, they wish to establish a trading system that does not make the democratically planned economy dependent on decisions made by foreign capitalists but still allows for saving on work effort when comparative advantage makes it possible.

But how should such an economy deal with other economies with a similarly democratic system? For Cockshott and Cottrell, "it is in the interest of the socialist system as a whole for different socialist countries to subordinate their economies to an international planning system" (1993: 162). The different countries would then be treated as parts of the same economic system, using the same currency and being planned by the same central planning board. Therefore, there would be no "trade" between those countries. They apply this vision to a concrete case with their proposed reforms to the European Union (Cockshott et al., 2010), where they grant the Union a much broader political role and a stronger economic policy that supersedes all the member states.

For a long time, Albert and Hahnel had left the question of international trade and capital flows unanswered, but Robin Hahnel recently proposed a set of principles that could guide international exchange (2021: 268-284, 2022: 211-231). Contrary to Cockshott and Cottrell, Hahnel does not center his intervention on the currency that a participatory economy will use at the international level. Instead, he shows how trade between countries can be integrated into participatory annual and long-term planning processes. He also establishes four rules a participatory economy should follow when interacting with other countries: First, never engage in direct foreign investment and never allow it at home because it contradicts the self-management of workplaces. Second, only engage in trade when it produces efficiency gains. Third, when dealing with a trade or financial partner that is less developed than you, make sure that more than 50% of the efficiency gain goes to this partner. Fourth, "countries with participatory economies [should] engage in strategic trade policies that make material progress in overcoming differences in economic development among their trading partners" (Hahnel, 2021: 276).

The integration of international trade in the participatory economics annual planning process is similar to how Cockshott and Cottrell integrate trade in their centralized planning. Assuming a small open economy wanting to reach a balanced trade account (but an economy could adapt the process to get a surplus or a deficit), the tradable goods are integrated into the planning process at their international price. The annual iterative budgetary process happens for all the other goods of the economy and establishes a price and a quantity for each other goods. "In every round, the [Iteration Facilitation Board] adds the export demand for [the goods in excess supply] to the domestic demand for

[those goods], the import supply of [goods in excess demand] to the domestic supply of [those goods], and adjusts the prices of all non-tradable goods to eliminate excess supply or demand for non-tradable goods" (Hahnel, 2021: 276). The changes in the production or consumption plans of the tradable goods affect the imputed supply and demand of those goods and the process goes on until the relative opportunity cost of producing domestically the tradable goods in excess supply in terms of the tradable goods in excess demand becomes equal to the international terms of trade between those goods (Hahnel, 2021: 276-277).

Outside its annual planning process, a participatory economy must also plan a longer-term vision of how it wants to relate to the international context. Are we planning to develop specific sectors to have a comparative advantage over our trading partners? Which sectors are selected? Do we use tariffs, quotas, or subsidies to do so? All this needs to be decided before annual planning takes place. In particular, each sectoral workers' federation should show the benefit for the whole society of granting their members some trade advantage through policy. Hahnel considers that the National Federation of Consumer Councils should be asked to evaluate the "magnitude of dead weight losses for consumers" (2021: 280) if such measures occur. Since that national federation represents all the consumer councils, it has an interest in considering the varied impact on consumers. Based on the cases made by the different federations, a ministry for International Economic Affairs would then propose a plan on how to use tariffs, subsidies, and quotas for the various industries, "including a schedule for their removal, to be debated and approved either by the national legislature or a national referendum" (Hahnel, 2021: 281).

Outside of the three older models cited, Daniel E. Saros wrote two chapters (2014: 171-246) presenting a vision of a post-capitalist economy, which contains a few paragraphs on international trade. To summarize it briefly, Saros' proposal considers that recent technological developments were necessary for achieving socialism and that big data and vast computer networks make the market obsolete as an economic technology. In Saros' vision of socialism, each individual registers "needs" in the form of the goods and services they want to consume in a vast database called the General Catalog. This catalog contains every good or service the local industries (run by self-managed work councils) can produce. Each of the need is attributed points according to how much it is a priority for each individual. Finally, a computer adds together the points given by all individuals to each specific need. This point system is the basis for allocating material and human resources to different workers' councils for production purposes.

Suppose someone entered a need in the General Catalog that requires an intermediate or final product that the local economy cannot produce but is available on the international market. A worker council could put that good in the General Catalog, and an individual could attribute points to it. "The points that the workers' council would receive could be used to produce a particular commodity that it expects to be able to sell to another nation for that nation's currency. If this nation does not produce the use-value, the registered need for which originated the workers' council's points, then the currency would be sold in the foreign currency market for the currency of a nation that does produce the use-

value. The use-value may then be imported and sold to those individuals who registered a need for the use-value." (Saros, 2014: 232-233). The international terms of trade will therefore determine the quantity of the goods the domestic economy should produce. This proposal is not far from the solution proposed by Cockshott and Cottrell and discussed earlier.

Finally, even though democratic economic planning has been at the center of many publications in recent years (Alexander et al., 2022; Balsam, 2021; Benanav, 2020; Clayton et al., 2021; Gmeiner and Harper, 2022; Groos, 2021; Nelson, 2022; Phillips and Rozworski, 2019; Sorg, 2022), none offers a concrete proposal for international trade.

The contributions of Cockshott and Cottrell, Hahnel, and Saros are substantial and pertinent. Still, as was mentioned in a previous publication (Planning for Entropy, 2022) they are leaving a fundamental question out, the question of multiple criteria accounting in the decision-making process. All these proposals integrate imports inside the internal planning system through the conversion of prices to transform the "outside" prices coming from other economic systems and make them compatible with the internal planning system. It goes the other way for exports; the goods coming from the democratically planned economy are priced in a manner that is compatible with the capitalist economy outside its borders. It is a significant improvement, but as for the products the democratically planned economy wishes to produce or consume, the price will not be the sole criterion on which a democratic economy wants to judge a good. It is even more the case for foreign goods since they are not the product of a democratic economic system and might not be subject to strict environmental and social regulations. This question is already raised inside capitalism by movements that promote fair trade or organic agriculture at a global level. It would not be any less pertinent in a democratically planned society. In the next section, we discuss the principles on which an international interface for a democratically planned economy using multiple criteria in its planning processes should be based.

4. General principles for an international interface

This section will present five principles we consider useful to base our international interface on: autonomy, efficiency, multifactoriality, transparency, and cooperation. The first two principles, autonomy and efficiency, are directly inspired by the existing models' treatment of international trade. First, when various economic systems coexist in the world, the international interface serves as a buffer so that outside influence does not threaten the internal logic of the democratically planned economy. For example, participatory economics does not permit foreign investment, and converting currency is centralized in computerized central planning. We generally agree with exerting tight controls on financial flows to maintain the system's integrity. While the general principle in capitalism is to let capital go where it will, i.e., let private firms channel collective resources on a global scale, in a democratically planned economy, the principle should be the exact obverse. To the extent that an economy is democratically planned, investment decisions will be taken collectively by the communities and individuals concerned. We agree with Robin Hahnel that there should be no space for inward direct investment, as it

is unlikely that foreign actors would let others entirely manage their property. However, there could be scope for unilateral transfers as long as it does not breed dependency. As for outward investment, communities would have to decide by themselves if it is appropriate, but the answer probably hinges on the systemic organization of other jurisdictions. If the entire world is managed through democratic planning principles, then resources could be shared. In that case, it would be more of a direct transfer than an investment per se.

Second, the authors of the models largely follow a logic of comparative advantage in terms of costs. If other countries can produce a good more efficiently, with all due consideration given to dynamic possibilities for transformation and improvement, a democratically planned economy should explore the possibility of international trade. This outlines the efficiency principle. One limitation here is that the authors of existing models typically stay within a logic of economic development aiming at optimizing resource use, whereas goals and objectives in a democratically planned economy could, in practice, be much broader. To the extent that individual producer collectives make trade proposals and that these do not precisely have to be based simply on optimizing returns on resource use, Saros' model potentially allows for a broader vision. However, it still follows an individual production or consumption logic that does not abide by collective regulation, which in some ways differs little from the capitalist setup described in section 2. In any event, a society could apply the principle of efficiency in a broader sense by pursuing the variety of social, environmental, and economic goals it sets itself.

Suppose for example that people in a democratically planned economy have a set of social and environmental goals, supplementing economic ones or even overarching them. Efficiency in that context refers to the way these goals can be achieved. Some foreign economic practices could be more efficient in many ways than domestic ones, the form of the economic system notwithstanding. In that case, provisioning from abroad would make sense, as would virtuous "competition" to improve domestic practices. Similarly, we can expect some domestically-produced goods to be of interest to other countries, thus potentially justifying their export. For example, if jurisdiction A produces energy with relatively low carbon emissions, it may interest jurisdiction B. Or it might not if it involves a tradeoff with another dimension of interest to jurisdiction B. Indeed, the international interface should also promote the autonomy of the democratic planning processes at work so that the people and communities involved can implement their own sets of priorities, even if, for example, it could lose in a straight financial cost competition. There is thus a role for protection in an international interface, but it should be porous enough to allow passage under certain conditions.

These two principles – *autonomy* and *efficiency* – are undoubtedly useful and could be considered fundamental for a general interface. We propose to add three more – multifactoriality, transparency and cooperation – that the previous authors of democratic planning models do not consider but that integrate aspects presented in recent contributions (Planning for Entropy 2022). As mentioned above, assessing the efficiency regarding a plurality of goals requires a multidimensional accounting framework to measure and compare the effects of trade and investment decisions on different levels –

such as considering biophysical, spatial, human, social, and economic dimensions. Thus comes the third principle, *multifactoriality*, which should be central in evaluating which goods to trade and how to set priorities. This multifactoriality would allow the international interface to have the principles, objectives, and quantitative targets set by democratic instances at the center of its functioning. In particular, impacts abroad could be considered when making trade and investment decisions. This principle is especially relevant when looking at the management of quantitative targets in terms of resource use and pollution emission. Dufour (2022, 2023) highlights the importance of setting quantitative environmental targets tied to consumption in addition to the ones regarding production to address the risk of offshoring production. Such a broader understanding requires the consideration of material and energy flows both within the country and abroad, occurring across the life cycle of all goods consumed domestically.

For example, let's say that people in a democratically planned economy have adopted a multidimensional accounting framework to properly discuss and debate the quantitative aspects of the variety of objectives they set themselves. Say two of these are that water usage and pesticides should be kept as low as possible in agriculture, and that the next jurisdiction claims to make tomatoes using less water and pesticides. The first step would be, of course, to verify that information. This responsibility could be given to a specific economic institution, possibly the same one that manages the trade interface. It can be challenging to garner information on foreign practices, but let's assume that the institution has ascertained that foreign tomatoes are made using less water and pesticides and that, for the sake of argument, tomatoes do not have an easy substitute. In this case, and with only these two objectives, it makes sense to import tomatoes rather than produce them domestically. Now, what if foreign tomatoes require less water but more pesticides? What should arbitrage be between the two dimensions? Again, there are a variety of possibilities, such as setting one dimension as being more important, perhaps with minimum standards for the other, or having the issue settled through a deliberative process. Multifactorial accounting also enables comparing material and energy flows inside and outside the domestic boundaries concerning quantitative targets. For example, imports threatening to bring total use or consumption over the limit could call for a decrease in consumption from domestic sources, either through export or a reduction in production. Again, this could not be left to a decentralized interface like the one in a capitalist economy, where people can trade as much as they want.

This example brings up a fourth principle, *transparency*, which is that information on goods and services should be made available by the democratically planned economy and its trade partners. Without a transparent information flow between the trade partners, multifactorial accounting is impossible, and so is trade based on principles other than efficiency. Hence a democratically planned economy should trade only with actors – corporations or countries – which make complete information about their products available. Giving this information to trade partners about its products would not be difficult for a democratically planned economy since this information is already made available during the planning process. Following this principle, a democratically planned economy whose importance in international trade is increasing would become a vector of disclosure of the production process and would therefore encourage better practices.

Beyond considerations of efficiency, trade carries with it a risk of dependency. Even if the neighboring country produces under better conditions and uses better practices, developing a diversified domestic economy to foster its autonomy and resilience makes sense. The stress currently put on the world economy by the COVID pandemic or the war in Ukraine illustrates some of the challenges linked to globalized supply chains. Similar issues could arise in the future due to environmental disruptions and resource depletion. In any event, the international interface should be designed to foster the development of the domestic economy. To the extent that trade is allowed for consumer products or inputs, substitutes should be available as much as possible. This need for economic diversification harks back to the principle of autonomy but adds another dimension to it. The role of the interface is not only to protect sets of political and economic processes and institutions but also to enable the flourishing of a complex and diversified economy as a goal in itself.

While a democratically planned economy will likely be much less specialized than most economies currently are, the goal is not for every country to make everything. This would amount to a waste of productive resources and in many cases, would simply be impractical. For example, small economies may not have the wherewithal to make every complex manufacturing product from start to finish. Once productive efficiency has been evaluated according to the dimensions deemed relevant, there should be a limit to the maintenance or development of inefficient processes. If the neighbor makes something with better overall social and environmental practices, its import should seriously be considered. As such, while economic diversification is to be fostered, there will be a certain degree of specialization. Nonetheless, it will occur according to multiple social and ecological criteria, not solely financial competition.

Domestic economic development can require a large amount of resources, especially in the context of economic diversification. Borrowing can be a valuable way to get financial resources during a transition phase that involves the import of crucial equipment or inputs, but it also bears the risk of creating a relationship of dependency. What place should be left to international credit flows in the context of a democratically planned economy? First, instruments like foreign trade credit would not be helpful for individual entities if a political institution vets trade decisions. But the jurisdiction as a whole may need credit in foreign currency if it is running a trade deficit, for example. Following the principle of autonomy, a democratic economy should probably shun international credit over the medium to long run. It could nonetheless be envisaged in the short run, during the systemic transition, or in case of sudden need, particularly between economies with a similar economic system. One important consideration here is diplomacy; another is the terms of that borrowing. If, as often is the case currently with sovereign debt, it pushes jurisdictions to orient their production in a way that generates foreign currency, such as export crops, it could unduly restrict the scope of the economic transformation. As such, credit could prove useful if carefully managed, but the way out of indebtedness should already be precisely laid out when the debt is incurred.

The principle of autonomy suggests that an international interface should preserve the margin of action of people and communities engaged in a democratically planned economy. A question remains regarding the level of influence it should have abroad. The international interface not only configures how the domestic economy is affected by global dynamics but also shapes how the domestic economy impacts the rest of the world. Democratic planning often focuses on setting domestic objectives to be applied within its borders for obvious democratic reasons. However, acknowledging that any international interface would affect a country's surroundings opens the door to setting principles or objectives guiding the country's external influence. Given the current state of global inequalities, an economy aiming for global economic convergence could not neglect its own positioning within global power dynamics in the orientation of its international interface. Indeed, an economy succeeding in going through a democratic transformation may well have the necessary room for action to support other countries in the global economy. Neglecting to use this power and privilege in supporting economies that are subordinated in the capitalist context would in effect reinforce existing international hierarchies and power structures. The role a country wants to play in global affairs is a discussion that should happen individually in every society. Still, serious consideration could be given to some form of international cooperation, thus motivating our addition of *cooperation* as a fifth principle to the international interface's functioning.

While the institutionalization of a principle of cooperation regarding the rest of the world seems necessary, its application has to clearly distinguish itself from imperialist efforts aiming to increase a country's sphere of influence. For that reason, it is more about the country making itself available to help than the undifferentiated application of various policies or measures. In that sense, a democratically planned economy should continually be aware of other countries' needs and demands, in order to adapt its approach to support them in the way they deem most suitable. Moreover, these measures should be designed to foster the development of productive capacities abroad and consolidate the external country's autonomy. The cooperation principle could be applied in different areas of international economic relations, such as trade and financial flows.

Hahnel recognised setting trade relationships according to the current production possibilities of different countries risks reinforcing the status quo and constraining industrial development for some of the partners. To address this, Hahnel (2021: 273) suggests, as mentioned above, transferring more than half of any efficiency gain stemming from trade to the less developed partner to favor economic convergence. There are various ways to enact this in practice, such as premia put on imports from less developed countries or discounts put on exports. In doing so, due consideration should be given to social and ecological dimensions. That is to say, premia or discounts could be financial, but they should also account for material flows and environmental impacts. For instance, an accounting system could be put in place to make sure more material resources are transferred to the less developed country through exchange. Similarly, the greater part of environmental gains occurring through the implementation of better production practices could be transferred to less developed countries by increasing their agreed-upon margin of action in terms of emissions or resource use.

This implies that a democratically planned economy could be willing to pay a higher price than what is quoted on international markets, depending on its own multifactorial analysis. This will likely be necessary to compensate for the unequal ecological exchange currently happening under capitalism, whereby high-income countries pay less in terms of natural resources than what they receive themselves (Dorninger et al., 2021; Althouse et al, 2022; Hornborg, 1998). The determination of what constitutes a fair price through the use of a multifactorial evaluation raises the problem of establishing a single monetary value while accounting for a multiplicity of dimensions. In a sense, this parallels the use of international prices in a planning process conducted on the basis of a multifactorial accounting framework and in the end, it is likely to require political deliberations.

Hahnel also states how countries specialized in relatively low-value-added products should be given the means to climb the "ladder of comparative advantage" (2021: 274). We certainly agree with the general principles stated by Hahnel. To the extent that a democratically planned economy should put an international interface in place that contributes to an ecological and systemic transition, all jurisdictions should be allowed to do so. Regarding individual trade relationships, the partners can undoubtedly do this cooperatively.

The part about financial transfers is more complex. In the context where developed economies have benefitted from the subordination of peripheral economies throughout their development (Amin, 1974), it might be disingenuous to simply cut all financial ties based on self-determination. At the same time, any transfer must be done carefully, as international aid and assistance do not have an excellent track record in terms of the emancipation of its recipient (Hancock, 1989; Moyo, 2009). Still, some economies are highly dependent on economic activities happening in developed countries, and this needs to be considered in assessing the impact of domestic economic decisions in those places. This involves goods and services that a country might need to keep making and trading in the short run until capacity or substitutes are developed elsewhere. Purchasing power for these products may thus be lent or transferred throughout the transition or in the case of a short-run need. Nonetheless, this should be done on conditions that do not exacerbate dependency and in a way that does not lead to a reorientation of the economy towards the provision of means for repayment.

A democratically planned economy's external objectives could concern both trade and finance. A decision to export could have various economic, environmental, and social consequences. As such, it has a highly political dimension and should be debated in all its complexity, following a general principle of international cooperation. For example, exporting products demanded by another jurisdiction could be allowed where their propagation would advance some democratically established objectives, such as global health, ecological sustainability, or basic needs fulfilment, to foster local autonomy over time. Likewise, a democratically planned economy could provide financing to other countries to help with provisioning or the balance of payments. If a set of different country adopt democratically planned institutions, some integration of their planning process could be developed. In this situation, the outside country would be considered

like a production unit in the planning process; it would be involved in price setting and resources allocation.

We laid out five principles we deem essential in designing an international interface in the context of a democratically planned economy: autonomy, efficiency, multifactoriality, transparency, and cooperation. In the next section, we illustrate how an interface following these principles could operate in practice.

5. The interface at work: an illustration

Before going further, it should be noted that this is merely an example, not a template. There are many models of democratic planning and different context will call for different institutions. In any event, the communities will have to define planning processes themselves and adapt to a shifting context as the transition proceeds. Still, we find virtue in fleshing out how an interface could function within a democratically planned economy to see how it could shape economic processes.

Let's assume the country is relatively small so that it takes world prices as given and that, without going into too much institutional detail, it has gone through a transition to democratic planning. Let's also assume that it is one of the first countries to operate such a transition and that it has to adapt to a non-democratically planned multilateral environment and therefore cannot put in place, at least in the short term, supranational institutions based on democratic principles to regulate trade. Through the transition, a dynamic evaluation of the country's present and future production possibilities has been done, and there remains some scope for trading. This evaluation process includes a socio-metabolic planning (Beaucaire, Saey-Volckrick and Tremblay-Pepin, 2023; Legault 2023) that takes into account the ecological targets that should be respected to insure a resilient economy. Consumers and producers can submit requests for the import of products made abroad to the institutions responsible for planning domestic economic processes. During the planning process, these products would count in the domestic consumption budget but not the production budget.

The first step is for the institution responsible for the international interface to gather information about the products requested for imports, some of which may be submitted by the entities requesting them. Information on any cost, including transport, material, energetic, or social aspects, included in the domestic multidimensional accounting framework should be sought in that phase. These potential imports are then weighed against domestic production possibilities in terms of substitutes (if any) and products that could be made in sufficient quantities to be exported once domestic needs have been met. The benefits of broadening consumption possibilities are evaluated, and arbitrages are made through the multidimensional accounting framework, considering that exports would count in the production budget but not the consumption budget. The impact on the autonomy and resiliency of domestic processes is also analyzed dynamically to see how different trade patterns could influence future economic processes' shape and functioning.

An important aspect of this whole exercise is evaluating trade's impact on the balance of payments. Since foreign investments are not allowed, trade will be a significant component of the balance of payments. Therefore, a decision must be made regarding the position of the balance of trade through democratic deliberation, considering that any deficit will have to be financed through borrowing, international transfers, or accumulated reserves. Borrowing in foreign currency impacts autonomy and should probably be shunned over the long term, but it may be necessary in the short run. Meanwhile, there can be a decision to run a trade surplus precisely to repay debt, accumulate reserves, or transfer to another country. While international prices are given in this example, such a transfer could also take the form of rebates for some trade partners.

Suppose that after this process, the democratically planned economy has identified some potential imports and exports. The institution responsible for the international interface then supervises the exchanges, conducting currency conversion in association with the institution responsible for managing the domestic currency. It also handles any foreign credit transaction or transfer in foreign currency. The products traded are then integrated into or taken from the domestic distribution circuits, and the process starts anew. Technically, trade can be conducted at any frequency, but since it is not independent of the overall planning process, its pace should be the same.

This last point is essential. The democratic planning of economic processes in the domestic economy includes considering trading opportunities in terms of possible exports and imports. This can mean integration into global value chains for the production of complex goods, but not the possibility for a capitalist transnational corporation to open a factory on the democratically planned economy’s territory. In any case, decisions regarding what is imported and exported belong to the institutions regulating production and consumption in that economy. As such, while the institution managing the trade interface is responsible for gathering information, the arbitrage between different options is done through the domestic planning institutions. The interface’s role is then to implement these decisions.

Similarly, decisions about the dynamic development of domestic production, and thus investment, should account for a dynamic evaluation of trade relationships. Therefore, possible import and export patterns over time should be evaluated while keeping in mind the general development objectives of the economy: for itself and for its trade partners. The institution's role in managing the international interface resides in gathering information, establishing contact and networks with economic entities abroad, and implementing import and export decisions, not in making those decisions or conducting economic planning per se. The same is true for trade questions that are, also, geopolitical questions. If the democratized economy has a rare strategic resource, the choice of who to trade it with must be made taking ethical and geopolitical issues in consideration, not only its economic impact. This is especially true as the ecological crisis is likely to reconfigure the global access to resources. Access to a scarce and important resource should thus always be considered together with the responsibility to ensure access to other jurisdictions, especially those whose access is currently limited. Therefore, these

goods must not be treated as any other, but as part of a larger diplomatic relationship with some partners. Hence, the decision should come from a political body through a large democratic process.

Another international element the interface would take care of but that is less directly related to trade is international movements of people. The international interface would provide people who want to visit the democratically planned economy with the local currency. It would impose a (daily, weekly, or monthly) limit of currency available, to avoid ultrarich tourists coming from capitalist countries creating important inequality situations. The expenses of these visitors would be integrated – based on past visitors' behavior – into the consumption planning process. A limit to the number of tourists per year could also be established by a larger political process to avoid the negative consequences of mass tourism, and it would be the responsibility of the international interface to impose this limitation. It would also be responsible for converting the national currency into international ones to permit its citizens to travel abroad.

What about longer-term migration? Just like trade and financial flows are subsumed under general planning processes, so is migration subjected to broader demographic policy considerations. These should in term be made part of dynamic economic planning as well, be it in terms of consumption needs or production possibilities. As such, the interface would simply facilitate the implementation of migration policy.

Conclusion

After conducting a brief overview of the role of international trade in capitalism and models of democratic planning, this article provided five principles on which we should base an international interface for democratically planned economies. These principles are autonomy, efficiency, multifactoriality, transparency, and cooperation. It then presented a mode of functioning that the institution responsible for such an interface should adopt.

These principles and their application are inspired by the previous work by Robin Hahnel, Paul Cockshott, Allin Cottrell, and Daniel Saros. We agree with them that this international interface should foster efficiency and protect the autonomy of the democratically planned economy. Adding to this body of research, we showed that, following certain conditions, an international interface can be integrated into a multidimensional accounting system. This multifactoriality is crucial for considering the entire social metabolism and its environmental impact.

We are nonetheless conscious that this brings as many questions as it brings answers. Future research should try to structure the ways in which this multifactorial accounting system could integrate all the necessary data in a way that is not too cumbersome. This issue could become a substantial challenge depending on how many irreducible factors are at play. Of course, irreducibility does not prevent automation or the use of algorithms. Still, we must find political ways to ensure those solutions stay within the boundaries of a consciously planned democratic economy.

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