

Development Assistance, Democracy and the Promotion of National Security

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Should development assistance be an instrument for national security?¹ The short answer is yes. Since economic capabilities are perhaps the most important ingredient for military power, the security implications of economic policies deserve consideration. At the same time, the connection between power and wealth is not a simple one. As a result, political science has several competing paradigms on how economic interests and security needs can be considered simultaneously. Therefore the assertion that aid and national security should be considered together forces us to reflect on complex questions concerning how disparate certain foreign policy goals may be. Depending on the degree and nature of security threats, development assistance and security concerns may be easily reconciled.

Why *not* treat aid as a critical tool when implementing a country's security policy? While there are surely moral and economic imperatives to spurring the economic development of others outside Canada, when would those imperatives ever trump security concerns? In other words, when would you ever want to improve the capabilities of those who pose a threat to Canada? In fact, there are arguments that identify conditions when you might want to do just that. To understand these claims, it is important to first establish who might be considered a threat, and then examine the connections between wealth and power over time to place aid in the proper context. It may be possible, especially now, in a period when other states do not pose an immediate threat, to construct policies that promote development in most economically developing countries without posing any new risks to Canada (or its allies). Aid can in fact be a

¹ I will not include non-traditional threats, such as regional or global environmental catastrophes; see Jared Diamond, *Collapse*,

useful tool for reinforcing this country's ability to deter threats. I discuss these issues in Part II of the paper.

Of much greater interest, of course, are economic policies designed to dissuade others from desiring to hurt Canada, Canadians, or Canadian interests in the first place. Here, security interests have already influenced aid in some ways which may not be entirely obvious. Research in political science has identified the promotion of democracy as one of the best ways to create an international environment where states do not resort to force to settle disputes. This has already figured into aid programs, in the form of conditions attached to assistance. Two major problems persist here, however. One centers on understanding the steps needed to promote democracy politically. The second difficulty arises from fashioning development assistance that supports democracy at the same time as economic development. Too often, stabilization programs from international bodies have been unable to secure progress in both areas. These issues, and some ways to model them in order to develop more effective assistance programs, I describe in Part III of the paper.

Canada faces other sorts of dangers, too, beyond those that take the traditional form of state-versus-state. Terrorism poses the greatest threat to Canadian security. Terrorists are obviously difficult to deter or dissuade. Security policy ultimately comes down to defense – defending the country, its citizens and its interests through direct action. Assisting economic development may have much less a role to play here, though it can be a critical element in preventing the collapse of states, or rebuilding order in places where

responsible authority is lacking.² Aid can therefore be a critical tool for pro-active defense against terrorism, removing the locus of threats before they generate. I discuss these issues in Part I.

In these three ways then, development assistance should be viewed a vital tool in support of national security. When an existent or potential threat exists, economic development assistance should support deterrence. Over the longer term, economic development assistance should create not only a world that is richer, but also one that is safer for Canada and Canadians – aid should dissuade others from considering the use of violence against Canada. To begin, assistance can be a vital tool in rectifying or removing settings in which terrorism flourishes – but as the next section shows, pursuit of security dovetails nicely with establishing the proper setting for economic development.

I. Non-State Based Threats

Terrorism poses the greatest direct threat to Canada – and the way I would link development assistance to terrorism is through failed states. Terrorists can establish bases and support in zones where legitimate authority is lacking. Aid that prevents states from failing, or helps states that lack the ability to control their own territory to establish control, will be promoting Canada’s national security. In fact, it would make much sense to prioritize recipients of aid by considering where states are in the greatest danger of failing, and then directing aid in such a way that it helps those states regain order.

It is also possible to argue that development assistance that flows into failed states without prioritizing the establishment of some sort of legitimate, representative government is likely to do no more than have a fleeting effect. Sustained economic

² Of course, terrorism has many different sources. Lack of economic development is not a particularly important direct cause of terrorism; it fuels grievances, of course. Promotion of responsible, representative government (discussed in Part III) is a more effective direct approach to reducing terrorism.

development requires property rights and functioning legal systems, which in turn require an effective government. Pursuit of security goals and promotion of economic development would presumably go together.

The Manner in which Aid is Delivered Matters, Too

It is possible to argue that some forms of aid have accelerated the collapse of states. If aid becomes the main form of state revenue and if the state is the center of economic activity, then domestic groups have reasons to compete over control of the state. Some consider this to have been a major political problem in Sub-Saharan Africa.

On the other hand, where aid has bypassed states, and been given through NGOs, it has deprived governments of a powerful source of effectiveness. Lacking resources necessary to be effective, they have lost legitimacy. This in turn has led to their downfall, and perhaps caused some to weaken (rather than be transformed). They are then displaced by rival institutions that provide services or support the state has either failed to develop, or can no longer provide.

When we place this in the broader context of promoting democracy, we see a clash of strategies. Promoting democracy means creating more than institutions on paper. Aid directed at or through NGOs has often been intended to bolster civil society. Civil society is a necessary component to any functioning democracy, thus its development should be seen as a complement to supporting democracy. Yet civil society was never meant to replace the state. It was meant to create a counter to the state, a central ingredient in democratic order. Much of the discussion framing NEPAD (the New Economic Partnership for African Development), reflects Western countries struggle to find the right mix of tools for promoting economic development, democratization, and

support for states. Security concerns drive a good portion of this debate, and these security concerns should not conflict with broader desires to promote economic development.

II. Aid and Threats Posed by Other States

Of course, just creating stable states is the first step in building a more secure international environment. Most of body of work in international relations in political science examines conflicts between states. As sovereign actors, nation-states claim to be the only authorities capable of legitimately wielding violence; they are also capable of amassing and organizing military forces. Canada has the benefit of being a close ally (geographically as well as politically) of the most powerful state in the system. The sheer weight of American military power, and the organizational and technological lead the U.S. military holds, make state-generated threats to Canada extremely unlikely for the near or even medium term (20-30 years). After examining, the need to link development assistance to deterrence in the case of those states that might seek to harm Canada or the U.S. in the long run, I will focus on the second set of countries that could pose a threat to North America under specific conditions, the so-called “rogue-states”.

We respond to threats emanating from other states by deterring, dissuading, or defending. Defending against an actual attack is the most costly, and the most fraught with risk. It is the least preferable response. Fighting against other states – even when you win – is costly in terms of lives and equipment lost, and reduces the capabilities of ones armed forces. Deterrence is far more effective, since the costs are substantially less. Deterrence requires establishing that one has both the capacity to defend one’s own interests, the willingness to act, and that one can communicate that willingness in a

credible fashion to potential aggressors. In its classic form, deterrence involves establishing a believable retaliatory capability, and convincing the potential aggressor that the costs of an assault will outweigh any potential benefits. (There is a large literature examining how difficult it can be to execute this policy; see George and Smoke 1974.) [It also assumes the other side is rational – which is why it may not work well under certain conditions that may pertain to “rogue states” – see below.] Successful deterrence prevents an attack, even though the potential aggressor continues to desire goals that conflict with your own, and may even desire the use of force to settle conflict. Policies dissuading others from attacking are more difficult to identify, because there are many ways to adjust the goals of those posing a threat, though the most convincing path is covered in Part II.

Economic policy plays a vital role in dealing with these state-based threats, because economics provide the source of military power. Deterrence rests on the “balance” of military power or threat. If a state and its allies can unleash a devastating retaliatory strike, or even mount a reasonably robust defense, then it should be able to alter the cost-benefit analysis of the potential aggressor. The simplest version of this thinking is balance of power theory. Since no country, or even an alliance of countries, is likely to amass enough power to threaten Canada and the U.S. together in the short- or even medium term (the next 20-30 years), one might simply chose to disregard any link between aid and security here (Brawley 2004).

Threats Posed by Major Powers

There are a couple of states that could possibly pose a security threat to North America in the longer run. China is the foremost candidate in this category, perhaps in

connection with a former great power (Russia), or simply in a more multi-polar world where the U.S. no longer has close ties with Europe and/or Japan. Since there is a relationship between economic development and power, China's rise is seen by many as the greatest future disturbance to the international system. How does economic policy factor into a long-term strategy to deal with China?

One argument is to prevent China from making economic gains, since those gains are the long-term source of power. A purely Realist argument would emphasize this approach. (Mearsheimer 2001) Realists do not look inside states (and therefore do not incorporate the democratic peace idea, discussed in Part II of this paper), they merely look at the distribution of power. The proper policy for the U.S. (and its allies) would be to prevent any other country from gaining enough power to mount a credible threat. Thus China's growth should be restrained. There are very few who take a purely Realist view any longer, however. [Moreover, under these same assumptions it may still make sense to engage in economic interaction with China, if one believes that you will benefit from the interaction more than China would. Given that one has to consider these benefits in the long-term, and that it takes time to convert economic gains into a meaningful military force, even Realist assumptions fail to give very clear guidance on what sort of economic policy we should have with China. (See Brawley, 2004)]

Nonetheless, if we identify China as the most likely source of threats to this country in the long-run, one can ask why CIDA would be providing any funds to it. This question is more pressing, since China has its own space program, has firms purchasing divisions of multinational corporations such as IBM, and has devoted extensive resources into developing its computer chip manufacturing base. Presumably, the assistance is

intended not simply to spur economic development, but also alter Chinese interests or intentions. Thus it folds into other arguments shaping policies towards China, particularly those that seek to influence China's interactions with the rest of the world. Rather than draw on Realism, these arguments are based on other assumptions about states and their interests. They claim that China will behave differently, even after it is more powerful, if it has been integrated into the system of states in a satisfactory way. This approach works on the assumption that interdependence and institutional entanglements restrain states from threatening other states. By integrating them into international economic and political institutions that govern the international system, they take on an interest in defending and maintaining the status quo. This logic was used to support China's entrance into the WTO, for instance. (These arguments are covered more broadly in Part II, below.)

Some argue that increasing China's wealth is the best route for reducing a future threat from that country. (Weede 1999) The idea here is that wealthy countries do not fight against each other often any more – though this argument is often intertwined with the argument concerning democracies. It can therefore be understood in terms of the debate in Part II, concerning the shift of interests. The chief problem is that it is much more difficult to use assistance to alter major powers' interests in these ways, simply because a country like China is much more willing to oppose or flaunt conditions tied to development assistance.

In short, while we might have good grounds for arguing that Canadian development assistance to a rising major power needs to be shaped by long-run security concerns, we have very little grounds for giving specific advice on how to do so. If we reduce the time

horizon in our thinking, then we could have more specific concerns about ensuring that any assistance leads to greater economic benefits to Canada than to the aid recipient. Instead, we need to pay more attention to ways to reshape the interests of rising major powers, discussed below. Before looking to the longer run techniques for greater a more peaceful international system, we need to consider one other type of state-based threat: the “rogue states.”

Deterring “Rogue states”

Under normal conditions, “rogue states” can be deterred easily by Canada, because Canada’s security is intimately intertwined with that of its neighbor to the South. It is also unlikely that any “rogue state” would wish to strike at Canada in the first place (except perhaps as a way to also hurt the U.S.). The problem with relying on deterrence alone, however, is that it assumes rational action by the potential aggressor. Moreover, the theory also assumes that the potential aggressor has something it values in the future, which can be threatened via retaliation. If we tinker with these assumptions, by reducing what the potential aggressor has of value, by considering aggressors that may value something we cannot threaten (martyrdom), or by shortening the aggressor’s time horizon sufficiently, deterrence is not likely to work. (To see how deterrence fails under such conditions, see Paul 1994.) One need only consider the current (or a future) North Korean leader facing internal strife, and choosing to lash out to rally domestic support rather than face a certain doom domestically.³ In such a “Gotterdammerung” scenario, deterrence would no longer be possible. The U.S. and its allies, including perhaps Canada, would then have to employ defense, rather than rely on a threatened retaliatory

³ We usually discuss deterrence in terms of state versus state, with the decision-makers defending national interest. When leaders have the state’s resources at their disposal, but are pursuing personal or regime interests, then deterrence becomes trickier.

strike. Carrying out the threat of retaliation after having been hit by a North Korean missile achieves nothing more than preserving American credibility vis-à-vis other potential threats. Ballistic missile defense (BMD) is premised on American calculations that deterrence may well fail in circumstances such as these.

How does one remove such threats? A couple of easy answers arise. One is to pursue the Bush Administration's policy in Iraq – change the regime by force. This requires the use of force, which is clearly not preferred. Another is the option pursued in previous decades – assist domestic opponents of the regime, overthrowing the government that poses a possible threat, replacing it with one more “friendly.” Pursuit of this policy during the Cold War left the West with a variety of unstable, unpopular regimes, which it bears some responsibility for (including Saddam Hussein's). This strategy has been circumspect precisely because our definition of “friendly” changed when the Cold War ended. Creating stable, dependable partners means promoting democracies.

Numerous studies in political science in the 1980s and 1990s identified the “democratic peace” – the lack of interstate warfare between democratic states. (Chan 1997; Doyle 1997; Ray 1995; Russett And Maoz 1993) As we have come to understand why democracies are peaceful towards each other, policymakers have come to define “friendly” as democratic. The hope is that converting all powerful states to democratic forms of governance will ensure that their interests are more compatible with the West's. If they are stable democracies, these compatible interests (and the reliance on peaceful means to achieve them) will also be securely established. The question is how to convert regimes to democratic forms of government short of military occupation, as in Iraq.

(Indeed, as Iraq shows, democracy is not easily imposed. Local people must take “ownership” of democratic institutions. See also Owen 2002.)

Development assistance therefore becomes part of the set of incentives and sanctions used to alter the behavior of rogue states. However, once again it becomes difficult to establish how to craft these policies. In the normal range of affairs, when a state is deterred from using force, we could then enhance that deterrence through the use of incentives and sanctions to reduce the magnitude of threat these states might pose – as the West has tried with North Korea (and is now trying with Iran).⁴

Part III Using Aid to Create a Safer International Environment

Rather than use aid policy to ensure that the distribution of power in the system continues to favor Canada and its allies, thereby ensuring this country can deter all possible threats, it makes much more sense to design aid programs that make the international system a safer, more peaceful place by making states’ interests harmonious. Political scientists, having discovered the “democratic peace”, have already influenced development assistance in this direction. Since this finding won wide support in academia, it has influenced policy making, as observed in the changing nature of conditions attached to aid.

The Democratic Peace

There is a large literature that suggests that democracies resolve international disputes more peacefully than non-democracies (Chan 1997). This has already filtered into most countries’ development policies – though because defining the ideal form of democracy is difficult, and no international consensus exists on that, and because strategic

⁴ Traditional theories would then be applicable. The problem here, of course, has more to do with the difference between establishing successful incentives versus being blackmailed.

imperatives clash with these definitions, the fallback has been to link aid to “good governance” rather than democracy. (“Good governance” is not any easier to define, but being more neutral politically, and being something various governments could agree was graduated rather than dichotomous, it has been easier to develop as an aspect of international conditions.)

Problems arise here, however, because once again political science cannot identify a clear single developmental path to democracy. This has been the focus of research in comparative politics ever since World War II. Thus we can find some ideas about which institutions are perhaps the most stable in different sort of settings, that encouraging the development of civil society assists, and so forth.

Despite the development of this part of political science, there remain problems because of poor understanding of the interplay between political economics of aid, economic change, and democratic development. Designers of international assistance programs already struggled with reconciling economic goals such as debt-reduction, improvement of the balance of payments, etc., with the aim of economic development itself. The difficulty of promoting these goals simultaneously is well documented, and is the center of most criticism of the IMF, World Bank, and other international financial institutions (IFIs) (see for example Stiglitz 2002). By arguing that security concerns should also shape these programs, I am arguing that they need to promote and support the spread of democracy. On the one hand, this seems to be simple – we associate democracy with high levels of economic development. This correlation is not entirely perfect, and the causal relationship could work in either direction. On the other hand, development programs – even stabilization programs – take years to succeed. They are

more likely to succeed when they have broad support politically. Does development work well with democracy? Or does economic development require painful sacrifices that undermine democratic rule?⁵

As I see it, the problem with most internationally sponsored stabilization and development programs is that they fail to grasp the links between macroeconomic policies and their micro-level effects. Lacking an appreciation of how macroeconomic policies have microeconomic effects, we routinely miss the impact these policies have on politics – but also how politics adjusting microeconomic activity feeds back into the success or failure of macroeconomic policy. Structural adjustment assistance provides the most vivid examples, and their repercussions have been well documented. The typical structural adjustment / poverty reduction program pushed by IFIs (and often endorsed directly by Western governments) focuses on market liberalization, redressing fiscal imbalances, etc. The targets are macro level.

The programs make assumptions about how micro-level forces operate. Structural adjustment programs largely rest on beliefs that market liberalization is the best way to allow for mobility of factors of production across sectors. Liberalization of international trade, coupled with liberalization of domestic factor markets, is intended to push the country towards more efficient use of its resources. Liberalization would allow domestic factor markets to reallocate factors of production in the direction of the country's comparative advantage. Pursuit of its comparative advantage will assist the country in improving its balance of payments.

⁵ The “modernization” school examined these issues; it is somewhat discredited today, but the issues these scholars addressed remain pertinent.

However, it is also possible to consider ways in which government policy can smooth out adjustment or even accelerate it. Unfortunately, given the aim of debt reduction, most developing country governments under SAPs were asked to implement austerity budgets. This removed those tools from state hands. Only with some of the borrowing countries' input into the formulation of SAPs did the importance of such policies get attention. (The SAPRI project provides great examples.) At the same time, this was done in an ad hoc fashion – rather than through models that might tie together the macroeconomic goals with micro-level political economic behavior.

There are a few economic models that connect the macro and micro levels. Taking one, we can identify a couple of very important roles for conditionality in aid and assistance for promoting economic and political development, and thus benefit national security. The model I draw on was developed by Davidson, Martin and Matusz (1999) to analyze the process of adjustment when economies are not in general equilibrium (see Appendix for a more detailed description). By studying adjustment itself, they introduce the notion that factors of production must assess risk when electing to exercise mobility across sectors. In this perspective, adjustment (and thus development as well) may create periods of unemployment, may generate uncertainty as to which individual units of each factor of production can successfully move from one application to another, as well as redistribute gains domestically. Mobility is critical – but the DMM model goes further by borrowing from microeconomic analyses of unemployment to identify where risk arises, and also locating some ways in which factor mobility can be manipulated to

accelerate adjustment. The risks in adjustment also help us understand why we are likely to see mixed sector- and factor-based cleavages on issues involving trade liberalization.⁶

The basic insights I draw from the DMM model are straightforward. Factors of production specific to the scarce-factor-intensive sectors will behave as predicted by models assuming sector-specificity: they will prefer protection. Abundant factors mobile across sectors, or already employed in the abundant-factor-intensive sectors, will behave as predicted by the Stolper-Samuelson theorem – they will prefer liberalization. For the scarce factors of production already employed in the abundant factor-intensive sectors or mobile across sectors, trade liberalization offers ambiguous results (as their opportunities for employment in the expanding sector and their returns move in opposite directions).

Because the DMM model builds off the standard Heckscher-Ohlin model, we need to consider where developing countries fit in. Economically developing countries fall into two categories (based on their relative endowments of the factors of production). They are either relatively abundant in land (but not in labor and capital) or in labor (but not in land or capital). [Because we typically measure relative abundance of land in terms of population density, it is difficult to imagine a third possible category: countries abundant in land and labor, but not in capital.] Each of these sets of countries has different political economic vulnerabilities which should be taken into account when trying to promote economic development consistent with the country's comparative advantage, and support democratic rule.

⁶ Under extreme conditions of factor mobility (i.e. those identified in the Stolper-Samuelson theorem, or pure sector-specificity)

In the first group (those with abundant land only), the cross-cutting nature of economic interests makes it difficult to create any broad-based pro-liberalization coalition that will be stable over time. It is difficult to picture industrial sectors supporting liberalization; agricultural sectors might, if landholdings are concentrated. The urban working classes, smallholding farmers, and such types all prefer protection. If we look to the historical record, democracies with these economic attributes in the late nineteenth century were largely protectionist, typically with large numbers of narrow interest groups demanding domestic interventions in addition to barriers against international competition. The prime historical examples might be the French Third Republic, or even pre-1914 Canada under the National Policy. Faced with so many narrow demands, political leaders are likely to construct ruling coalitions that are short-lived and create layers of policies distorting markets. Even those wishing to pursue economic liberalization (think of Laurier in the 1890s) may find it too costly to do so in political terms. Some of the countries with these traditions may have a political tradition of preferring centralized decision-making (the “strong man” who stands above the disparate groups) as a result.

Aid programs here should be sensitive to two rather important points. First, these countries’ comparative advantage lies in land-intensive agriculture. Few economically developed countries leave their markets open on agriculture, so asking countries to develop economically by specializing in this direction is a bit foolhardy. Second, these countries will be vulnerable to broad demands for protection in every sustained economic downturn. Democratic governments will need foreign assistance to counteract protectionist demands during such downturns, if they are to retain their popularity.

In the second group of countries, labor (as a factor, as a class) will support liberalization. Thus democracy, liberalization and economic development more readily go hand in hand here. There is however a very potent counter coalition: landowners and industrialists. This protectionist coalition has been well described in studies of European development in the late nineteenth century (Luebbert 1985; Moore 1967; Rogowski 1989). Aid can be particularly useful for supporting the former coalition in these countries rather than the latter, since we should all have a clear preference in the success of social democratic representative governments, rather than economic nationalist / fascist style governments. However, as noted above, structural adjustment programs often hindered the development of stable democracies, rather than helped it.

The European experience is telling. The backbone of social democratic development as European countries industrialized came from the coalition of working class and small farming interests (i.e. successfully adjusting production into labor-intensive sectors in agriculture and industry). Countries that were able to expand those sectors created a powerful base of support for democracy and liberal economic policies, even as economic globalization pressured them in the late nineteenth century. Closer inspection suggests the European countries that proceeded in this direction sped up the adjustment process as suffrage expanded by engaging in land reform (reducing the economic and political power of large landowners, who were closely tied to land-intensive agricultural production), and assisting labor mobility across industrial sectors with social policies. (More specifically, this meant promoting security of employment in labor-intensive industrial sectors rather than in capital-intensive sectors, and providing universal

unemployment assistance. Universal unemployment assistance reduces the risk of exercising labor mobility across sectors).

Conversely, European countries with these characteristics that failed to democratize in the late nineteenth century moved in a very different direction. The owners of the scarce factors of production (capital and land), used protectionism to bind their interests. They excluded the working class politically as well as economically, but then used nationalism to retain popular rule. This dynamic worsened in the wake of World War I, laying the foundations of fascist movements in several countries. Support for liberalization, economic development and democracy therefore make good sense. However, in practice foreign aid to these countries has not always been very helpful. As mentioned in the paragraph above, the DMM model suggests several policies supporting and accelerating the adjustment process. These policies have often been cut as part of structural adjustment or development assistance in recent years, however, as part of larger debt-reduction strategies. As the adjustment process slows, support for democratic rule may slip as well. This is precisely why the DMM model is so useful – it highlights the need to consider the political economy of adjustment as part of any overall analysis. If we believe that longer-term security concerns should make us support the spread of democratic rule, and democracy and economic liberalization go together here, then there are a clear set of recommendations we can make for the design of development assistance to countries abundant in labor, but not in land or capital.

Conclusions: Conditions attached to Assistance and Enhanced Security

Western governments and international institutions and agencies use conditionality to promote economic goals. These provide the vital link between pursuit of security

alongside promotion of development. To achieve security, governments deter dissuade or defend against international threats. In the case of the greatest threat facing Canada and its allies, terrorism, development assistance can help in the response to failed states, or prevent further states from collapsing. This would remove or reduce some of the sources of terrorist activity. Development assistance can support efforts to deter traditional state-based threats, whether these are from major powers or “rogue states.” There are few of these threats at the moment, however, and thus security concerns may not provide clear guidance as to how to integrate national security policy with development assistance.

Given the paucity of direct threats to Canada (or indeed to most Western countries) in the short run, pursuit of longer term security goals means promoting the establishment of stable democracies. If the main way to promote security is to spread democratic institutions further, and to bolster the effectiveness of existing democracies, then surely economic development can be integrated with this security strategy. Conditions attached to assistance are the best way to do this – but in the past, conditions have prioritized debt-reduction, balance of payments goals, and other macroeconomic targets to the detriment of democratization. These problems, I argue, lie in the disjuncture between macroeconomic and microeconomic models. Using a model that links the macroeconomics of trade with microeconomic processes, I suggest several ways development assistance could be made more effective and more compatible with democratization. This would be the best way to ensure a safer international environment for Canada and Canadians in the future.

Appendix: A Non-General Equilibrium Model of Trade and Cleavages

I employ a model of the domestic distribution of the gains from trade where the economy is in equilibrium, but without all factors of production necessarily attaining full employment, developed by Carl Davidson, Lawrence Martin and Steven Matusz (1999: 274-276 – hereafter referred to as the DMM model). They build off the fundamental two-factor, two-sector Heckscher-Ohlin model with constant-returns-to-scale, and competitive, frictionless product markets. The two factors, capital and labor, are assumed to exist in indivisible units. Each sector requires a mix of capital and labor as inputs; a sector’s ratio of inputs cannot be changed. To be employed productively, then, both capital and labor must be matched at a particular ratio. Each factor earns the value of its marginal product when employed and nothing when idle.¹ Davidson, Martin and Matusz also assume that factors cycle through periods of unemployment. Since factors are assumed to be risk neutral, idle factors search for employment in the sector offering the highest expected income.

Initially, Davidson, Martin and Matusz make the ratio of inputs required in each sector equal. I alter their basic model by assuming that each sector must combine factors at a different ratio (i.e. one sector is labor intensive, the other capital intensive). When a pairing of capital and labor in one sector break up, the factors become unemployed.⁷ The break up rate is specific to each sector, denoted by b_h . Borrowing the DMM notation, we can follow how they calculate the expected earnings of factors employed in each sector. To begin, they describe the pools of factors of production:

I_{sh} = the number of type- i factors searching in sector h
 I_{eh} = the number of type- i factors employed in sector h

⁷ I use the term “unemployed” to refer to idle capital and land, as well as labor.

$$I_h = I_{sh} + I_{eh} \text{ with } I = I_x + I_y$$

The arrival rate of new employment prospects for a type- i factor in sector h is denoted by e_h^i . Davidson, Martin and Matusz assume $E_h > 0$, and that E_h is a constant. The term s_h denotes the proportion of labor in the unemployed factors searching in sector h . Then:

$$e_h^l = (1 - s_h) E_h$$

$$e_h^k = s_h E_h$$

Note that as s_h rises or falls, each factor's probability of finding employment in sector h changes. Intuitively, this captures the difference between the ratio of factors demanded by sector h , and the pool of idle factors seeking employment in h . Each employed factor shares in the returns to its sector. P_h represents the earnings of sector h , with the proportion going to each factor represented by alpha:

$$\alpha_h^l + \alpha_h^k = 1$$

To look more closely at expected income, it is necessary to consider the difference between earnings while employed and earnings while unemployed. V_{sh}^i represents the expected income for the type- i factor searching for employment in sector h ; p represents a subjective discount rate factors use to assess their prospects for making a productive match. V_{eh}^i represents the income the type- i factor earns while employed in sector h . Therefore the expected income for a searching factor in sector h is:

$$pV_{sh}^i = e_h^i(V_{eh}^i - V_{sh}^i)$$

$$pV_{eh}^i = \alpha_h^i P_h - b_h(V_{eh}^i - V_{sh}^i)$$

Davidson, Martin and Matusz then solve these two equations, finding:

$$pV_{sh}^i = e_h^i \alpha_h^i P_h / \alpha_{ih}$$

$$pV_{eh}^i = (p + e_h^i) \frac{P_h}{p_{ih}}$$

Where $p_{ih} = p + b_h + e_h^i$

While factors remain concerned about the gains to each sector (P) as they are shaped by tariff policy, this model of the adjustment process qualifies sector-based income gains with employment effects and costs associated with sector-specificity. For instance, p , the subjective rate factors use to discount expected income when calculating the impact of a change in trade policy, provides insights into historical patterns difficult to explain using general equilibrium models. In the nineteenth century, protectionist tariffs were typically passed during economic downturns, whereas liberalizations were associated with peaks in the economic cycle. When trade expands, specialization occurs, shifting production across sectors. The possibility of partaking in sector-based gains drives factors' earnings up or down, hence our interest in mobility/sector-specificity. Yet, it is easy to think of conditions accentuating or negating mobility. In an economic downturn, all sectors' production may stagnate; without expansion of the export-oriented sector, factor mobility is temporarily nullified.

As a proxy for p , I employ sustained peaks and troughs in the economic cycle.

During a sustained peak (defined as two years or longer of prosperity), factors judge they will find employment rather easily. During a sustained trough (defined as two years or longer of recession), factors calculate employment will be harder to find, thus they will discount future income more severely, downgrading the impact of mobility. The economic cycle gives politicians opportunities to promote liberalization or protection. It is easier to build a broad coalition for trade liberalization during upturns, while it is easier to build a broad coalition for protection during downturns.

Political leaders had not learned to manage the economic cycle well in the late nineteenth century, so the economic cycle presented opportunities each side could exploit. The DMM model identifies three other variables, however, that politicians could manipulate to alter expected income for each factor in each sector, besides tariff changes.

These are:

e_h^i employment probability for factor i in sector h
 P_h sector h earnings
 b_h the break up rate of matches in sector h

To understand how they can be used in conjunction with tariff policy changes, we must examine specialization and factor returns. Consider the impact of trade liberalization in the DMM terms, using subscript x and m to denote the abundant-factor-intensive (exporting) and scarce-factor-intensive (import-competing) sectors respectively. As goods' prices move, the output of each sector changes, seen in P_m and e_m^i declining, while P_x and e_x^i rise. For the abundant factor already employed in the abundant-factor-intensive sector, or mobile across sectors, trade liberalization offers greater opportunities for employment plus a share in rising returns.

For the scarce factor employed in the export sector or mobile across sectors, there is also the possibility of sharing in rising returns as P_x rises. There is an increased demand for their services in this sector, too. Trade liberalization promises to reduce e_m^i and raise e_x^i , but the factor-intensity difference between the two sectors dictates that the opportunities for employment differ for each factor. For the scarce factor, sector m will offer more employment opportunities per abundant factor demanded than will sector x ; the opposite is true for the abundant factor. Specialization causes sector x to grow while sector m shrinks. As sector m contracts, it sheds factors at a different ratio than sector x

demands. For the abundant factor mobile across sectors, lost employment opportunities in m are more likely to be replaced by expanded opportunities in x , compared to the employment effects specialization will have on the scarce factor mobile across sectors. Consistent with the Stolper-Samuelson approach, the locally abundant factor mobile across sectors (or specific to sector x) will have greater opportunities for future employment, and at a higher rate of return, when trade increases. All else being equal, the locally abundant factor mobile across sectors (or specific to sector x) will expect a higher income from trade liberalization.

The scarce factor mobile across sectors (or specific to sector x) may have higher returns if employed in the abundant-factor-intensive sector, but must consider the changing competition for employment there. The changes in e_m^i and e_x^i caused by specialization are likely to increase the volume of scarce factors searching for employment at a faster rate than opportunities for employment in sector x . (Their opportunities in this sector are a function of the amount of abundant factor searching for employment in it, represented above by s_h .) Consequently, the scarce factor mobile across sectors or specific to sector x have ambiguous interests in trade – trade creates opportunities for higher earnings, but the number of such opportunities will be limited compared to the number of units of the factor searching for employment in x .

Trade liberalization lowers the expected income of the factors specific to the scarce-factor-intensive sector. Opportunities for employment (e_m^i) and returns (P_m) decline, ensuring that these factors form the core of any protectionist coalition. Conversely, the abundant factor specific to the abundant-factor-intensive sector or mobile across sectors, will form the core of the pro-free trade coalition. If either of these core components

cannot control policy by itself, they must then seek allies among those groups with ambiguous interests: the scarce factor mobile across sectors, or specific to the abundant-factor-intensive sector. The shifting of these groups from liberalization to protection determines which cleavage appears to dominate. If they swing for protection, the dominant cleavage appears factor-based, but if they swing to liberalization, the dominant cleavage appears sector-based.

Table 1. Interests in Trade, Extended DMM Model

	Specific to the Abundant Factor Intensive Sectors	Mobile Across Sectors	Specific to the Scarce Factor Intensive Sectors
Abundant Factor(s)	for free trade	for free trade	protectionist
Scarce Factor(s)	ambiguous	ambiguous	protectionist

Political leaders interested in promoting one sort of coalition rather than the other can intervene in the trade adjustment process, shifting expected income for different pools of factors, and thereby clarify the preferences of these swing groups. Consider each type of intervention in turn. Politicians from the core free trade groups can gain support for trade liberalization by raising b_m (the break up rate of productive matches in the import-competing sector). Raising b_m compels mobile factors in the scarce-factor-intensive sector to consider exploiting their mobility, and also lowers the expected income of factors in that sector. Reducing b_x (the break up rate in the other sector) increases the expected income there. Increasing e_x^i – making matches in the export sector easier – also raises expected income in sector x . Decreasing e_m^i lowers expected income in sector m , encouraging mobile factors to abandon the import-competing sector. These interventions

accelerate the adjustment associated with specialization in pursuit of comparative advantage.

Protectionists can do more than raise the tariff, and by intervening in the adjustment process, they too can bid for the swing groups. Tariffs raise P_m and lower P_x . But protectionists can also intervene to reduce or restrain specialization, critical for maintaining employment opportunities for the scarce factors in the import-competing sector – the core of any protectionist coalition. By lowering b_m (i.e. binding factors in the scarce-factor-intensive sector for longer terms) they can increase the expected income for those in sector m , as does raising e_m^i . Lowering e_x^i would negate the opportunity mobility offers to factors, making such an intervention attractive to protectionists, too.

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