

The Modern Economic Peace

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Abstract

The deep comity of the West is a central but historically bizarre fact of contemporary international politics. Why do these states get along so well? If the answer is common interests, what conditions give rise to these common interests? I develop a theory in which the economic conflict of interests between two states is determined by the consequences of a coerced transfer of wealth from one to the other. This transfer may induce costly distortions in the targeted economy, which may diffuse to the coercing state's economy. If the coercing government internalizes these diffused costs, its incentive to seek a transfer will be reduced. Nations with representative polities and "modern" economies—which are sensitive to transfers and integrated—thus have less to fight over. An empirical estimate suggests the theorized reduction in incentives for transfers is plausibly large enough in the West to explain its unusual peacefulness.

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The United States, most states in Europe, and other wealthy, democratic nations—the countries of “the West,” for short—enjoy remarkably warm relations with each other. This fact is so familiar to us that its novelty in human civilization is often overlooked. In what prior era has the world’s most powerful state reacted to the political unification of a larger and comparably rich state without apprehension or aggression, even in the absence of any pressing external threat? And yet the United States supports the strengthening of the European Union, even after the fall of the Soviet Union. When has the hegemon refrained from exercising any control over, or extracting any tribute from, rich countries under its protection, despite overwhelming military superiority and powerful garrisons stationed in those countries? And yet these friends of the US retain their political and economic sovereignty, even as they seek to delegate their security ever more fully. The situation is, from a historical standpoint, bizarre.

Why do the states of the West get along so well? An easy answer is that these countries have common interests sufficient to outweigh any differences among them. But what are these common interests? Many theories of international politics rely heavily on differences in the commonality of interests across states—among Hobbesian, Lockean, or Kantian states (Wendt, 1999); those that are trustworthy or not (Kydd, 2005); and those that are security-seeking or greedy (Glaser, 2010). Yet these theories do not specify where these interests come from. What conditions generate common interests among states?

I offer a new theory of the economic origins of common or conflictual interests that provides partial answers to these questions, formalized in a simple model of inter- and intra-state bargaining. The theory entails two key assumptions. The first is that the fundamental source of opposed interests is the availability of valuable things that at least two states want but cannot both have, and of which a state could be dispossessed—in economic terms, private wealth. The second assumption is that, in order to alter the distribution of private wealth among states from what would otherwise pertain, a coerced transfer of wealth—whether by

territorial annexation, trade concessions, or the exaction of tribute—must occur.

Because such a transfer is economically equivalent to a “tax,” broadly defined, the economic principles of taxation can be applied to determine the severity of the conflicts of interest among states. A tax induces the economy of the state paying it to produce less wealth in response, with more “sensitive” economies suffering more costly distortions. These costs can diffuse, so that they afflict not only the taxed state’s economy, but also that of the state that imposed the tax; more “integrated” economies will bear more of the costs. And the more “representative” the taxing state’s government, the more it will internalize these diffused costs to its economy. Sensitivity, integration, and representativeness—that is, the occurrence, diffusion, and internalization of taxation’s costs—reduce the incentives for one state to take the other’s wealth, and so dampen the underlying conflict of interest over its distribution. Thus, common interstate interests derive from a suite of economic and political characteristics that together raise the costs of coercively changing the distribution of wealth.

These characteristics could have potentially dramatic effects on the nature of interstate relations. States that lack them will have severely conflicting interests over the distribution of wealth. Each state’s prosperity will be closely linked to its power, as it can retain only the wealth it has the ability to defend from the others. The balance of power will thus be subject to fierce competition, featuring high military expenditures, occasional arms races, and attempts to consolidate control over weaker states. Alliances will be driven by evanescent circumstance and subject to opportunistic abandonment. Severe disputes will be frequent and sometimes lead to war. Interstate relations will be wary, jealous, tense, and bloody.

By contrast, states with sufficiently sensitive, integrated economies and sufficiently representative governments will have largely common interests over the distribution of wealth. Each state’s prosperity will be determined by economic fundamentals, not power, so that the balance of power is irrelevant and therefore ignored. Strong, durable alliances will be formed on the basis of these states’ mutual interest in one another’s prosperity. Severe disputes will

be infrequent, and war unthinkable. Interstate relations will be warm, trusting, and pacific.

I argue that these characteristics have become much more prevalent in the last two centuries. Most states for most of history possessed largely static, unspecialized economies and autocratic governments, and were hence insensitive, unintegrated, and unrepresentative. This maximizes the conflict of interest over the distribution of wealth, which explains the generally nasty tenor of interstate relations in prior eras. By contrast, since the Industrial Revolution, some states' economies have come to exhibit high innovation and specialization at the same time as their governments have democratized. The corresponding rise in the sensitivity, integration, and representativeness of these states has reduced their conflict of interests over wealth.

In the contemporary West, where the rise is most pronounced, it is plausible that these incentives have been virtually eliminated. To demonstrate this, I estimate empirically the profits to the United States from a coerced transfer of wealth to itself from the European Union, assuming that it had the power to cheaply enforce such a transfer. Even under relatively conservative assumptions about the two sides' economic properties, I find that any substantial transfer would end up costing the US economy more than the revenue it brought. This surprising result derives from the fact that a transfer-induced decrease in the EU economy's growth rate would likely be reflected in a (much smaller) decrease in US growth. Because the costs of this would compound exponentially over time, even a remarkably small decrease would suffice to render the transfer unprofitable for the US. The states of the contemporary West may thus enjoy a "modern economic peace."¹

I also show that the theory generates comparative statics that match recent findings from

¹This coinage privileges the role of economic characteristics because, as I show subsequently, sensitivity and integration generate common interests among all governments, but most strongly among representative ones. By contrast, representative governments only have common interests in the presence of sensitivity and integration.

statistical analyses of interstate conflict over the last two centuries. In particular, the theory can help to explain why development, capitalism, commerce, and democracy are negatively correlated with militarized interstate disputes. It can also account for why these effects are conditional: democracy has stronger effects among more developed, more capitalist states that engage in more commerce, and commerce has a greater impact among more developed, more capitalist states. Finally, and unlike most previous theories of these patterns, the theory developed here provides an answer for why the democratic peace is mostly or entirely dyadic, rather than monadic.

This theory raises many more questions than I can answer here. I simply take for granted the levels of sensitivity, integration, and representativeness in the contemporary West and in most states in prior eras, and demonstrate that the difference in these suffices to explain the very different interstate politics of the two settings. In reality, these are just two points in a dynamic process in which sensitivity, integration, and representativeness have risen over time and interstate politics have changed. Moreover, the levels of sensitivity, integration, and representativeness are all partly endogenous to states' choices, and may be causally related to one another. How did the transition from low to high levels occur? How should we interpret the evolution of imperialism, the occurrence of two world wars, and the courses of the Cold War and European consolidation in light of this transition? Much of the theory's value derives from the framework it provides for reexamining such questions. While I will sketch some rough ideas here, detailed answers to these questions must remain the province of future research.

Related Work

The idea that the fundamental change in the international relations of the West is somehow connected to its economic development is of long standing. The work presented here makes

three contributions to the existing literature on this connection, and one to the broader literature on the patterns of interstate conflict. First, it provides a precise statement of the conditions under which a state can profit from coercing another into giving over some of its wealth. Second, it identifies the critical role of endogenous economic growth—the principal source of sensitivity in modern economies—in changing the incentives for coercion. Third, it demonstrates that the magnitude of the predicted effect on these incentives is actually large enough to explain the observed change in behavior. Finally, it broadens the puzzle from merely the absence of war among certain states to their lack of antagonism generally, and shows the value of focusing on common interests in resolving this puzzle. I will explain each of these contributions in turn after reviewing the relevant literature.

Angell (1913), Brooks (1999, 2005), Gartzke (2007), Gartzke and Hewitt (2010), and Rosecrance (1986, 1999) argue that, for some states, commerce has become cheaper, so that it is preferred to coercion as a means of accessing other states' wealth.² However, commerce is still not free: no matter how easy or widespread trade or investment become, states engaging in them must give up something valuable in return for others' goods or capital. The more powerful a state is, the cheaper it presumably becomes to coerce. For a powerful state like the US facing weaker but quite rich states elsewhere in the West, why trade when you could take?

The flip side of the same argument holds that the benefits of coercion have declined, causing even powerful states to prefer commerce, due to the shift in advanced economies from land to human capital as the principal source of wealth. Conquering such states would only reduce their value, due to nationalism (Kaysen, 1990; McGuire, 1990; Rosecrance, 1986, 1999; Ullman, 1991), capital flight (Angell, 1913; Rosecrance, 1999), dispersal of production (Brooks, 1999, 2005), or control mechanisms that stifle innovation and entrepreneurialism

²More precisely, Angell (1913) argues that commerce *should* be preferred to coercion, but that coercion would still occur because governments would neglect this fact.

(Brooks, 1999, 2005; Van Evera, 1990). These arguments appear to presume that the only way to extract wealth is through conquest. However, taxation is widely and successfully used by governments of states with advanced economies to extract wealth domestically, and there is no reason in principle why it could not be used to do so internationally. Why conquer when you could tax?

Certain influential actors are argued to prefer commerce to coercion: bankers (Kirshner, 2007), multinational corporations (Brooks, 1999, 2005), exporters and outward investors (McDonald, 2007, 2009; Narizny, 2007), and capitalists generally (Gartzke, 2007; Gartzke and Hewitt, 2010). If these arguments are correct, then coercion creates domestic losers in the state that engages in it. However, if coercion pays overall, it should be possible for a government to undertake it and use the resulting gains to compensate the domestic losers, while still profiting. So why doesn't the US do this?

Mousseau (2000, 2002, 2003, 2005, 2009) develops a theory of how “contract-intensive economies” (CIEs), such as those found in the West, have altered citizens' norms toward coercion. Market economies, with their voluntarily negotiated contracts enforced by an impartial state, engender internal norms of respect for others and compromise rather than coercion. These norms are extended in international relations to those foreign states that also evince them. However, even if citizens of such a state adhere to these norms domestically, why would they be extended to other states if this meant discarding profitable opportunities for coercion? If otherwise idealistic liberals could find ways to justify colonialism and slavery when these were seen as profitable, surely they could also justify coercing foreign states if there were a strong material incentive to do so.

Most similarly to the theory presented here, Mousseau (2013) argues that CIEs are “positive-sum-like: any improvement in the welfare of anyone else in the market increases the odds that one's own welfare will improve”, so that states with CIEs have strong common interests in each others' prosperity (189). However, the premise is not generally true: some

aspects of markets, such as firms competing for market share or consumers competing to purchase scarce goods, are zero-sum. Thus, it is not clear exactly what about CIEs leads to common interests among states that have them.

The theory described here offers answers to these questions, and so strengthens the foundations of these arguments. It specifies the conditions under which one state cannot profit overall by coercively transferring wealth to itself from other countries, and under which this will lead its government to refrain from such coercion. If coercion does not pay overall, then a government that undertook it cannot possibly compensate all the domestic losers, and so a representative one would not engage in it. These conditions hold *even if it is easy and free* for a state to impose such a coercive transfer on others, and even assuming that the transfer itself is implemented in the least inefficient manner—by some form of taxation rather than by conquest, in modern economies. And it explains why norms of cooperation, compromise, and rule of law would be extended between such states—there is no compelling material interest in doing otherwise.

Second, it also reveals the importance of endogenous economic growth in explaining the contemporary West’s behavior. The theories summarized above instead focus on how international or domestic commerce or factor endowments affect the incentives for coercion. While these mechanisms are undoubtedly important, they neglect a fundamental fact of contemporary Western economies: at trend growth rates, these double in size in a single generation. The bulk of their net present value therefore derives, not from current commerce or endowments, but from the expectation that these will grow steadily over time. Crucially, this growth is not assured: it may be reduced if economies are subjected to coerced transfers of wealth that create costly distortions. It is this sensitivity of Western economies that effects such a large reduction in these states’ incentives to coerce one another.

Third, this paper evaluates the magnitude of the predicted effect of its posited mechanism on the incentives for interstate coercion, and shows that this predicted effect is large enough

to resolve the empirical puzzle at hand. To my knowledge, previous analyses do not do this, but it is essential to assessing the importance of a theory. Even supposing a theory's prediction that some mechanism will reduce the incentives for coercion is correct, if the size of the reduction is small, then the theory cannot explain a large change in behavior, such as that observed between the contemporary West and most states in prior eras. To be clear, I do not mean to claim that these other theories' predicted effects are small—perhaps they are large, but we simply do not know. This paper thus demonstrates an approach that might usefully be applied to learn more about the explanatory power of other theories.

Much of the broader literature about interstate conflict revolves around correlations observed in the empirical record of the last two centuries between various attributes of state dyads and their propensity to engage in war (or militarized interstate disputes). Drawing on the bargaining theory of war, scholars have sought to account for these correlations by positing that some attribute renders a state less prone to problems of commitment or asymmetric information, or raises a state's costs of war. As just two examples of a voluminous literature, Schultz (1998) posits that the presence of organized opposition in domestic legislatures can lessen the occurrence of asymmetric information about a state's resolve, perhaps explaining why democratic states are less likely to war with one another. Polachek (1980) argues that the more trade two states engage in, the higher their costs of warring with each other, since war disrupts valuable trade.

While these theories can easily account for the absence of war among certain states, it is more difficult to fashion them into explanations for the general lack of antagonism among certain states. Even perfect bargainers should still engage in coercion, regardless of the fact that the result will always be a negotiated settlement rather than war. And as Gartzke and Hewitt (2010) points out, the US and USSR still engaged in intense competition over the balance of power during the Cold War, despite the exorbitant costs of war between them.

Thus, the final contribution of this paper is to suggest both a different framing of the

empirical puzzle and a different class of explanations to be considered. The behavior of the West is most puzzling when one considers not just the absence of war, but also the lack of other modes of conflict, and when this behavior is compared to the general antagonism of interstate relations before the last two centuries. Among the three classes of explanations for this behavior offered by the bargaining theory of war—absence of bargaining problems, high costs of war, and lack of severe conflicts of interest—the last offers the easiest explanation for the West’s deep comity but is the least studied. This paper offers a framework for investigating the origins of common interests.

A Simple Model of Economic Conflicts of Interest

I proceed to offer a rationalist theory of conflicts of interest, based on a model of bargaining over economic interests. There are two states, labeled A and B . Each state is composed of a government (G_A and G_B) and a citizenry, both of which are unitary actors, and also an associated domestic economy. The actors bargain over the allocation of the stream of private goods produced by both states’ economies.³ Each citizenry’s utility is equal to the net present value of its allocation of private goods, while each government’s utility depends on its type, which may be either a dictatorship or a democracy. A dictatorship’s utility is equal to the net present value of its own allocation of private goods, but a democracy’s utility is equal to its citizenry’s. In other words, a dictatorship wishes to maximize its own consumption, while a democracy wishes to maximize its citizenry’s consumption. All actors discount future payoffs by $\delta < 1$.

In the absence of intervention, the value of the private goods produced by each state’s

³The object of dispute could instead be the pool of productive factors available to the two economies. This distinction is irrelevant to the results, which depend only on the costs of transfers.

economy is initially equal to the value of those allocated to that state's citizenry, and is normalized to the value 1 for simplicity. Actors may alter this status quo by either of two means. First, one actor may transfer a mutually-agreed portion of the wealth of its associated economy to another actor. Second, any actor may start a war, which ends the game with a costly lottery and enables the winner to unilaterally transfer wealth from the loser's economy.

The value of each economy depends on the transfers agreed or imposed. If the proportions of wealth transferred from the two economies are τ_A and τ_B , then the private goods produced by each state's economy have net present values of:

$$V_A(\tau_A, \tau_B) = \sum_{t=0}^{\infty} \delta^t [1 + g_A(\tau_A, \tau_B)]^t [1 - c_A(\tau_A, \tau_B)] = V_A(0, 0) [1 - C_A(\tau_A, \tau_B)]$$

$$V_B(\tau_A, \tau_B) = \sum_{t=0}^{\infty} \delta^t [1 + g_B(\tau_A, \tau_B)]^t [1 - c_B(\tau_A, \tau_B)] = V_B(0, 0) [1 - C_B(\tau_A, \tau_B)]$$

where $c_A(\cdot, \cdot)$ and $c_B(\cdot, \cdot)$ are the static costs the transfers impose on the two economies; $g_A(\cdot, \cdot)$ and $g_B(\cdot, \cdot)$ are the growth rates of the two economies as a function of the transfers; and C_A and C_B are the total portions of the net present value of each economy that are lost due to the transfers. I assume $C_i(0, 0) = 0$, $\frac{\partial C_i}{\partial \tau_j} \Big|_{\tau_k, 0} = 0$, $\frac{\partial C_i}{\partial \tau_j} > 0$, and $\frac{\partial^2 C_i}{\partial \tau_j^2} > 0$, for any $i, j, k \in \{A, B\}$ with $k \neq j$. In other words, the costs of transfers to the two economies increase, and increase more rapidly, as the proportion transferred goes up.⁴

The order of moves is as follows. The government of state A either starts a war, or offers to the other actors a revision of the initial allocation based on a pair of transfers from the two economies and a plan for distributing the revenue. If he makes an offer, each of the other actors must either accept it, or reject it and start a war.⁵ If all the actors accept it,

⁴For mathematical convenience, I assume $C_A(1, \tau_B) = C_B(\tau_A, 1) = 1$. To assure finite net present values, I also assume that $\delta [1 + g_i(0, 0)] < 1$ for $i \in \{A, B\}$.

⁵The selection of a take-it-or-leave-it bargaining protocol and the order of these moves is irrelevant to the analysis in the next section.

the revision is implemented, so that the transfers are implemented, the attendant alterations in the value and growth rate occur, and each actor receives his post-transfer allocation of private goods. If a war occurs, the winner can unilaterally impose its preferred transfer on the economy of the loser. Information is perfect.

This model is based on the seminal bargaining model of war presented in Fearon (1995), with three alterations. First, it stipulates that the issue at stake is the stream of private goods produced by the two states' economies, rather than leaving the issue unspecified as most models do. If we are to theorize about the severity of conflicts of interests between countries, then we must specify the actual set of things over which they might have opposed interests. Private goods are the natural candidates. If a good is not rivalrous in consumption (i.e., a public or club good), then the desires of all actors to have more are not incompatible.⁶ If instead it is rivalrous but not excludable in consumption (i.e., a common good), then the actors' preferences for more are incompatible, but no actual conflict arises because nothing can be done about this incompatibility: no actor can exclude another from consuming the good. By contrast, private goods are by definition precisely those utility-bearing things that *must* be divided (because they are rivalrous) and *can* be divided (because they are excludable). Thus, actors' preferences for more private goods are both incompatible and actionable.⁷

⁶Of course, actors might argue over who is to *provide* public goods, if doing so requires some private goods to be sacrificed as payment for the provision, but the underlying issue is still the division of private goods. Also, actors might bargain over inclusion into a good-providing club, but the only reason to exclude anyone is in order to motivate the sacrifice of private goods required to create the club good in the first place, so again the question is of the division of private goods.

⁷This is not as much of a departure from previous models as it might seem. In most models, the two sides must divide a unit interval over which they have opposed preferences.

Second, this model specifies exactly how revisions to the status quo will be implemented. If governments wish to alter the initial allocation of private goods, they must force one actor to transfer a portion of its wealth to another. Transfers might be implemented by tariffs or subsidies; by the payment of tribute; by the confiscation of land, labor, or capital; by taxes on income or consumption. Regardless of the form it takes, a coerced transfer of wealth is economically equivalent to a tax, and so I refer to it as such. Standard economic theory then implies that these transfers may be costly.⁸ Taxes can distort economic activity as actors seek to avoid them (by doing less of the taxed activity and investing less in it) or evade them (by concealing the taxed activity).⁹ For example, income taxes lead people to work less or to accept payment “off the books,” and also cause people to invest less in generating more income. These actors’ deviations from otherwise optimal economic activity reduce the total value of the economy, creating costs known as deadweight loss. These costs come in two forms. Static costs reduce the value of the economy by a fixed proportion at any given point in time. Dynamic costs reduce the economy’s rate of growth, and are especially important because they compound over time as the economy grows more slowly.¹⁰

This implies that the stakes are private goods. Because these models do not include the possibility of any side payments, they implicitly assume that the actual stakes are the sum total of all private goods available to the two sides. Thus, the stakes specified here are actually the same as those implied by other models.

⁸Previous models can be taken as assuming that these costs are zero.

⁹There are theoretical cases in which taxes do not generate distortions, such as lump-sum taxes or taxes on goods for which demand is completely inelastic. However, these cases are of limited empirical relevance because, in practice, the way they would have to be implemented would entail distortions. For example, to properly set the size of lump-sum taxes, a government would have to assess the ability of a citizen to pay it, but this assessment creates incentives for deceptive behavior on the part of citizens and hence distortions.

¹⁰There are also theoretical cases in which taxes do not affect economic growth, such as

Importantly, these costs will be incurred regardless of whether a revision is implemented peacefully by mutual agreement or unilaterally by the winner of a war. A war eliminates the loser's ability to resist the victor's implementation of a revision. But even if victory entails the conquest and occupation of the loser, revising the distribution of wealth will still require the victor to impose a coerced transfer, which will still generate the costly distortions in economic activity just described.

The costs of taxation may be borne not only by the taxed state's economy, but also by the other state's economy. The distortions a tax generates may spread widely through the targeted economy, and may even affect another economy if the two are at all integrated, through trade, investment, or the diffusion of ideas. For example, the confiscation of land in one country leads not only its domestic citizens, but also any foreigners investing in that country, to invest less in improving this land and more in what would otherwise be lower-return assets. Thus, actors' deviations from otherwise optimal activity due to a tax imposed on the domestic economy may also reduce the value and growth rate of a *foreign* economy. This is why the static and dynamic costs to a given economy may depend not only on the tax levied on that economy, but also on that imposed on the other state's economy.

The model's final distinguishing feature is its rudimentary incorporation of domestic politics. Each government must bargain, not only with the government of the other state, but also with its own citizenry. The model assumes that a dictatorship is interested only in lining its own pockets, whereas a democracy is completely devoted to its citizenry. Obviously real-world regimes fall somewhere in between these extremes, but the simple dichotomy used here renders the effects of regime type more starkly in the analysis.

The theoretical innovation here lies not in the design of the model, but in its interpretation of consumption taxes. Again, in practice the government would have to delineate which activities were considered consumption and which were not, and citizens would have incentives to employ costly means to disguise the former as the latter.

tion. To summarize, it is a standard bargaining model of war with a simple domestic politics, except that revisions to the status quo, whether mutually agreed or unilaterally imposed after a war by its victor, entail costs to one or both sides. Because this setup is intended to focus attention on the *interests* of the actors rather than their bargaining environment, the latter is purposely stripped-down, and indeed for reasons given subsequently I will not discuss the bargaining outcomes at all. The novelty here is in the interpretation of the stakes as the distribution of private wealth and of revisions to the status quo as coerced transfers of wealth; the model serves only to discipline this. It turns out that this interpretation carries important empirical implications.

The Political Economy of Interstate Predation

My approach to analyzing the model is to assess the conflict of interests between the two states and how this depends on their economic and political characteristics. This conflict of interests is determined by the tax rates each government would impose on each economy, given that it had the power to enforce whatever rates it chose. The larger the rate each government would ideally like to be able to impose on the other state's economy, the more severe the two governments' conflict of interests over the interstate distribution of wealth.

Obviously, in equilibrium each government may not be able to impose its ideal tax rates. I ignore the question of whether a government could do so, because whether it has incentives to try depends in the first place on whether it would actually want to do so, and it is the latter that is the focus of the analysis. We will see that, under certain conditions, each government has nothing to gain from taxing the other state's economy, and so would prefer not to do so at all. These governments have no conflict of interest over the allocation of private goods, and hence no desire to coerce one another. This analysis of the governments' ideal outcomes, rather than equilibrium bargaining outcomes, is all that is required for the

empirical discussion to follow.¹¹

I proceed to compute a government's (say G_A 's) ideal tax rates, with the ideal rate on A 's economy denoted τ_A^* and that on B 's economy τ_B^* . If G_A is a dictatorship, then it seeks to maximize its own post-tax allocation of private goods, which is just the total revenue from taxes on its own and the other state's economy:

$$U_{dictatorship}(\tau_A, \tau_B) = \tau_A [1 - C_A(\tau_A, \tau_B)] + \tau_B [1 - C_B(\tau_A, \tau_B)]$$

If instead G_A is a democracy, then it wishes to maximize its citizenry's post-tax allocation of private goods, which includes both the value produced by its own economy and the revenue brought in by a tax on the other state's economy:

$$U_{democracy}(\tau_A, \tau_B) = [1 - C_A(\tau_A, \tau_B)] + \tau_B [1 - C_B(\tau_A, \tau_B)]$$

First suppose that A 's economy is not at all integrated with B 's economy. Then, the value of each economy does not depend on the tax imposed on the other economy, and so the ideal tax rate on one economy does not depend on the tax imposed on the other. By taking the appropriate derivatives and setting them equal to zero, we have the following result.

Proposition 1. *If the states' economies are not integrated, then the ideal tax rates are:*

¹¹A conventional equilibrium analysis yields two straightforward results. First, because transfers are costly, they are generally smaller in equilibrium than those that occur in the standard bargaining model of war, in which transfers are free. Second, because there is no source of uncertainty or shifting power, no bargaining failure arises and war will not occur in equilibrium. These results are not presented in detail because they distract from the main purpose here: to show that certain characteristics that raise the costs of transfers thereby suppress states' desire to revise the distribution of wealth.

	<i>Tax on Own Economy</i>	<i>Tax on Foreign Economy</i>
<i>Dictatorship</i>	$\tau_A^* \frac{\partial C_A}{\partial \tau_A} = 1 - C_A(\tau_A^*)$	$\tau_B^* \frac{\partial C_B}{\partial \tau_B} = 1 - C_B(\tau_B^*)$
<i>Democracy</i>	$\tau_A^* = 0$	$\tau_B^* \frac{\partial C_B}{\partial \tau_B} = 1 - C_B(\tau_B^*)$

This result has three important implications. First, a government’s willingness to prey on the economy of the other state, or on its own if it chooses to do so at all, is limited by the costs that taxation will inflict on the targeted economy. This narrows the scope for conflicts of interest between the involved actors from what would be the case if transfers of wealth were not costly. It will not make sense for the government to try to take everything, because then the taxed economy will produce nothing, and the government will get nothing from the tax. How much the government should take depends on what I will term the *sensitivity* of the targeted economy to taxation: that is, how quickly the costs of taxation rise in the rate of tax imposed (corresponding to C_A and $\partial C_A/\partial \tau_A$ for its own economy and C_B and $\partial C_B/\partial \tau_B$ for the other economy). The more sensitive the targeted economy is to taxation, the more its value will be reduced by a given tax rate, so that the revenue-maximizing tax rate that is ideal for the imposing government is lower.

Second, the tax rate G_A would like to impose on the other state’s economy does not depend on whether G_A is a democracy or a dictatorship. Neither has any interest in the prosperity of the other state, and in the absence of any economic integration, neither need concern itself with any spillover effects on its own economy of taxing the other economy. Thus, both democracy and dictatorship are equally predatory toward the other state.

Finally, the two types of government do behave quite differently with respect to their own citizenry. A democracy has nothing to gain from taxing its citizenry—it would only return the revenue to them, and taxation is costly—and so no reason to prey upon their wealth.¹² By contrast, a dictatorship regards its own economy just as it does the other state’s economy,

¹²This may seem to be contradicted by the empirical observation that democracies tend to impose much higher aggregate taxes on their domestic economies than do other states.

as a target for predation. Just as with the other economy, a dictatorship's predation on its own economy is limited only by the damage taxation does to its value.

Now suppose that A 's economy is, at least to some degree, integrated with B 's economy, and we will see how this changes the ideal tax rates. Intuitively, G_A must now take into account the fact that the value of each economy (and hence the tax revenue collected from each) depends not only on the tax imposed on that economy, but also on the tax imposed on the other economy.

Proposition 2. *If the states' economies are integrated, then the ideal tax rates are:*

	<i>Tax on Own Economy</i>	<i>Tax on Foreign Economy</i>
<i>Dictatorship</i>	$\tau_A^* \frac{\partial C_A}{\partial \tau_A} + \tau_B^* \frac{\partial C_B}{\partial \tau_A} = 1 - C_A(\tau_A^*, \tau_B^*)$	$\tau_A^* \frac{\partial C_A}{\partial \tau_B} + \tau_B^* \frac{\partial C_B}{\partial \tau_B} = 1 - C_B(\tau_A^*, \tau_B^*)$
<i>Democracy</i>	$\tau_A^* = 0$	$\frac{\partial C_A}{\partial \tau_B} + \tau_B^* \frac{\partial C_B}{\partial \tau_B} = 1 - C_B(0, \tau_B^*)$

The ideal tax rates on each economy are affected by three factors. First, just as in the absence of integration, the ideal rate for a given economy, if it is taxed at all, depends on the sensitivity of the targeted economy to its own taxation (i.e., $C_A(\cdot, \tau_B)$ and $\partial C_A / \partial \tau_A$ for A 's economy and $C_B(\tau_A, \cdot)$ and $\partial C_B / \partial \tau_B$ for the other). The more sensitive an economy is to being taxed, the more its value will be reduced by a given tax rate imposed on it, so that the revenue-maximizing tax rate is lower.

Second, the ideal rate for each economy now also depends on the effect this rate will have on the value of the *other* economy. How much the government should take from one economy depends on what I term its *integration* with the other economy: namely, the degree to which the costs of taxing one economy are borne by the other (represented by $C_A(\tau_A, \cdot)$). However, the resulting revenue is mainly used to provide public goods such as social insurance and defense, rather than to enrich the governing elites. Because the model abstracts away from public goods, assuming for simplicity that all wealth is private, taxation to support public goods provision does not occur.

and $\partial C_B/\partial\tau_A$ for its own economy and $C_B(\cdot, \tau_B)$ and $\partial C_A/\partial\tau_B$ for the other economy). The more integrated the targeted economy is with the other, the more the value of the latter will be reduced by a given tax rate on the former, so that the revenue-maximizing tax rate is lower. These *negative externalities* of taxation further limit the government's willingness to prey on either economy and thus narrow the scope for conflicts of interest between the government and the taxed actors even further than in the absence of integration.

Finally, the ideal rates depend on whether G_A is a dictatorship or democracy, as this affects the degree to which the government internalizes the costs to its own economy from the negative externalities associated with taxing the other. Intuitively, a dictatorship only cares about the portion of these costs that show up as reduced revenue from its taxes—the rest of the costs will be borne by one or the other citizenry. Thus, the dictatorship internalizes only a fraction (τ_A^*) of the externalities suffered by its own economy due to its taxation of the other (represented by $\partial C_A/\partial\tau_B$), and only a fraction (τ_B^*) of the externalities suffered by the other economy due its taxation of its own economy (represented by $\partial C_B/\partial\tau^A$).

By contrast, a democracy internalizes all of the negative externalities suffered by its own economy due to its taxation of the other—it does not discount these by τ_A^* . (As before, a democracy imposes no tax on its own economy.) Because the democracy's utility is equal to its citizenry's, a given cost to its own economy will reduce its utility by the same amount. This lowers the democracy's ideal tax rate on the other state's economy below that of the dictatorship: taxing the other economy is more expensive for the democracy than for the dictatorship. So, in the presence of integration, a democracy would be less predatory toward the other state than would a dictatorship.

Consider the implications of these results for the nature of interstate relations. Suppose there is a group of states that have completely insensitive, unintegrated economies and unrepresentative governments. Because there are no costs to coercively transferring wealth, there are no economic limits to these states' desires to prey on each other. In such an

environment, a state's prosperity will be closely linked to its power. A state that is richer than it is powerful will be subject to predation; one that is more powerful than it is rich will prey upon others. The balance of power is therefore all-important, and will be vigorously competed over. States will spend heavily on their militaries and engage in occasional arms races. They will try to assert and consolidate control over other states in order to extract more wealth and increase their own power. Alliances among these states will be subject to opportunistic abandonment, because they are not based on any mutual interest in each other's prosperity. Given the intense conflict of interests over the distribution of wealth, severe disputes will arise and sometimes escalate to war. States will eye each other warily, simultaneously jealous and fearful of others' power and wealth.

If sensitivity, integration, and representativeness were to rise modestly within this group, coerced transfers of wealth would become costly, but these costs would be small and so interstate relations would remain similar. But if these characteristics were to rise high enough, they would eventually eliminate any member's incentive to coercively transfer wealth from another. In this environment, a state's prosperity is based on its economic fundamentals, not power. If it is powerful, it will not coerce the others, but instead protect them from coercion, since its prosperity is linked to theirs. If it is weak, it will rely for protection on the strong within the community. The balance of power within this group is thus irrelevant and can be safely ignored: any military spending or alliance formation will be driven by threats from outside. Alliances among members will be strong and durable because common interests run deep. Given the lack of conflicting interests over the distribution of wealth, severe disputes will be infrequent and war pointless within the community. These states will view each other's power and wealth as sources of prosperity for all.

To summarize the analysis, the severity of the conflict of interests between two states depends on how much wealth each would transfer from the other to itself, or equivalently what tax rate each would impose on the other, if it had the power to do so. The less each

state would like to tax the other, the less they will disagree over the distribution of wealth, and the less their interests will be in conflict. The more sensitive one state's economy is to its own taxation, the lower the tax rate the other state would like to impose on it, because higher rates will decrease the value of the taxed economy faster than they raise the tax revenue. The more integrated one state's economy is with the other's, the lower the ideal tax rate the former would impose on the latter, because the negative externalities borne by its own economy decrease the utility the former gains from it. And, in the presence of sensitivity and integration, the more representative one state's government is, the lower its ideal tax rate on the other state's economy, because it will more fully internalize the externalities to its own economy and therefore its own citizenry. Large-enough increases in sensitivity, integration, and representativeness can radically alter the nature of interstate relations, from bloody antagonism to deep comity.

Explaining the Deep Comity of the West

I proceed to demonstrate the empirical value of the theory. Below, I will argue that its comparative statics match some important patterns in interstate relations that have been documented by previous research, but have proven difficult to explain. Here, I show that its predicted effects are large enough to resolve the paper's framing puzzle: the deep comity of the West relative to most states in prior eras. This approach is unconventional and so merits some elaboration.

Given measures of the sensitivity, integration, and representativeness of a pair of states, the theory can be used to predict the *magnitude* of the incentives for one state to coerce the other into transferring some of its wealth. This kind of prediction is not usually derived in prior work, but it is essential to judging the empirical merit of any theory. If the effect predicted by some theory is very small, then even if that theory is correct, it is not very

important in explaining the empirical behavior in question. In this respect, the framing puzzle poses a difficult test for the theory. If the predicted effect of sensitivity, integration, and representativeness is small, then my theory cannot possibly explain the large contrast between the deep comity of the contemporary West and the general interstate antagonism of previous eras, and the theory will fail the test.

I derive the predicted effect in three steps. First, I argue that most states for most of history were characterized by very low sensitivity, integration, and representativeness. Under these conditions, the theory predicts severe conflicts of interest over the distribution of wealth and so generally antagonistic interstate relations, matching the historical record. Next, I argue that the states of the contemporary West generally have highly sensitive, integrated economies and representative governments. Finally, for the particular pair of the United States and European Union, the most powerful and the richest polities in the West, I calculate the predicted incentives of the former to coercively transfer wealth from the latter to itself. I find that, even under conservative assumptions, these incentives are virtually nil. Thus, the increased sensitivity, integration, and representativeness of the contemporary West can fully account for its deep comity. The subsequent section of the paper will discuss the West's transition from antagonism to comity.

Most States in Prior Eras

For most of human civilization, most states around the world could be described as follows. The bulk of the state's economy was composed of subsistence agriculture, because the productivity of most of its citizens was not high enough to generate much of a surplus above survival requirements. The economy grew very slowly, if at all, since the lack of surplus meant there was not much to spare for investments in infrastructure, education, innovation, and other improvements to the factors of production. The state engaged in very little international commerce, due to the lack of surplus combined with relatively high costs of trade

arising from poor transportation infrastructure, primitive shipping technology, and banditry on trade routes. It was ruled by an autocratic regime, which had amassed considerable power over the citizenry and was interested mainly in bolstering its own wealth and power.¹³

What wealth might a government transfer from such an economy (its own or the other state's)? It could seize land or labor, the principal factors of production. Given the dearth of human capital and undeveloped arable land, this coerced transfer would not lead to a reduction in the supply of either factor because there are no investment decisions to be distorted. The government could also confiscate crops, the principal good produced in the economy. While farmers might seek to flee the tax collectors or conceal some of their produce, these possibilities can be curtailed if the transfer is enforced by means of restrictions on farmers' liberties, such as under serfdom or slavery. Farmers cannot afford to work less in response to the transfer, because their reliance on their own produce for subsistence implies that doing so would put their survival at risk. Thus, given enough military power to coerce the peasants (or their government), a government would be able to transfer substantial wealth, in the form of levies on crops or direct seizure of land or labor, without much reduction in the total value of the targeted economy. This meant that the sensitivity of these states' economies was quite low.

The integration of these states' economies was also minimal. Since each state engaged in very little commerce, its economy functioned largely independently of other states' economies. Thus, the few costly effects of any transfers the state imposed on other economies would be unlikely to bleed over into its own economy, so that the negative externalities associated with these transfers would be very small. Finally, these states' governments were very unrepresentative, so that any externalities that did occur would be heavily discounted.

According to the theory, these conditions should give rise to near-maximal incentives

¹³In places in which authority was not highly centralized, the terms regime and government may be interpreted more broadly as referring to elites generally.

for coerced transfers of wealth, and therefore severe conflict over the distribution of wealth. Consistent with this prediction, the historical record of the relations among such states is exceedingly nasty. Prior to the Industrial Revolution (i.e., before about 1750), and in some places up to the Second World War, disputes over the distribution of land and labor were common and led to frequent warring; powerful states competed vigorously in arms and conquest, and preyed rapaciously on weaker states; alliances were formed of convenience and often short-lived; and states conceived of interstate relations as largely zero-sum.¹⁴ The few more pacific times and places seemed to coincide with one state (temporarily) conquering or controlling all others in its region (e.g., the Pax Romana or China's hegemony).¹⁵ In short, there is little peace among such states, and certainly no deep comity of the kind observed in the contemporary West.

The Contemporary West

Beginning at least by the Industrial Revolution, some states around the world shifted away from the characteristics above and toward those described here, with the change clearest and most advanced in the states of the contemporary West. Each state's economy is composed mainly of manufacturing and services. Much of the economy's net present value derives from large and continuing investments in infrastructure, education, entrepreneurial ventures, and innovations in science, technology, and organization that cause the economy to grow over time. The productivity of most citizens is much higher than the survival level. These states engage in extensive commerce with one another, with trade in goods and services forming a substantial percentage of each economy, large inflows and outflows of foreign direct

¹⁴The antagonistic tenor of interstate relations is obvious in most places at most earlier times. For recent, excellent world histories that make clear just how ubiquitous this antagonism was, see Findlay and O'Rourke (2009); Gat (2008).

¹⁵On the Roman Empire, see Heather (2007); for China, see Kang (2010).

investment, massive international portfolio investment, many large multinational firms, and open communication of new ideas and innovations. Each state's government is subjected to routine opportunity for replacement by election of the majority of the adult citizenry.

Because these states' economies are highly diversified and relatively free, it is relatively easy for citizens to avoid or evade any narrow tax. To constrain avoidance and evasion, any significant level of taxation must therefore be collected from a broad base. Because citizens' survival is generally not at risk, they can easily respond to such broad taxes by working, consuming, and investing less. The decline in production and consumption resulting from taxation imposes static costs, decreasing the current value of the economy. But the decline in investment imposes dynamic costs, reducing the economy's growth rate. This results in an exponentially compounding loss of value to the economy over time, so that even a quite small reduction entails very high costs. Thus, these modern economies have substantially higher sensitivity than the subsistence-agriculture economies discussed above.

Their integration is also higher. Diversification and heavy engagement in international commerce provide many channels through which the effects of a tax on one economy can seep into others. Employees and shareholders of firms that export goods to the taxed economy would be hurt by reduced consumption of these goods due to reduced wealth in the taxed economy. Consumers that buy products imported from the taxed economy would have to pay higher prices or turn to alternative, next-best suppliers of these goods and services. Investors would have a reduced set of opportunities in which to invest and reduced capacity for diversification. Firms that own foreign affiliates or purchase and sell products abroad would share in the taxed economy's costs. Fewer innovations in the taxed economy would be available to spread to and increase the value of the untaxed economy. And all these effects would compound over time due to the lower growth rate of the taxed economy. Thus, the negative externalities of a tax on one economy to others would be substantial—certainly, higher than with the previous set of states. Finally, the more representative governments of

the West would be less inclined to discount these costs.

Indeed, all of these characteristics are widely attributed to these states. The importance of property rights and free, uncoerced participation in markets to economic growth is fundamental to the prevailing understanding of the origins of prosperity in the West. Elites within these states argue over the extent of public goods provision (and thus taxation to fund these goods) by the government, but most agree that the effects of taxation on growth are central to the debate. And it is conventional wisdom that economic downturns in one or several of these states will negatively affect the others. Participation in all the institutions of modern international economic cooperation—the World Bank, the IMF, central bank coordination—is motivated in part by the perception that helping particular states to increase growth and recover from downturns will bolster the growth of other states.

Given that sensitivity, integration, and representativeness are higher, the model predicts that there will be limits to these states' willingness to prey on each other, even if they had the power to do so easily. But are these limits plausibly strict enough to account for the deep comity of the West?

Predicted Incentives for Coercion in the West

A simple calculation can tell us just how much the West's sensitivity, integration, and representativeness lessen its predicted economic conflicts of interest. As an illustrative case, I focus on the United States and the European Union. Within the West (and the world), the US is the most powerful polity, and thus the most plausible coercer, while the European Union is the richest, and so seemingly the most tempting target. Using available data on the economic characteristics of each, I estimate the profits to the United States of coercively transferring wealth from the European Union to itself, assuming that it had the power to do so. I will show that even under relatively conservative assumptions, the US would actually be made *worse off* by imposing such a transfer.

Since the US is a highly representative democracy, I assume that it would impose a transfer only if the value its citizenry receives is greater with the transfer than without. The net profit to the US from this transfer is equal to the net present value of the US economy under the transfer plus the revenue from the transfer, minus the net present value of the US economy absent the transfer, or:¹⁶

$$\sum_{t=0}^{\infty} \delta^t [1 + g_{US}(\tau)]^t [1 - c_{US}(\tau)] + \tau \cdot \sum_{t=0}^{\infty} \delta^t [1 + g_{EU}(\tau)]^t [1 - c_{EU}(\tau)] - \sum_{t=0}^{\infty} \delta^t [1 + g_{US}(0)]^t$$

Estimating this quantity requires that we specify values for several parameters. I assume that the transfer under consideration, τ , is a modest tax of 10%. If this transfer is not profitable for the US, no higher one will be either, as the marginal costs of taxation increase in the rate. Though a lower rate might be profitable, at some point the amount being transferred is negligible. The discount factor of the US government, δ , is routinely employed in government cost-benefit analyses of regulation. Its official value is set each year according to the lowest (nearly risk-free) long-term real interest rate in the economy.¹⁷ Over the last two decades, this has averaged about 2.8%, giving a discount factor of $1/1.028 = 0.973$ (Office of Management and Budget, 2015).¹⁸ The real growth rates of the US and EU economies in the absence of a coerced transfer, $g_{US}(0)$ and $g_{EU}(0)$, have averaged about 2.5% and 2% over the same period.¹⁹ The static costs the transfer imposes on the US and EU economies,

¹⁶This expression assumes the two economies start at the same value, which is roughly true. From the CIA World Factbook, adjusted for purchasing power parity, the 2015 GDPs of the US and EU were about \$18 and 19 trillion, respectively.

¹⁷This correspondence derives from the fact that in an efficient, risk-free capital market, the interest rate paid by the borrower must equal the discount rate of the lender.

¹⁸The rate trends downward during this time, but using a lower rate would only strengthen the conclusion of this exercise.

¹⁹The figures come from the Bureau of Economic Analysis (BEA) for the US and Eurostat

$c_{US}(.1)$ and $c_{EU}(.1)$, are conservatively set to zero. For the real US economic growth rate under the transfer, $g_{US}(.1)$, I conservatively assume that the extent of integration between the two economies is such that the US will suffer only 20% of the EU's decline in growth rate. Over the last two decades, 24% of US exports went to the EU, while 21% of US imports came from the EU. Over 30% of direct investment in the US came from the EU and vice versa. Perhaps most importantly for growth, the EU represented over 23% of world expenditures on research and development, and by 2014 held about 15% of all patents in the US.²⁰ Finally, the real growth rate of the EU economy under the transfer, $g_{EU}(.1)$, can be rewritten as $g_{EU}(.1) \equiv g_{EU}(0) \cdot (1 - \gamma)$, where γ is the fraction by which the EU's growth rate will decline due to the transfer.

Simplifying the above expression using these parameter values, the net profit to the US from the transfer is:

$$\frac{1}{1 - .973 \cdot [1.025 - .025 \cdot .2 \cdot \gamma]} + \frac{.1}{1 - .973 \cdot [1.02 - .02 \cdot \gamma]} - \frac{1}{1 - .973 \cdot 1.025}$$

Should the US government impose the transfer? This depends on γ , the tax-induced reduction in the EU's growth rate. A little arithmetic leads to the remarkable result that, even if the proposed transfer would reduce the EU's growth rate by as little as a mere 1.9% (that is, decreasing it from 2% per year to 1.96%), the US would be better off not imposing it. The reason this happens is that the cost of the decline in growth suffered by the US compounds exponentially over time, so that the aggregate costs of even a very small reduction come to overwhelm the revenue the US collects from the EU.

This suggests a general lesson about interstate relations throughout the West. For any

for the EU.

²⁰Trade and investment figures come from the BEA, research and development expenditures from the UNESCO Institute for Statistics, and the patent percentage comes from the US Patent and Trademark Office.

particular state's economy, it is hard to know exactly how much a coerced transfer would reduce its growth rate. But if even a small reduction—one so little it might be undetectable to economists—would be enough to render the tax undesirable, then even substantial uncertainty in the estimate doesn't matter. Whatever the true figure, it is plausible that the sensitivity, integration, and representativeness of the West are high enough to virtually eliminate any serious conflict of interests over the distribution of wealth among the West's members. While the economic interests of these states are still opposed in principle—each wants more wealth, but wealth is scarce—they are not opposed in practice because taxation to alter the distribution of wealth will likely cost more than the revenue it brings. This means that the only way Western states can get richer is through growth. Because integration ensures that one member's growth contributes to growth in all the others, every member agrees that each should focus on maintaining its own growth and eschew predation upon each other as a means of gaining wealth.

Thus, within the West, the balance of power sometimes differs radically from the distribution of wealth because the former is irrelevant to the latter. The US has no desire to use its power to take the others' wealth, because the transfers necessary to do so would on net reduce the economic well-being of the US citizenry. Alterations in the distribution of wealth are therefore driven by underlying economic fluctuations, not interstate coercion. The US has nothing to lose if the other states get stronger, because they will not use this power to take its wealth, and it gains more powerful allies against external threats. This is why it contributes to the empowerment of these states. Just the same, these states rely heavily on the US for their security, because they know it has no reason to take advantage of them. Quite the opposite: they needn't even pay for protection, because the costs the US would suffer if they were coerced by an external power—deriving from the sensitivity of their economies and their integration with the US economy—are enough to motivate it to defend them for free. When these states argue, it is not over the balance of wealth,

but instead to do with the value of, and best way to provide, international public or club goods, such as counter-proliferation and climate stability. Debate and persuasion resolve these arguments, not force. In the rare cases when threats and punishment (e.g., referral to the WTO) are used, they are always mild and do not disturb otherwise warm relations, because both sides are mindful of the overwhelming commonality in their general interests. In particular, wars among these states are unthinkable, because they would not accomplish anything meaningful.

The West's Transition from Antagonism to Comity

Given the difference in sensitivity, integration, and representativeness (SIR) between most states in prior eras and the contemporary West, the theory developed here predicts a reduction in conflicts of interest that is large enough to explain the observed difference in behavior between these two settings. However, that leaves open the question of how the transition between the two occurred, and how the intervening history should be interpreted in light of the theory. In the space available, I can provide only a sketch, which might serve as a starting point for further research.

Although some earlier states, such as the Venetian or Dutch Republics, had relatively high levels of integration and representativeness, these lacked the sustained high rates of economic growth generated by investment and innovation that are necessary for high sensitivity. Such so-called modern economic growth did not arise until the Industrial Revolution, beginning in Great Britain and spreading in time to the United States, France, Germany, and others. During this period, sensitivity, integration, and eventually representativeness grew, and should have lessened conflicts of interest among these states over the distribution of their own wealth.

However, true comity was impeded by the fact that the Western powers still had conflicts

of interest over the distribution of the rest of the world's wealth. Most pre-industrial states were too weak militarily to deter Western coercion, and their economies still had very low sensitivity and integration, making them prime targets for predation. Taking income per capita as a proxy for sensitivity, and drawing on Angus Maddison's data, near the beginning of the industrial era in 1820, only Great Britain and the Netherlands had income levels above \$1500, and together they made up less than 6% of the world's economy.²¹ Even in 1870, when several other Western countries had risen above this threshold due to the spread of industrialization and commerce, the rest of the world still made up almost two-thirds of the global economy. The presence of this vast reservoir of insensitive, easily-conquered wealth created massive conflicts of interest among the Western powers over which would get to extract it, even as their own rising SIR decreased conflicts of interest over their own internally-generated wealth.

The result was fierce, zero-sum competition over access to colonies that persisted even into the 20th century. Indeed, Adam Tooze attributes Germany's waging of two world wars to its desire to overcome its relative poverty in these sources of wealth (2007; 2014). Because Germany's colonies were far less valuable than those of Britain or France, and Germany had no vast hinterland like that of the US or Russia, it feared that it would fall behind these other powers. This perception led Germany to attempt both to conquer additional territory in the East and to unite more of the West under its rule.

Over time, as SIR rose in the most advanced states and began to rise in others, the share of the world economy that had low sensitivity declined. By 1913, only 40% of the world's income derived from countries below with income per capital below the threshold;

²¹This level is a conservative threshold for determining which states were experiencing increased economic sensitivity, as almost all states that began to industrialize quickly rose above it. Setting a higher threshold would strengthen the conclusion drawn in this paragraph. The data can be found in Maddison (2007).

by 1950, only 17% did; and by 2003, most countries had risen above it. Even by a much more conservative criterion—assuming only those states with obviously modern, diversified economies and democratic governments enjoy modern economic peace with each other²²—the rest of the world in 2015 made up only 38% of the global economy. Moreover, much of this 38% consists of countries whose economies are transitioning to higher sensitivity and integration.

As the low-sensitivity share of the world economy decreased, Western states' conflicting interests over the rest of the world economy became less important relative to their common interests over their own sensitive, integrated economies. Even from early on in the Industrial Era, we can see the beginnings of a belief that underpins modern economic peace: that states with modern economies should seek prosperity through internal growth and free commerce rather than predation, because the latter is net-costly. In the mid-19th century, British liberals held that the costs to Britain's own economy caused by tariffs exceeded the revenue they raised from foreign economies (Schonhardt-Bailey, 2006). After the first World War, John Maynard Keynes argued that the reparations extracted by the Allies from Germany would ultimately harm rather than benefit their economies, precisely because the harm reparations inflicted on the German economy would spread to their own (Keynes, 1919). Immediately after the second World War, the US transferred wealth *to* Western Europe rather than from it in part because it believed US prosperity depended on European prosperity.

This accounts for why and how the West has transitioned from antagonism to comity. Its economies have become highly sensitive and integrated and its governments highly representative, reducing Western states' conflicts of interest over the distribution of their own wealth. The value of the rest of the world's economy has declined relative to the West's, lessening the

²²Specifically, these are the US, the EU, Japan, Canada, South Korea, Australia, Mexico, Switzerland, Taiwan, Norway, Israel, New Zealand, Puerto Rico, and Iceland, which made up over 62% of the world economy in 2015 according to the World Bank.

relative importance of the conflict of interests among Western states over the distribution of the rest of the world's wealth. Finally, other countries' economies and governments more and more resemble those of the West, further lessening the incentives for the West to prey upon them.

Explaining Known Patterns of Interstate Relations

Recent empirical analyses of the historical record of the last two centuries have documented relationships between variables like development, capitalism, commerce, and democracy on the one hand, and war on the other. The theory developed here can help to explain these patterns, including some that have been difficult to account for with extant theories. To demonstrate this, I first map the concepts of sensitivity, integration, representativeness, and the severity of the interstate conflict of economic interests into the variables commonly used in this literature. I then restate the results from the model in terms of these variables, and show that these match the observed empirical patterns.

First, sensitivity is related to, but also importantly distinct from, development, at least as it is usually measured by a country's gross domestic product (GDP) per capita. Most countries that are poor are characterized by anemic or unstable growth and a general lack of domestic investment and innovation, implying that their economies are relatively insensitive. By contrast, some countries became rich as a result of a long period of high economic growth driven by extensive investment and innovation, and thus have economies that are relatively sensitive. However, there are other countries that are rich due to the possession of large stocks of easily-exploited natural resources rather than investment and innovation, and so have insensitive economies despite their wealth. Hence sensitivity is only roughly proxied by development as it is usually measured.

Sensitivity is more accurately proxied by capitalism, as measured directly by domes-

tic investment or indirectly by public property.²³ Domestic investment generates economic growth within a country, so the more investment is occurring, the greater the potential for costly distortions to arise from a coerced transfer of wealth. Similarly, the higher the costs of distortions from coerced transfers, the more expensive it is for governments to seize property, so that more sensitive economies should feature governments that own less property.

Integration is closely connected to commerce. The latter is usually measured by a country's dependence on or openness to trade or investment. These measures form important components of integration, as each provides channels for distortions in one economy to diffuse into another. However, they neglect one of the most important components of integration: the transmission of information, especially about innovations, between economies. Thus measures of commerce should provide a partial proxy for integration.

Representativeness is clearly related to democracy, as often measured by Polity scores. More open, competitive participation in politics, including in the selection of a more constrained executive, should help to ensure that the government attends to the interests of the broad citizenry rather than those of an elite few.

Finally, the severity of the conflict of economic interests between two states ought to be correlated with their war-proneness. States obviously may have conflicting non-economic interests that lead to war, even under the broadest conception of "economic." Moreover, most theories stipulate that a severe conflict of interests is necessary but not sufficient to cause war. These caveats may lower the correlation, but it seems implausible they would eliminate it altogether.

We can now translate the theory's comparative statics. To recapitulate from Propositions 1 and 2: sensitivity, integration, and representativeness lessen conflicts of economic interests.

²³Openness to trade or investment are also sometimes taken as indicators of capitalism, but are more closely related to integration than sensitivity. See Gartzke (2007); Gartzke and Hewitt (2010); McDonald (2009).

As any of these rises, the effects of changes in the others are magnified. Translating, these comparative statics become: development, capitalism, commerce, and democracy lessen war-proneness. As any of these rises, changes in the others will have larger effects.

These translated comparative statics match the conditional associations documented in prior work. War-proneness seems to decline in development (Hegre, 2000; Mousseau, Hegre and Oneal, 2003; McDonald, 2009), capitalism (Gartzke, 2007; Gartzke and Hewitt, 2010; McDonald, 2009; Mousseau, 2009), commerce Mousseau (2000); Mousseau, Hegre and Oneal (2003), and democracy (Mousseau, Hegre and Oneal, 2003; McDonald, 2009). The pacifying effect of democracy appears to increase in development (Hegre, 2000; Mousseau, 2000; Mousseau, Hegre and Oneal, 2003), commerce (Mousseau, Hegre and Oneal, 2003; Gelpi and Grieco, 2008), and capitalism (McDonald, 2009). That of commerce increases in development (Hegre, 2000; Mousseau, Hegre and Oneal, 2003) and capitalism (McDonald, 2009). Whether capitalism magnifies the effect of development has not yet been tested.

Next, recall that it was argued previously that sensitivity and integration were minimal for most of history but have risen substantially in some countries in the last two centuries. An immediate implication is that the effect of representativeness should be negligible for most of history but then rise over the last two hundred years. This helps to explain the apparent absence of peace among the republican states of ancient Italy and Greece (Gat, 2008, 573–577), and the observed strengthening of the democratic peace over the Industrial Era (McDonald, 2009).

Finally, it was also argued that sensitivity, integration, and representativeness (SIR) all tended to rise in the same countries, so that these characteristics are highly correlated with each other. Hence, in the simplest approximation, states are either high-SIR or no-SIR. The theory holds that a pair of high-SIR states will have little or no conflict of interest, while a pair of no-SIR states will have a severe conflict of interest. It also implies that a dyad in which one state is high-SIR while the other is no-SIR will have a conflict of interest

that is only slightly less severe than a no-SIR pair. To see why, observe that the high-SIR state would like to take all of the no-SIR state's wealth since the latter's economy is neither sensitive nor integrated with the former's, while the no-SIR state's desire for the high-SIR state's wealth is limited only by the latter's sensitivity and not by any negative externalities from integration. Hence, a no-SIR pair will be very war-prone, a mixed dyad only slightly less so, and a high-SIR pair not war-prone at all.²⁴

This yields a possible answer to the puzzle of why the democratic peace is dyadic, but only weakly monadic: democracies are much less likely to fight each other, but not much less likely (if at all) than other states to fight non-democracies.²⁵ Few other theories of the democratic peace are able to account for this fact (Fearon, 2008; Gartzke, 2007; Rosato, 2003).²⁶ Democracies tend to have modern economies, so that a pair of democracies tends to be a high-SIR pair, while a pair of autocracies is much more likely to be a no-SIR pair, and a mixed dyad is more likely to be mixed in the level of SIR. Given this correspondence, the theory predicts that democratic dyads will be very peaceful and autocratic dyads very war-prone, while mixed dyads will be only slightly less war prone, as seems to be true empirically.

²⁴A more sophisticated version of this argument that takes account of the fact that the correlations among sensitivity, integration, and representativeness may not be perfect would come to the same conclusion at the cost of considerably more complexity.

²⁵The evidence for a monadic democratic peace is mixed, but Benoit (1996); Rousseau et al. (1996); Rousseau (2005); Rummel (1997) do find a small effect.

²⁶Bueno de Mesquita et al. (1999, 2003) develop a theory that predicts dyadic democratic peace, though Arena and Nicoletti (2014); Fearon (2008); Gartzke (2007) criticize its assumptions. Debs and Goemans (2010) offers a theory that *can* yield this prediction, but does not definitively do so.

Further Development

That the theory of modern economic peace accords with many of the patterns of war and peace in the last two hundred years is suggestive, but not definitive. The problem is that the measures commonly employed in empirical analyses only roughly correspond to sensitivity, integration, and representativeness, and indeed those analyses used them as proxies for other mechanisms linking development, capitalism, commerce, and democracy to peace. For example, how can we tell whether trade dependence is associated with peace because it raises the costs of war due to disrupted trade, or because it increases integration and so lessens conflicts of interests? If both mechanisms operate, how can we assess their relative importance?

One possible solution is to derive more predictions. Each additional observable implication of a theory creates an opportunity for it to be empirically refuted or supported, and if other theories produce different implications, the possibility of discriminating among them. I have tried to do this here by deriving not only the predicted direction of the effects of sensitivity, integration, and representativeness, but also the predicted magnitude of this effect in moving from most states in prior eras to the contemporary West, particularly the US and EU. The result is that the predicted effect is large enough to fully account for the observed difference in behavior.

The same approach could be taken with at least some of the other theories. For example, the costs of disrupting trade between two countries for the length of a war can be estimated for some dyads: how does this compare to the other costs of war, or to the value of the interests over which war might be fought? This kind of analysis is not usually done, but it could help in assessing the relative importance of various theorized mechanisms by distinguishing which if any of these are large enough to explain the patterns observed in the historical record.

It should also be possible to derive predictions from the theory developed here about

behaviors other than war. Because the theory specifies underlying conflicts of interest, it makes predictions not only about the occurrence of wars but also about the choice, reliability, and durability of alliances; levels of military spending and the occurrence of arms races; the senders and targets of economic sanctions; voting at the United Nations; and more generally any interstate behavior that is partly driven by conflicting interests. Many other theories of war and peace focus on the costs of war or the occurrence of bargaining problems that lead to war, and so cannot speak to this range of behaviors.

A second possible solution is to develop measures that are more specific to sensitivity, integration, and representativeness. Sensitivity might be better measured as the size of investment relative to GDP, or perhaps the estimated rate of economic growth holding world prices constant, so as to exclude growth due to exogenous changes in the prices of traded goods. Integration might be measured by estimated interstate correlations in growth rates, again holding world prices constant. Without underestimating the limits on the availability of this kind of fine-grained economic data, it should be possible to construct such measures for at least some dyad-years.

In addition to further empirical testing, the theory might be extended to new applications. In essence, it provides a starting point for developing a more general theory of states' preferences toward others. Consider the relations among powerful states or "poles." These relations should depend, not just on the number of poles or the distribution of power, but also on the sensitivity, integration, and representativeness of these poles, since the latter characteristics affect the severity of their conflicts of interest. Britain's toleration of the rise of the United States might be in part explained by the increasing sensitivity, integration, and representativeness of both states. Today, China is a rising power but is also experiencing a rapid rise in the sensitivity and integration of its economy, and so may have less incentive to upset the world order than previous challengers did.

Turning to relations between poles and less-powerful states, whether these are predatory,

parasitic, paternal, or mutualistic should also be affected by sensitivity, integration, and representativeness. The general rise in these characteristics in many states over the last two centuries should have lowered the incentives for the more powerful of these states to coerce the weaker of these states into giving up their wealth. This might have contributed to the observed change in the character of international hierarchy, from imperialism and a world order based on power to voluntary international institutions and a world order based on law and legitimacy. It might also help to explain why powerful states today often engage in conflict with weak states, not to extract wealth, but to replace unrepresentative governments whose domestic predation or foreign aggression imposes negative externalities on other states.

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