

Capitalism and Peace: It's Keynes, not Hayek

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Can capitalism promote peace among nations? For many this might seem like an odd proposition, given the strong traditional view in the field of international relations that capitalism produces “merchants of death” (Engelbrecht and Hanighen 1934). Lenin blamed World War I on the capitalist quest for investment outlets (1970 [1917]). While Karl Deutsch et al. (1957) observed the existence of a “security community” among the highly capitalist states of Europe, neo-Marxist world-systems theory blamed five centuries of war, imperialism, and slavery all on the shoulders of capitalism (Wallerstein 1974).

But what exactly do we mean by “capitalism”? For Wallerstein (1974:399–400) and others in the world-systems school, “capitalism” can include any form of economic exchange, including the outright robbery of colonial imperialism, slavery, and even Soviet-style communism, as long as an economy is linked with global markets. By this definition every major economic system that has existed in the modern era is capitalist; according to this definition, capitalism must be associated with both peace and war, lacking all analytical value. Obviously, any coherent discussion of capitalism must give the concept analytical teeth, and in the newly burgeoning capitalist peace literature two distinctive definitions have emerged. Other chapters in this volume by Gartzke and Hewitt, and McDonald outline what we call “free-market” theories of capitalist peace, which equate “capitalism” with free markets or smaller government at home and abroad. Since these views also assume that free markets and less government ownership of property promote economic growth spontaneously, while government plays, at most, a minimal role in market creation and only a regulatory role in its maintenance, this view is perhaps best represented by the works of Friedrich Hayek (1994 [1944], 1960).

However, neo-classical liberals do not have a monopoly on the definition of capitalism, and a second definition defines it simply as a way of life: the

extent to which citizens in a society regularly contract with strangers located in a market to obtain goods, services, and incomes (Mousseau 2000). In this “social-market” definition there is no assumption that markets emerge spontaneously, or that state policies of interference and redistribution impede them. In fact, in all social-market (henceforth “market”) capitalist economies of the modern era the state has historically been highly involved in promoting capitalist development, often by subsidizing various enterprises and, most consistently, by spending lavishly to maintain steady rates of market growth (Gurr et al. 1990). Market capitalism is thus historically linked much more with the economic philosophy of John Maynard Keynes (1935), who advocated government spending to promote consumption, rather than with a small unobtrusive government that lets it rise (and fall) on its own.

It is this second, more-Keynesian, definition of capitalism and its role effecting foreign policy that is the subject of this chapter. As identified by economic norms theory (Mousseau 2000, 2009), social market capitalism causes peace by way of micro-level dependency on a market, which causes citizenry dependence on a third party—government—for the enforcement of contracts. This micro-level dependency on contracting with strangers produces two nontrivial results. First, it creates a direct interest in the democratic rule of law as the best means for ensuring that government enforces contracts reliably and impartially. Second, it creates a direct interest in the health and welfare of everyone else in the market, since there is more opportunity to be had when others in the market are healthy and wealthy rather than dead or poor. Since others in the market can be both inside and outside a nation, dependency on a market makes war, both within and among capitalist nations, virtually unthinkable. Moreover, since nations have interests in each other’s welfare, economic norms theory explicitly predicts a positive peace, rather than just a cold absence of militarized conflicts—an achievement unmatched by competing democratic peace and capitalist peace theories in the literature, all of which predict only a dearth of militarized conflict rather than actual friendship based on mutual interests. The ability to explain a shared positive peace offers a scientifically more progressive explanation of the observed phenomenon (Ungerer 2012), providing added explanatory power beyond free-market capitalist and democratic peace theories, at the same time posing the far greater paradigmatic challenge to the strong anarchic assumptions of mainstream realism and liberalism.

Because economic norms theory explicates how market capitalism can cause both democracy and peace among nations, it offers a full explanation for the famous democratic peace—the observation that democratic nations rarely fight each other—as well as the extant peace among the advanced nations. Prior research has corroborated this view: Mousseau (2009) showed that in the modern era not a single fatal conflict has occurred among nations with impersonal economies, which was gauged using a binary measure of contract flows within nations. Furthermore, the analysis found that democracy

has no significant impact on peace. However, some defenders of the democratic peace have challenged these results: Russett (2010:201) thinks democracy might be revived if control is added for regime differences; Dafoe (2011) asserts that Mousseau's results are not a "compelling" explanation for the democratic peace, owing to the moderate correlation of capitalism and democracy only 26% of democratic dyads are excluded from the democratic peace. Moreover, he also calculates that if the democracy measure is made binary and far more restrictive, then democracies too have not had fatal disputes.

This chapter extends our understanding of the impacts of democracy and capitalism on peace in several significant ways. First, we report results using Mousseau's (2009) newer continuous measure of contract flows, providing a solution to the perfect prediction problem that besets analyses of conflict using the binary measure. Second, we switch from analyses of militarized interstate disputes (MIDs) to analyses of interstate crises using the Interstate Crisis Behavior (ICB) dataset (Hewitt 2003). Whereas MIDs are events that may not reflect actual state intentions, crises are defined by perceptions of threats, including value threats, by policymakers, so we can be more confident in analyses of crises that the antagonists genuinely perceive themselves as in conflict and thus engaging in actions that would be inconsistent with, and uncharacteristic of, nations engaged in a positive peace. Third, to address Russett's concern about control for regime differences, this factor is considered in the analyses. Finally, we examine all the capitalist peace theories together in head-to-head tests.

The analyses of most dyads from 1961 to 2001 yield clear and compelling results: neither measures of democracy nor free markets have any significant impact on peace once social-market capitalism is considered, and the latter emerges as the most robust correlate among the crucial explanatory variables of interstate crises. The implications of these findings are far from trivial: economic norms theory provides an empirically corroborated explanation for why the advanced capitalist economies have been long adherents to the principles of democracy, while at the same time providing a theoretically powerful explanation of capitalism that consistently renders the existence of a negative and positive peace among nations. The real-world applicability is direct and clear: to promote peace among nations the successful strategy is not the support of democracy in other countries, but rather the promotion of their national economies.

This chapter is organized as follows. After reviewing economic norms theory, we offer a theoretical account of capitalism that we believe more accurately accounts for the nature of the advance of developed capitalist nations. We then delineate the causal process that leads to the market capitalist peace, further arguing that it is a "market capitalist" rather than a "democratic" peace that has been prolifically observed throughout the literature. We then detail the procedures of our analysis, before discussing

our results. We conclude by emphasizing that the market capitalist explanation continues to receive empirical corroboration, while providing greater explanatory power for a peace among nations, consistent with expectations across all specifications. As other chapters in this volume have addressed the free-market capitalist peace, we begin by explicating the substantial differences between free market and social market theories of capitalist peace.

A TALE OF TWO CAPITALISMS

The free-market theories of capitalist peace that have preceded us in this volume all define capitalism as less government interference in the private sector. For Gartzke and Hewitt, “capitalism” means fewer governmental restrictions on foreign trade and investment; for McDonald, “capitalism” means less government ownership of property. Weede (2011:20) is most explicit in this regard: “for me ... capitalism and economic freedom are synonyms.”

The embrace of free and private markets is widely associated with the classical (or neo-classical) liberal tradition of Adam Smith’s hidden hand and, in the modern era, the works of Hayek. While accepting a role for the state as an impartial regulator of the economy, and even allowing for social security and assistance for the poor, Hayek believed that the market was a natural phenomenon which emerged from the spontaneous interactions of those acting in it, and that state interference in the market by way of government ownership, spending, and redistribution impeded its efficiency (Hayek 1960). Moreover, he believed that state interference led inexorably to totalitarianism, arguing that it fostered rent seeking and other conflicts over the nature of state interference, and that these conflicts can ultimately be resolved only with totalitarian solutions (Hayek 1994 [1944]). Hayek was thus adamantly opposed to state interference in the market with spending and redistribution policies on moral as well as utilitarian grounds, and as such he is widely identified today as a major influence on the leading advocates of freer markets, including Margaret Thatcher and Milton Friedman, as well as the pro-free-market Tea Party movement in the USA.

All the free-market theories of capitalist peace seem to adopt the classical/Hayekian assumption that freer markets or smaller governments do a better job at promoting growth in markets compared to less free markets or larger governments. Weede (2011:2) simply assumes that freer markets promote “prosperity.” The two other free-market models seem less explicit about their free market assumptions, but they nevertheless assume freer (rather than less free) private markets promote wealth when they claim that their measures of free markets or private property can explain “the absence of war among states in the developed world” (Gartzke 2007:166) and the

linkage of peace with “modernization and economic development” (McDonald 2007:569).

In direct opposition to Hayek is Keynes (1935), who advocated government spending and redistribution to promote consumption and thus market growth. Since government interference is necessary to ensure the efficiency of markets, for Keynes there is no assumption that freer markets are better than less free ones in promoting market growth. Rather, the Keynesian tradition is based on the premise that markets are not natural or spontaneous but rather constructed and maintained, particularly with government policies of increased taxation, spending, and redistribution—policies adamantly opposed by Hayek.¹ Today Keynesianism is most closely associated with the left social democratic parties of Europe, which explicitly embrace policies of spending and redistribution. Nevertheless, all the advanced capitalist states have regimes of heavy spending aimed at promoting market growth. While parties of the right often deny their Keynesian proclivities, in fact when in power they usually spend heavily on military and other matters to keep unemployment rates low; for evidence, just recall the socialization and management of the banks in 2008 by the supposedly pro-free-market W. Bush administration.

As we will see in the following section, economic norms theory is quite distinctive from the other capitalist peace theories in that it makes no claim that freer markets do better than less free ones in promoting wealth or peace. Moreover, in making no fixed human nature assumption, economic norms theory explicitly rejects the market-as-natural or spontaneous assumptions of the classical liberals and Hayek. Finally, because it accepts that markets can be created and maintained with governmental policies of spending and redistribution, it fits snugly into the social democratic Keynesian view on the role of government in the advancement of market capitalism.

ECONOMIC NORMS THEORY

The market capitalist peace is deduced from economic norms theory (Mousseau 2000, 2009), which starts with the observation, widely documented by economic historians (Polanyi 1957 [1944]), of two kinds of economies in history: impersonal markets and personalist clientelism. As is suggested by their names, each form of economic exchange is differentiated by the manner in which the potential for prosperity is acquired. In impersonal economies, citizens normally obtain goods and services by contracting with

¹Polanyi (1944[1957]) also argued that markets are created, but with a thesis that opposed markets as alien to human nature.

strangers in the marketplace, ably trusting the contractual commitments, given a credible third-party enforcer. Contrastingly, personalist economies rely primarily on personal relationships as the primary determinant factor for economic exchange, as individuals give or withhold favors, or trust in contractual commitments, based on in-group orientation or in light of prior interactions with individuals they know personally.

Personalist-clientelist economies have encompassed the majority of human history, still characterizing the economies of many nations today (Hicken 2011). A well-known historical example is European feudalism, where client serfs pledged loyalty, including military service, to patron vassals in exchange for economic and physical security, with vassals in turn pledging their loyalty to patron lords, and so on. While contracting has long coexisted with clientelism, in feudal Europe and today, the key difference in personalist economies is that third-party enforcement is unnecessary for most contracting that does occur. Many contracts take the form of spot trades, such as retail contracts, and thus do not require trust in the credibility of commitments. Other contracts, such as wholesale contracts, may require credibility of commitments, but, more often than not, the credibility emanating from these forms of contractual commitments rests on a personalized form of trust, including the fear of future sanctions in the event of violations of this trust (Kohn 2003).

The kind of transaction that affects interests and outlooks is the impersonal contract, which is distinguished by the fact that the credibility of commitments depends entirely on third-party enforcement. To gauge the extent at which impersonal contracting is the modal form of transaction in an economy, we directly observe contract flows in life insurance, a sector that is unique in that all its transactions are necessarily impersonal. First, life insurance exchanges cannot take the form of spot trades because the commitments of insurers must occur after the commitments of policyholders. Second, these transactions cannot rest on personal trust among contractees, and the threat of the loss of future contracts in the event the insurer fails to fulfill its commitments, because the delivery of service is expected only after the relationship ends with the death of the policyholder.

The history of personalist economies indicates a transition in the form of redistribution. Wealth in feudal Europe was based primarily on land, in contrast in many developing countries today, where the market remains comparatively peripheral to everyday life, clientelist relationships are more likely to be centered on access to state rents (Hicken 2011:303). Rather than manors and fiefs, clientelist-oriented networks take a variety of forms, including, but not limited to, tribes, clans, neighborhood associations, gangs, mafias, labor unions, religious sects, political parties and other forms of in-group orientation. Patrons may be local government officials, landowners, respected business people, or other local notables (ibid.:291). It is common that families or extended families maintain all major forms of economic

exchange within the family, sharing loyalty and obligation only among other members of the group. For instance, in an extended family an uncle may have access to discounted goods, a cousin may do all the electrical work, and an aunt active in a political party may find local government jobs for various family members—all of whom are obligated in turn to take care of fellow family members, and all family members are obligated to serve her political party as asked, including showing up at rallies. Crucial for the reciprocity of a clientelist political economy to work, representatives of patrons continuously monitor the behavioral loyalty of their clients (*ibid.*:292–93).

Economic norms theory begins with the assumption that everybody in all societies seeks goods and services, highlighting that the aforementioned differentiated manner in the form of economic exchange differs according to the socioeconomy: in impersonal economies the dominant strategy is to contract with strangers located in the marketplace; in clientelist economies the dominant strategy is to nourish personal relationships and participate in group struggles over state rents (Mousseau 2000, 2009). However, owing to human cognitive limitations, it is not likely that individuals rationally decide which form of exchange maximizes their interest each time they have an economic need. Rather, as was identified by Simon (1955), human beings deal with repetitive decision-making environments by forming habitual responses to them. As such, habitual responses are dependent on the economy in which they are embedded. Thereby, acting according to market norms is not rational in a clientelist order, and acting according to clientelist norms is not rational in a market order, most economies tend to lean one way or the other and socioeconomic transitions are rare. Denzau and North (1994) suggest that individuals with common experiences share similar mental models (ideologies, models, or institutions to interpret the world). In short, the well-documented distinction of the two economic orders, tied with the insights of Nobel laureates Herbert Simon and Douglass North, lead inexorably to the deduction that individuals across the two types of economies must have different outlooks, producing the divergent cultures of contracting and clientelism.

While contracting and clientelism coexist in all economies, the crucial distinction of the two orders is the manner in which the majority of individuals obtains and holds their primary economic assets. Where securities are habitually held in contract, there is widespread dependency on third-party—government—enforcement of contracts. This is another reason why we observe life insurance contracts, which are crucial securities. Because the purpose of a life insurance contract is to promote the economic security of one's closest family members, life insurance contract flows are a direct gauge of the theorized causality of the extent at which individuals depend on the impersonal market and the credibility of the impersonal state in enforcing it. Where securities are primarily distributed by patrons, in contrast,

there is little dependency on third-party enforcement, but widespread dependency on the health and good fortune of one's own patrons. As a consequence, individuals in the two orders have divergent interests, in several identifiable ways; furthermore these divergent interests have political ramifications.

First, only a contract-intensive economy, not a clientelist one, requires *a strong state that uniformly enforces the rule of law*. Individuals cannot automatically trust the commitments of strangers, so high levels of impersonal exchange cannot occur unless the commitments in contracts are widely credible. Third-party enforcement mechanisms can be private or public. However, the private enforcement of contracts, such as the use of notaries, is costly, so individuals economically dependent on strangers have an interest in an authority that offers the enforcement of contracts as a public good. For an authority's enforcement of a contract to be credible, however, it must possess a monopoly on violence over a fixed and declared geographic space. It must also maintain bureaucracies and court systems that are capable of reaching and protecting the contract rights of every actor in the marketplace. Therefore, when exogenous factors render the benefits of contracting in the market greater than the benefits of clientelist ties, members of a society develop an interest in a state that has the capability and will to effectively and efficiently enforce contracts. To the extent that those dependent on the market, such as merchants or a large middle class, have political influence, they will affect state decisions to construct effective bureaucracies and impartial court systems (Mousseau 2009).

Owing to the way in which profits are primarily sought in personal-clientelist ties, in contrast, there is little benefit from a bureaucratic rational state. The dominant strategy for most is to stay loyal to patrons, since patrons distribute wealth with partiality according to loyalty, rank, and service to the group. Because they have the loyalty of clients, patrons have the capacity to wage violence: order in these societies is maintained via gift exchanges among patrons and between patrons and clients that reinforce paths of hierarchy and loyalty among them. The state is an oppressive force to be evaded for those in groups that are not in control of, or connected to it; for those privileged in groups with ties to the state, utility is maximized with loyalty to specific personalities in the state, not the state itself. In this way clientelist economies can be democratic, with political action for the group central to one's economic well-being, yet the state still partial in its enforcement of law—or illiberal—favoring those in power over those not in power (Mousseau 2009).

A second change in preferences resulting from an exogenous rise in contracting in a society is for *legal equality*. For a contract to be credible all parties to it must be equally obligated to its terms. Therefore, states that wish to promote impersonal exchange must have not only the capacity to protect the contract rights of every actor in the market, but they must also

do so with renowned credibility. States wishing to promote markets must therefore construct bureaucracies and court systems that are not only effective and efficient, but also widely recognized as impartial. In clientelist political economies, in contrast, such credibility is largely irrelevant, since utility is normally maximized through personalist relationships and rankings in group hierarchies. For those in groups tied to the state, an impartial and transparent bureaucracy and court system is an economic threat that must be undermined in order to maintain control of the distribution of state rents. In these ways, the modern bureaucratic rational state may be an epiphenomenon of market capitalism: for the commitments of contracts to be widely credible an effective state must first exist, and then it must be widely respected as both capable and impartial.

Once micro-level dependency on impersonal contracting is correctly understood as a variable rather than a constant, it is easy to see the third way micro-level preferences change with a rise in contracting: *a rise in markets promotes an interest in freedom*. For anyone dependent on impersonal exchanges in a market, a larger market offers more opportunities than a smaller one. Individuals seeking wealth in the market thus have interests not only in their own freedom to contract, but also in the freedom of everyone else to contract. There is no apparent reason to limit this interest to one's own ethnic group, religious sect, or nation. In fact, the delimitation of freedom creates more opportunity for economic prosperity as there is a larger pie from which portions are served. For individuals seeking wealth through personal ties in politics, in contrast, there is no apparent interest in the freedom of strangers, because there is little to be gained from strangers located in a market, as the same state rents will be distributed amongst a greater number of people, thus freedom and wealth are part of the same zero-sum-like equation. Nor is there much interest in one's own freedom, due to tactical reasons, whereby the incentive is to at least appear to conform with alacrity to the norms and values of patrons.

In these ways, a rise in contracting dependent on third-party enforcement in a society can cause a change in prevailing mental models, and the emerging culture of capitalism can legitimate liberal democratic institutions. Individuals routinely dependent on trusting strangers in contract will develop the habits of trusting strangers and preferring universal freedom and rights; and strong and impartial states for protecting these rights. This is so even though most, acting on bounded norms rather than on instrumental rationality, do not know why they have these universalistic liberal values. Individuals in personalist economies, in contrast, habitually trust only those they know personally or those that they can identify as part of their in-groups; and routinely abide by the commands of patrons, distrusting those from out-groups, including their states. Acting on bounded norms rather than on instrumental rationality, most do not know why they fear outsiders, or why they place such great value in loyalty to their groups and group

leaders. In these ways, capitalist development gives rise to stable and liberal democracy. Can the culture of capitalism also cause peace among nations?

THE MARKET CAPITALIST PEACE

A complete theory of peace is also a theory of war: it should explain why states fight as well as why they do not. Free-market theories of capitalist peace fail to explain why states fight, limiting their explanatory value to why some do not. This is because they are all firmly nestled in the mainstream realist-liberal tradition that assumes away the important question of why states fight by simply assuming a highly anarchic and competitive world. Due to the costliness of war, it is commonly thought that war does not pay, and thus war is deduced to occur by mishap, resulting from weak information or from an inability of nations to credibly commit to peace (Keohane and Martin 1995; Fearon 1995). From these starting assumptions, freer markets abroad are suggested to yield better information regarding states' resolve in crises, thus averting war (Gartzke et al. 2001); and less government ownership of property at home is thought to constrain the autonomy of governments and make their foreign policy commitments more credible (McDonald 2007, 2009). For Weede (2011:2–3), freer markets at home and abroad constrain states from fighting due to private ownership of the media, and because it gives politicians jobs if they lose office; free markets also indirectly constrain states from fighting because they are presumed to cause democracy and, possibly, membership in international governmental organizations (ibid.:7).

The market capitalist peace of economic norms theory, in contrast, offers an account for both sides of the war puzzle: why states fight and why they do not. Starting with why personalist states fight, recall that clientelist political economy is zero-sum like: a gain in state rents for one group must always equal a loss for another. It follows that ruling groups within these nations—whether democratically elected or not—have little incentive to produce public goods, preferring the distribution of private goods to supporters. In this way, foreign war can serve two purposes. First, it can be in the economic interests of the ruling coalition of in-groups, with its costs imposed on repressed out-groups. Second, war can be a means for ruling group coalitions to stay in power. Because individuals are bound to their groups, rather than their states, personalist states tend to lack widespread legitimacy and are thus less stable than impersonal ones. In addition, the zero-sum nature of their political economies means that ruling groups must continuously seek wealth for supporters and, as a consequence, repress out-groups who can be allotted few, if any, state rents. Yet repression is costly. To reduce this cost many state leaders have learned to play on clientelist bounded norms by propagandizing the state as an in-group patron

providing economic and physical security to all; that is, ruling groups have learned to foster nationalism. Nationalist identities, however, require an out-group. The most convenient and successful way to foster a nationalist identity is to maintain a quarrel with another state. While the diversionary theory of war literature has long emphasized such motives in war making (Levy 1988), economic norms theory informs us that contract-poor nations are far more susceptible to this malady than contract-rich ones, particularly when facing internal crises.

Market capitalist economy, in contrast, is positive-sum like: any improvement in the welfare of anyone else in the market increases the odds that one's own welfare will improve. Everyone in the market thus has a principal interest in the public good of an ever expanding growth in the market. While some individuals might rank some other preference or preferences higher than market growth, more individuals rank market growth at or near the top of their preference ordering than they do any other preference, and, as a result, the voter preference for market growth is Pareto optimal: in an impersonal political economy there is no other preference that a citizenry, as a group, will rank higher. Since impersonal states are largely democratic, successful political parties have learned that performance in fostering market growth, rather than the promotion of fears of others, is the winning strategy for staying in power.

The consequence is that market capitalist states do not fight each other, for three primary reasons. Of great salience is the two ways they lack the personalist state's motives for war. First, they lack the incentive and capability to promote nationalist xenophobia with aggressive foreign policies, since they have stable and widely legitimate governments, and because voters are not as susceptible to supporting the state in response to nationalist/aggressive rhetoric in the foreign policy discourse. Second, because impersonal states are more constrained than personalist ones to produce public goods, there is less incentive to promote the rent-seeking interests of any private interest group with foreign conquest.²

The second reason market capitalist states do not fight each other is because they share common foreign policy interests. Successful political parties of these states have learned to promote exports to enhance market growth, and in this way impersonal states share a common interest in the

²Bueno de Mesquita et al.'s (1999) selectorate theory also links public goods provision with fewer foreign policy demands for private goods, but predicts the government incentive to produce public goods from democratic rather than economic institutions. Economic norms theory is a much larger theory than selectorate theory, as it also predicts common interests and a dearth of relative gains seeking among capitalist nations, as discussed below. Moreover, Bueno de Mesquita et al. (1999) ignore the cost of repression of all disfranchised citizens with no say in the choice of leadership and its relation to diversionary use of foreign enmities, which is endogenized in economic norms theory to the prevailing economy type and works as one of the causal mechanisms that links economy type to interstate conflict behavior.

vitality of the global marketplace. Personalist states, because they are most interested in the distribution of private goods to supporters, are comparatively less interested in promoting the public good of market growth and, as a consequence, have comparatively less interest in the global market.³ The wellbeing of any marketplace depends on the credibility of contractual commitments and thus the credibility of third-party enforcement; thus all markets require the uniform application of law and order. There is no reason this dictum does not apply to the global level, and since market capitalist nations have common interests in the vitality of the global marketplace, they too have common interests in the vitality of global law and order. Thus market capitalist nations not only lack any motive to fight each other, they are in a fundamental natural alliance against any threats to global law and order.

The third reason market capitalist states do not fight each other is because they have direct interests in each other's welfare. As was previously observed, market capitalism is positive-sum like: any improvement in the welfare of anyone else in the market increases the odds that one's own welfare will improve. This means that the leaders of market capitalist nations have direct interests in the economic health of any nation that joins the global market. It follows that there can be no concern with relative economic gains among market capitalist nations, since comparatively rapid growth in one nation has the result of promoting market growth in the others. For leaders interested in their political party's electoral fortunes, market growth in another nation in the global market cannot be perceived as a threat because it is *preferred*. Obviously, no leader wishing foremost to promote exports in the global marketplace can have any interest in threatening disorder or harming another capitalist state's economy; even the perception of such threats harms the global marketplace and must be steadfastly avoided. The result is a perfect peace in formal anarchy, making war virtually unspeakable.

DEMOCRATIC OR CAPITALIST PEACE?

The democratic peace—the observation that democratic nations rarely fight each other—is easily the most cited empirical regularity in the field of international relations.⁴ Although a number of democratic causal mechanisms have been proffered, there is no consensus as to which, if any, can serve as the active key explanatory variable of the observed democratic peace. If a

³The primary exceptions are cases where rent-seeking supporters of a personalist state rely on exports, usually primary exports such as oil. Even in these cases, however, the personalist state is usually concerned narrowly on the specific market for the particular export, not the general vitality of the global marketplace.

⁴For the most recent comprehensive review of this literature, see Ungerer (2012).

third variable were to be postulated as the root cause of the observed peace, it must satisfactorily account for both the *explanans* (democracy) and the *explanandum* (militarized interstate conflict) (Blalock 1979:468–474; Thompson and Tucker 1997: 434–35; Ray 2003a:14). Among the free-market capitalist peace theories, none offer both an explanation for democracy and corroborating evidence in support of the posited causality. Gartzke (2007) offers no theory of how free markets are supposed to cause democracy, but offers corroborative evidence for this chain of causation anyway, reporting that consideration of free markets in foreign investment renders the democratic peace spurious. But others report that this result is due to errors in sampling and specification (Choi 2011; Dafoe 2011; see also Russett 2010). Weede (2011:2) offers a way free markets might cause democracy, but in an elaborate chain of causation that remains uncorroborated: free markets are assumed to cause prosperity and prosperity is assumed to cause democracy, rendering the “democratic peace a mere component of the capitalist peace.” But to our knowledge there is no corroborative evidence that free markets cause prosperity (cf. Gurr et al. 1990), no corroborated theory in the literature (prior to economic norms theory) of how prosperity can cause democracy, and no corroborated evidence that democracy is rendered insignificant after consideration of free markets.

Economic norms theory, in contrast, offers a specific explanation for the coincidence of market capitalism and democracy, directly pinpointing how a rise in contract-intensive economy can cause both democratic transitions and peace, as discussed above. Moreover, this path of causation has substantial corroborated evidence. As Gleditsch (1992:371) has pointed out, the absence of war among democracies is such a perfect relationship that a confounding factor would “need to have a near-perfect relationship with both the other variables.” CONTRACT-INTENSIVE ECONOMY (CIE), the operationalized measurement of market capitalism (see below) possesses this near-perfect relationship with both democracy and peace. Regarding democracy, almost all nations with contract-intensive economies (as indicated with above-median values of CIE, see below) are democratic by normal standards of measurement (polity >6, see below)—Singapore is the *only* long-term exception. Yet roughly half of all democratic nation-years do not have contract-intensive economies, and these democracies do not appear to be in any sort of peace (Mousseau 2009, 2012a, 2012b).

Regarding conflict, market capitalism has a near-perfect relationship with peace: not only have no wars occurred among nations with impersonal economies, but in all recorded history these nations have not had a single battlefield-connected fatality among them (Mousseau 2009, 2012a). The perfect absence of fatalities among market capitalist nations means that the market capitalist peace is far more substantial than the democratic one, which boasts only an absence of wars, not fatalities, among democratic nations. Ironically, however, the near-perfect dearth of militarized interstate

disputes (MIDs) among market capitalist nations means that there is no point in studying the impact of market capitalism on escalation once a pairing of nations is already in militarized conflict: there are simply too few militarized events among market capitalist nations to draw any generalizations on their behavior once in mutual militarized conflict.

However, there is an alternative dataset on interstate conflict, one that focuses on crises among nations: the ICB dataset (Hewitt 2003). A crisis occurs when key foreign policy decision makers in a state “perceive a threat to one or more basic values, along with an awareness of finite time for response to the value threat and a heightened probability of involvement in military hostilities” (Brecher and Wilkenfeld 2000:3), whereas MIDs involve only explicit threats, displays or actual uses of military force (Gochman and Maoz 1984). There are three major differences between MIDs and crises that have implications for our analysis.⁵ First, perceptions are the defining feature of a crisis, whereas they play no role in defining MIDs, since explicit threats, displays or actual uses of force do not necessarily involve any perceived infringement of closely held values or value threats. Second, crises are triggered by the actions of key foreign policy decision makers, representing the realm of political actions such as overt gripes, insinuations and arraignments uncharacteristic of cooperative behavior and a positive peace shared between nations, while MIDs solely capture military threats and actions that would be uncharacteristic of a negative peace. In this sense, although not truly a measurement of a shared positive peace, the ability to explain crises would represent a positive endowment for any theory attempting to explain state behavior beyond a mere lack of conflict events in interstate relations. Third, a significant portion of international crises do not necessarily involve a threat, display or use of force. A crisis can involve a vast array of actions including verbal acts such as accusations, political acts in the form of alliance formation with adversaries, economic acts of withholding economic aid, nationalization of property, and so forth.

In this way, analyses of the onset of crises offers a new test of the market capitalist peace, since it is possible that while market capitalist nations avoid each other in wars and all types of MIDs, they may yet confront each other without explicit threat, display or use of force such as in the form of alliance formation with adversaries or diplomatic sanctions—outcomes that would be clear and direct anomalies for economic norms theory. Moreover, while the democratic peace is found to be spurious in analyses of MIDs (Mousseau 2009, 2012a), analyses of the ICB dataset can examine whether the democratic peace is also spurious in tests of interstate crises. Finally, while among the free-market capitalist peace variables only trade interdependence remains robust after consideration of market capitalism in analyses of MIDs (Mousseau

⁵For a detailed overview, see Hewitt (2003).

2012a), these may yet be potent factors in analyses of crises. The remainder of this chapter examines democratic and capitalist behavior in interstate crises.

ANALYTIC PROCEDURES

The analyses herein are constructed in accordance with the standard procedures used in interstate conflict studies. The unit of analysis is the nondirectional dyad year. The dependent variable CRISIS will indicate whether a particular dyad experiences an international crisis in year $t + 1$. A dyad experiences a crisis if at least one member perceives crisis conditions with the other member of a dyad (Hewitt 2003). Most of the independent variables are conventional to the conflict studies literature, so to save space their justification can be reviewed elsewhere (e.g. Oneal and Russett 2005). Data sources and measures are listed at the bottom of Tables 1 and 2. The exception is the measure for impersonal economy, which is discussed at length below. All data are available for replication purposes at <http://home.ku.edu.tr/~mmousseau/>.

As discussed above, we gauge the intensity of impersonal contracting in nations directly using data on life insurance contracts in force, which have been compiled under the auspices of the World Bank (Beck and Webb 2003). These data are available for 64 of the 157 nations identified as sovereign by the Correlates of War Project from 1960 to 2000 (Small and Singer 1982) and for which data on democracy and wealth are also available.⁶ Unfortunately, theory and evidence indicate that missing values are probably not random, as theory informs us that missing values may indicate contract-poor economies, for two reasons. First, for enforcement purposes contracts are normally recorded, leaving a history based on written records. Reciprocating transactions, in contrast, cannot be recorded because they are framed as favors. Missing life insurance data can thus result from there being few life insurance contracts to record. Second, as discussed above, governments of market capitalist nations are constrained by voters to ardently pursue continued growth in their markets. They have thus learned to collect, analyse, and make widely available all kinds of economic data. Governments of clientelist nations, in contrast, have the opposite incentive of hiding data, given that they must redistribute government funds to their supporters, often illegally. The systematic difference of the missing data from the known data is confirmed with validity tests, which show that most nations with low levels of private consumption and investment (Heston, et

⁶That is, in the Polity IV democracy data (Marshall and Jagers 2003), and the Penn World Tables data (Heston et al. 2002) with populations greater than 500,000.

al. 2002)—roughly reflecting impersonal economy—are not recorded in the life insurance data.

To assuage concern that the test results below may be due to a bias caused by missing data, we follow the recommendation of King et al. (2001; see also Gleditsch 2002) and report results with missing values estimated using secondary data. Missing values are not a blank slate: we know a great deal about political economies from a variety of sources, and personal and impersonal economies are very different from one another in a number of dimensions. Tests confirm that the following variables yield an imputed measure that correlates at 0.97 with life insurance contracts in force: per capita private consumption (KC) and investment (KI); ratios of KC and KI to foreign trade; energy consumption per capita; communist economy; post-communist economy; oil-export dependency; population; and various controls for regions and sample size variations that occur over time. The extremely high correlation of the predicted measure with the original data indicates that the imputed values yield a highly reliable estimate of the missing values. We refer to the variable CONTRACT-INTENSIVE ECONOMY (CIE), measured as the natural log of USA dollars per capita.⁷

RESULTS

Model 1 in Table 1 replicates the null model of democratic peace in analyses of militarized interstate crises as reported in multiple studies. As expected, the coefficient for DEMOCRACY (LOW) (−0.10) is negative and highly significant. Since this variable indicates the lower value of democracy of the two regimes in a dyad, high values indicate that both states are highly democratic; the value of this coefficient serves as corroborating evidence for the democratic peace. The coefficient for REGIME DIFFERENCE (0.05), gauged in standard form as the higher regime score in the dyad minus the lower regime score, is positive and significant, confirming that the likelihood of conflict increases as the regime difference increases in a dyad.⁸ All remaining variables perform as expected, as in prior studies, and need not be reviewed here.

Model 2 provides novel insight by testing for the hypothesis that impersonal economy is a confounding variable in the democracy promotes peace equation. To capture the dyadic expectation of peace among social-market

⁷Details in the construction of the imputed data can be reviewed and replicated at <http://home.ku.edu.tr/~mmousseau/>.

⁸See Choi (2011: 783–784) for superiority of the REGIME DIFFERENCE measure over DEMOCRACY (HIGH), the higher democracy score in a dyad, which nullifies the purpose of the weak link assumption and leads to a biased estimation of DEMOCRACY (LOW).

capitalist nations, the variable CIE (LOW) indicates insurance contracts in force per capita of the state with the lower level of CIE in the dyad; a high value of this measure indicates both states have contract-intensive economies. As can be seen, the coefficient for CIE (LOW) (-0.39) is negative and highly significant ($p < 0.001$). This confirms that an impersonal economy is a highly robust force for peace. The coefficient for DEMOCRACY (LOW) (-0.05) is negative, but now much closer to zero and no longer significant when the control for impersonal economy is included. There are no other differences between Models 1 and 2, whose samples are identical, and, apart from Mousseau (2009), no one has directly examined any role for contract flows in the democratic peace. Therefore, Model 2 yields the nontrivial result that all prior reports of democracy as a force for peace are probably spurious; a result predicted and fully accounted for by economic norms theory.

CIE (LOW) and DEMOCRACY (LOW) correlate only in the moderate range of 0.46 (Pearson's r), so the insignificance of democracy is not likely to be a statistical artifact resulting from multicollinearity. This is confirmed by the variance inflation factor for DEMOCRACY (LOW) in Model 2 of 1.83, which is well below the usual rule-of-thumb indicator for multicollinearity of 10 or more. Nor should readers assume most democratic dyads also include both states with impersonal economies: while almost all nations with contract-intensive economies (as indicated with below-median values of CIE) are democratic ($\text{Polity2} > 6$) (Singapore is the only long-term exception), more than half—55%—of all democratic nation-years have personalist economies. At the dyadic level in this sample, this translates to 82% of democratic dyad years (all dyads where $\text{DEMOCRACY}_{\text{binary6}} = 1$) that are not both social-market capitalist. In other words, not only does Model 2 show no significant evidence of causation from democracy to peace (as reported in Mousseau 2009), but it also illustrates that this absence of democratic peace includes the vast majority—82%—of democratic dyad years over the sample period.

Model 3 estimates the standard binary measure of democracy ($\text{Polity2} > 6$). As can be observed, the coefficient for CIE (LOW) (-0.46) remains negative and highly significant, while $\text{DEMOCRACY}_{\text{binary6}}$ (-0.42) is again insignificant. Model 4 uses another binary measure for democracy ($\text{DEMOCRACY (LOW)} = 10$), as advocated by Dafoe (2011) in response to Mousseau (2009). As can be seen, $\text{DEMOCRACY}_{\text{binary10}}$ predicts peace perfectly and is dropped from the model along with 11,339 unused observations due to quasi-complete separation, a problem which leads to an infinite coefficient and standard error estimates for the offending variable. Since this problem leaves the remaining variables relatively unscathed, we can tell from Model 4 that CIE (LOW) (-0.44) remains negative and highly significant even with the removal of all highly joint-democratic dyads from the sample.

As far as we are aware, the application of the $\text{Polity2} = 10$ measure had not been used in the literature prior to Dafoe (2011) advocating it. We caution that by changing the operationalization of democracy as a variable to a

score of +10, all the previous research on the democratic peace is automatically rendered inconsequential as affected by measurement error. This change also implies that much of the research on democratic norms, structures, or institutions may have little bearing on the phenomena of the democratic peace, as the question shifts to what aspects of +10 democracies would enable such causal mechanisms to work that inevitably fail at lower levels of democracy.

Furthermore, from a perspective of scientific progress, such a theoretical emendation represents stagnation, at best, in the research of the democratic peace, according to Lakatosian standards that have often been applied in International Relations (e.g. Vasquez 1997; James 2002; Ray 2003b). The post-hoc emendation of the Polity +10 measure is adapted to the data on the basis of its ability to better conform to the previously observed phenomena of the democratic peace. However, two critical observations need to be made concerning this adjustment. First, the explanatory power of the democracy leads to peace causal path is vastly diminished as it only applies to a significant minority of democratic dyad years and the causal mechanism that differentiates +10 democracies from others remains unspecified. Second, the focus on sustaining the statistical significance of democracy through a post-hoc adjustment to its measurement obscures the necessity to maintain substantive significance – the engine that has driven the democratic peace, thus far – in that it both loses its theoretical connection and turns it into a finding that is merely trivial and uninteresting as it cannot usefully show that a theory has been corroborated nor prove that an important empirical fact has been established (Lakatos 1978 [1970]:87–88).

Moreover, following Bayer and Bernhard (2010)—and as suggested by Russett (2010)—we use Aike Information Criterion (AIC) to test how good the fit is across the different operationalizations of democracy.⁹ Accordingly, if different measures of democracy yield different results in terms of significance and magnitude, we expect the results generated by the better measure to provide a better fit with the data. The results clearly indicate that the continuous measure DEMOCRACY (LOW) outperforms the other operationalizations with the lower AIC value of 4,554.1, whereas DEMOCRACY_{binary6} has an AIC value of 4583.1 and DEMOCRACY_{binary10} has a value of 4,582.6. The correlation of DEMOCRACY (LOW) with crisis onset is -0.0108, much stronger than the correlations of DEMOCRACY_{binary6} (-0.0068) and DEMOCRACY_{binary10} (-0.0054). Therefore, diverting from the usage of

⁹AIC is calculated as $-2 \times \log(L) + 2 \times K$, where L is log-likelihood, K is the number of parameters in the model. Schwarz's information criterion (BIC) results were almost identical so we report the AIC values only. Following Bayer and Bernhard, AIC values are acquired from baseline models of democratic peace, which exclude CIE (Low) and where DEMOCRACY (LOW), DEMOCRACY_{binary6} and DEMOCRACY_{binary10} are reported as highly significant. The results of these analyses can be easily replicated from the do file and dataset.

the richer standard continuous measure, DEMOCRACY (LOW), is neither theoretically nor empirically justifiable based on Lakatosian standards and information criteria tests.

The problem of quasi-complete separation also occurs in analyses of fatal MIDs (Mousseau 2009)—thus we employed the continuous CIE measure in all analyses herein—and Dafoe (2011) has cautioned against attributing Mousseau's (2009) finding of a perfect absence of fatal MIDs among CIE countries only to impersonal economy because countries with the highest democracy score (DEMOCRACY (LOW) = 10) also never experienced a fatal conflict over the 1961 to 2001 period of observation. Therefore to test if $DEMOCRACY_{binary10}$ may have a significant impact in crises, we transformed the DEMOCRACY (LOW) measure to model the binary impact of $DEMOCRACY_{binary10}$ by squaring it (after adding 10), which implies that the likelihood of conflict decreases more quickly toward the high values of DEMOCRACY (LOW). This new measure provides an even better fit than DEMOCRACY (LOW) with an AIC value of 4,546.4. As can be seen in Model 5, however, CIE (LOW) (-0.37) is highly significant, whereas $DEMOCRACY (LOW)^2$ (-0.003) is insignificant. Without the control of CIE (LOW), however, $DEMOCRACY (LOW)^2$ (-0.005) is negative and highly significant ($p = 0.001$) (see Appendix Table A1), indicating again that the impact of very high levels of democracy on peace is best explained by social-market capitalism.

In all our tests democracy is insignificant, but only after consideration of social-market capitalism. Since this outcome was predicted a priori with theory that links impersonal economy with both democracy and the democratic peace, we seem to have a prima facie case for the democratic peace being spurious. However, it is also apparent in the democracy measures that while they are insignificant in every model, they remain consistently in the negative direction. This suggests that even after consideration of impersonal economy there may be a small pacifying impact of democracy. However, further calculations of the coefficients in Model 2 indicate that this impact seems to be largely inconsequential. Since the coefficients reflect the impact of each after excluding the impacts of the others, the coefficients for CIE (LOW) and DEMOCRACY (LOW) inform us that even the autocratic social-market nations are in a peace that is about 20% stronger than the peace among the democratic dyads where at least one state has a personalist-clientelist economy. Most of the autocratic social-market nations in the data were simply in transition to democracy (as mentioned above, the only exception appears to be Singapore), and we have strong theory that fully accounts for this direction of causation. The state of the evidence thus follows that it is social-market capitalism, not democracy, that is the driving force for the noted zone of peace in global politics.

Given the insignificance of democracy in Models 1–5, Model 6 reports the winning specification of international crises. The democracy variables as well as REGIME DIFFERENCE are dropped due to endogeneity, given that all may be partially explained by impersonal economy. Further calculations indicate that impersonal economy is the most robust correlate among the nontrivial explanatory variables of interstate crises, tying or being surpassed only by the relatively trivial MAJOR POWER and CONTIGUITY variables.

Table 2 provides an examination of whether wealth and the free-market capitalist factors can account for the effect of impersonal economy. The first column reports the correlation of each factor with CIE (LOW), showing that all of the correlations with CIE are well below the rule-of-thumb danger zone of 0.70 or higher.¹⁰ Nor does any variable in Table 2 yield a variance inflation factor above 2, which is well below the rule-of-thumb threshold of 10. As can be seen in Model 1, the coefficient for CIE (LOW) (–0.66) remains negative and highly significant even while controlling for WEALTH (LOW) (0.62), which is positive and significant. Most relatively wealthy states with personalist economies are communist regimes or oil-exporting states, both of which are often highly clientelist, as authorities distribute rents with partiality; examples include Iraq, Russia, Saudi Arabia, and the Soviet Union.

As can be seen in Model 2, the coefficient for CIE (LOW) (–0.58), while slightly smaller than it is in Model 1, is still highly robust, with a control added for TRADE (LOW) (–0.44), which is insignificant. Even though Hewitt (2003) presents similar results for trade interdependence using an alternative measure, in a separate analysis (see Appendix Table A2), it was significant before CIE (LOW) is introduced into the Model 2 ($\beta = -1.14$, $SE = 0.33$, $p = 0.001$). Therefore, corroborating Mousseau (2009)'s analysis of MIDs, this study provides further evidence that an impersonal economy is a cause of both trade interdependence and peace among nations. This result makes sense from the perspective of economic norms theory, which predicts peace to emerge from a state preference for trade, rather than trade dependency and its effect on the opportunity costs of war and signaling at the dyadic level, and dyads where both states prefer to trade will be, *ceteris paribus*, more likely than others to be trade interdependent.

Model 3 examines if capital openness (Gartzke et al. 2001) can account for the impact of impersonal economy.¹¹ In order to construct the test conditions, we first consider the missing data in the CAPITAL OPENNESS

¹⁰Wealth is gauged using energy consumption per capita. Energy consumption is preferred over gross domestic product (GDP) as a measure of wealth because GDP and CIE are axiomatically related as GDP is partly constructed from data on contract flows reported to government agencies. Also, because GDP is partly constructed from data on contract flows it is comparatively biased towards impersonal economy. As expected, CIE (LOW) correlates with GDP comparatively higher at 0.71, which is also above the rule-of-thumb threshold for multicollinearity.

¹¹We thank Erik Gartzke and Patrick McDonald for kindly providing their data for inclusion in the models.

(LOW) variable, which suffered from ad hoc methods of (i) list-wise deletion (Gartzke 2007), which requires the missing data to be MCAR (missing completely at random) assumption and (ii) imputation of missing values with a zero (Gartzke and Hewitt 2010), which requires the contradictory MNAR (missing not at random) assumption. Usage of these two contradictory methods for the same measure is neither coherent nor correct and efficient. What is more, the missing data encompasses more than half of the crisis years (146 out of 285 crises) over the period of 1966–1992, which may cause false positives in coefficient and standard error estimates if these values are assumed as zero by Gartzke and Hewitt (2010) or left as missing as done by Gartzke (2007).

In order to lessen the biases inherent in these methods, we first interpolate between the known values of CAPITAL OPENNESS (LOW) and fill all the missing observations that are allowed by this method, then, following Gartzke and Hewitt (2010), we replace all the remaining missing values with a zero. This procedure shows that at least 2,432 missing observations are incorrectly coded as zero for this variable by Gartzke and Hewitt (2010), corresponding to around 10% of the crisis years (30 out of 285). Therefore, caution is necessary for analyses with this variable. As can be seen, the coefficient for CIE (LOW) (-0.56) holds firm, while the coefficient for CAPITAL OPENNESS (LOW) (-0.08) is insignificant. Additional tests of this same model and sample without CIE (LOW), reported in Appendix Table A2, show CAPITAL OPENNESS (LOW) to be significant ($\beta = -0.18$, $SE = 0.05$, $p = <0.001$). It thus appears that impersonal economy can account for prior reports of capital openness causing peace (Gartzke 2007). Just as economic norms theory predicts increased trade among social-market capitalist states, it also predicts capital openness.

Model 4 investigates if the size of the public sector (McDonald 2009) can account for the impact of impersonal economy. McDonald hypothesizes that nations with large public sectors are more prone to militarized conflict than those with smaller ones, an expectation that can be modeled among pairs of nations by observing the size of the public sector of the state with the higher level of public sector, a variable we call PUBLIC (HIGH). As can be seen, the coefficient for CIE (LOW) (-0.34) holds firm and significant, while the coefficient for PUBLIC (HIGH) (0.00) is insignificant. Additional tests of this same model and sample with CIE (LOW) excluded (see Appendix Table A2) show PUBLIC (HIGH) to be still insignificant ($\beta = 0.008$, $SE = 0.007$, $p = 0.263$). The results of Model 4 thus indicate that the size of the public sector does not account for the pacific impact of impersonal economy, while at the same time providing no evidence that it can account for peaceful relations among states in analyses of international crisis onset.

IMPLICATIONS AND CONCLUSION

This chapter sought to review the economic norms explanation for the capitalist peace and democratic peace. We showed that not only does social-market capitalism successfully account for the empirical peace among nations, but it also provides a definition of capitalism that offers more explanatory power and theoretical force than the alternative definitions. In addition to the rise of social-market capitalism serving as a precursor to the modern rise of democracy, it also accounts for the effect of peace that was previously attributed to democracy. Moreover, the levels of empirical corroboration achieved, as well as the generation of novel hypotheses that prove to be substantiated predictions, are unmatched by the competing explanations of peace among states examined in this chapter.¹² Application of the continuous variable (CIE (LOW)) to capture the level of impersonal economy removes any bias that was previously present with the use of the binary measure (Mousseau 2009), clarifying the path of causation from social-market capitalism to peace.

Furthermore, the use of the ICB data set provides a progressive step beyond the perfect prediction of peace for contract-intensive economies in analyses of fatal militarized interstate disputes (Mousseau 2009). One advantage of using the ICB data is that crises are defined by the perception of a value threat by key decision makers in a regime. Nations that share in common the priorities of the unbiased enforcement of law, at home and abroad, do not have opposing foreign policy values and thus cannot end up on opposite sides of international crisis situations. Although not a true measure of a positive peace between nations, the role of perception in value threats does examine a set of crises that would be inconsistent with nations that were fully engaged in such a peace. Therefore, the level of success in predicting that the more a state transitions to social-market capitalism, the less likely it is to engage in crises based on the perception of value threats with other social-market capitalist states represents progressive corroborating evidence for the existence of a “security community” amongst the advanced capitalist nations.

In contrast, the free-market theories of capitalist peace—addressed in this volume by Gartzke and Hewitt, and McDonald—do not attempt to account for this peace, instead focusing on a negative peace that constrains states only from engaging in militarized conflict in an assumed anarchic and competitive world. We think such explanations for the peace among the

¹²To date, empirical corroboration of novel facts includes: the economic conditionality to the democratic peace (Mousseau 2000); cooperation (Mousseau 2002) and common preferences (Mousseau 2003) among nations; variance in social trust within nations (Mousseau 2009:61), state respect for human rights (Mousseau and Mousseau 2008), public support for terrorism (Mousseau 2011), and the onset of civil wars (Mousseau 2012c).

advanced capitalist nations are incomplete, as it must be clear to even the most casual observer of global affairs that the capitalist security community is a phenomenon much larger than anything that can result from simple cost-benefit calculations of leaders (Weede 1996, 2011), signals of resolve (Gartzke et al. 2001), or domestic constraints and credibility of commitments (McDonald 2007, 2009).

By returning to the Hayek (free market) and Keynes (social market) capitalism debate, it becomes clear that only one form of capitalism leads to a shared positive peace among nations. Regardless of their respective ability to produce economic growth and development, there is no clear direct linkage of free markets or private property on peace; only the socioeconomic condition of impersonal economy does so. Based on the analyses presented herein and the general state of evidence (Gurr et al. 1990), states that wish to engage in a shared peace should seek to construct or maintain impersonal economy with Keynesian-like policies of spending and redistribution, not Hayekian-like spending cuts and smaller government with the hope that these will promote market growth. Moreover, the adoption of the Keynesian economic policy can serve to bolster any internal democratization attempts by promoting more equal access to the marketplace.

Furthermore, not only do the analyses indicate that the free-market theories are not empirically corroborated, but it is also apparent that the advanced capitalist nations do more than just avoid fighting each other: they are in a permanent state of positive peace, based not on self-help, but shared-help, where each demonstrates concern in the health and welfare of the other in a deeply embedded natural alliance. The evidence suggests that the assumption of anarchy is null and void among social-market capitalist nations, where peace and cooperation is highly institutionalized with a thick web of norms rooted not in mutually constituted perceptions, as most constructivists would contend, but rather individual-level micro-economic conditions that, through processes of pursuing happiness in the market, give rise to a state of permanent positive peace. Among nations where most citizens have a stake in the market, the world may be less anarchic and competitive than previously supposed.

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TABLE 1 Capitalist Peace Versus Democratic Peace in Analyses of International Crisis, Behavior Onset 1961 to 2001[‡]

Variables	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Democracy (Low)	-0.10*** 0.03	-0.05 0.04	- -	- -	- -	- -
Democracy _{binary6}	-	-	-0.42 0.69	- -	- -	- -
Democracy _{binary10}	-	-	-	† †	- -	- -
Democracy (Low) ²	-	-	-	-	-0.00 0.00	- -
GIE (Low)	-	-0.39*** 0.11	-0.46*** 0.11	-0.44*** 0.09	-0.37*** 0.12	-0.52*** 0.08
Regime Difference ^a	0.05*** 0.01	0.05*** 0.01	0.06*** 0.01	0.06*** 0.01	0.07*** 0.01	- -
Capability Ratio ^b	-0.27*** 0.09	-0.30*** 0.09	-0.30*** 0.09	-0.30*** 0.09	-0.30*** 0.09	-0.32*** 0.09
Major Power ^c	2.36*** 0.30	2.52*** 0.29	2.51*** 0.28	2.50*** 0.28	2.53*** 0.29	2.63*** 0.31
Contiguity ^d	2.12*** 0.28	2.07*** 0.29	2.11*** 0.28	2.11*** 0.27	2.06*** 0.29	1.89*** 0.26
Distance ^e	-0.61*** 0.09	-0.66*** 0.09	-0.66*** 0.09	-0.66*** 0.09	-0.66*** 0.09	-0.68*** 0.09
Number of States ^f	-0.00 0.00	-0.01* 0.00	-0.01** 0.00	-0.01** 0.00	-0.01** 0.00	-0.01*** 0.00
Intercept	-0.92	0.04	0.50	0.48	0.51	1.43
Pseudo log-likelihood	-1,768	-1,753	-1,757	-1,754	-1,752	-1,800
Pseudo R ²	0.25	0.25	0.25	0.25	0.25	0.24
Observations	321,811	321,811	321,811	310,502	321,811	328,424

[‡] Standard errors corrected for clustering by dyad. *** p < 0.01, ** p < 0.05, * p < 0.10. Peace years and cubic spline variables, calculated for crises back to the start of the Cold War in 1947, not shown for reasons of space.

^aPolity2 higher minus polity2 lower, Polity IV data (Marshall and Jaggers 2003).

^bCOW Index of National Capability, higher/lower (logged + 1) (Singer et al. 1972).

^cAt least one state is a major power (Small and Singer 1982).

^dStates are contiguous by land.

^eInter-capital distance (logged).

^fNumber of states in system.

† Variable predicts peace perfectly and 11,309 observations, containing 279 clusters, are not used.

TABLE 2 Tests for Spuriousness in the market Capitalist Peace Crisis Onset 1961 to 2001^z

Variables	Correlation with CIE (Low)	Model 1			Model 2			Model 3			Model 4		
		β	SE		β	SE		β	SE		β	SE	
CIE (Low)	1.00	-0.66	0.08 ^{***}		-0.58	0.10 ^{***}		-0.56	0.10 ^{***}		-0.34	0.15 ^{**}	
Wealth (Low) ^a	0.56	0.62	0.16 ^{***}		0.66	0.16 ^{***}		0.63	0.16 ^{***}		-0.39	0.47	
Trade (Low) ^b	0.30				-0.44	0.27							
Capital Openness (Low) ^c	0.29					-0.08							
Public (High) ^d	-0.15												
Capability Ratio	0.00	-0.29	0.09 ^{***}		-0.30	0.09 ^{***}		-0.29	0.09 ^{***}		0.00	0.01	
Major Power	0.13	2.37	0.27 ^{***}		2.38	0.27 ^{***}		2.03	0.29 ^{***}		-0.00	0.11	
Contiguity	0.03	1.91	0.25 ^{***}		1.99	0.25 ^{***}		1.91	0.29 ^{***}		1.54	0.54 ^{***}	
Distance	-0.03	-0.63	0.09 ^{***}		-0.63	0.09 ^{***}		-0.61	0.10 ^{***}		3.66	0.51 ^{***}	
Number of States	0.08	-0.01	0.00 ^{***}		-0.01	0.00 ^{***}		-0.01	0.01 [*]		-0.44	0.16 ^{***}	
Intercept	-	1.49	0.88 [*]		1.45	0.89		1.81	1.37		-0.02	0.01 ^{**}	
Pseudo log-likelihood						-1,767			-1,217			-348	
Pseudo R^2			0.25			0.25			0.26			0.33	
Observations			328,424			323,318			206,943			123,661	

^zAll independent variables lagged one year. Standard errors (SE) corrected for clustering by dyad. Peace years and cubic spline variables not shown for reasons of space. ^{**} $p < 0.01$, ^{*} $p < 0.05$, ^{*} $p < 0.10$.

^a Energy consumption per capita logged, COW Index of National Capability. (Singer et al. 1972).

^b (Exports)_{*it*} + imports_{*it*}/GDP_{*it*}, lower (Gleditsch 2002).

^c Index of government restrictions on foreign exchange, current and capital accounts, lower (Gartzke 2007:174).

^d Proportion of state revenue from nontax sources, higher of both states in the dyad (McDonald 2009:79).

Appendix

TABLE A1 Capitalist Peace Versus Democratic Peace, Results in Table 1 without CIE (Low)[±]

Variables	Model 1	Model 2
Democracy _{binary6}	-1.52** 0.63	- -
Democracy (Low) ²	-	-0.01*** 0.00
Regime Difference	0.06*** 0.01	0.04*** 0.01
Capability Ratio	-0.27*** 0.09	-0.28*** 0.09
Major Power	2.28*** 0.29	2.40*** 0.30
Contiguity	2.17*** 0.28	2.08*** 0.28
Distance	-0.61*** 0.09	-0.63*** 0.09
Number of States	-0.01** 0.00	-0.00* 0.00
Intercept	-0.15	0.09
Pseudo log-likelihood	-1,778	-1,765
Pseudo R ²	0.25	0.25
Observations	321,811	321,811

* All independent variables lagged one year. Standard errors corrected for clustering by dyad. Peace years and cubic spline variables not shown for reasons of space. Same sample used as in Table 1. *** p<0.01, ** p<0.05, * p<0.10.

TABLE A2 Market Capitalist Peace, Results in Table 2 without CIE (Low)[‡]

Variables	Correlation with CIE (Low)	Model 1		Model 2		Model 3		Model 4	
		β	SE	β	SE	β	SE	β	SE
Wealth (Low) ^a	0.56	-0.05	0.18	0.32	0.19*	0.08	0.19	-0.99	0.38***
Trade (Low) ^b	0.30			-1.14	0.33***				
Capital Openness (Low) ^c	0.29				-0.18	0.05***			
Public (High) ^d	-0.15								
Capability Ratio	0.00	-0.25	0.08***	-0.31	0.09***	-0.27	0.09***	0.01	0.01
Major Power	0.13	2.09	0.27***	2.31	0.28***	1.89	0.29***	-0.01	0.11
Contiguity	0.03	2.02	0.26***	2.23	0.24***	1.98	0.29***	1.38	0.56**
Distance	-0.03	-0.56	0.10***	-0.61	0.09***	-0.57	0.10***	3.63	0.53***
Number of States	0.08	-0.01	0.00***	-0.01	0.00***	-0.01	0.01	-0.45	0.16***
Intercept	-	0.43	0.86	0.92	0.82	0.77	1.29	-0.02	0.01**
Pseudo log-likelihood		-1,847		-1,800		-1,242		0.83	2.25
Pseudo R^2		0.22		0.23		0.25		-351	
Observations		328,424		323,318		206,943		123,661	

[‡]All independent variables lagged one year. Standard errors (SE) corrected for clustering by dyad. Peace years and cubic spline variables not shown for reasons of space. ** p<0.01, * p<0.05, † p<0.10.

Does Capitalism Account for the Democratic Peace? The Evidence Still Says No¹

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The democratic peace—the empirical association between democracy and peace—is an extremely robust finding. More generally, many liberal factors are associated with peace and many explanations have been offered for these associations, including the effects of: liberal norms, democratic signaling, credible commitments, the free press, economic interdependence, declining benefits of conquest, signaling via capital markets, constraints on the state, constraints on leaders, and others. Scholars are still mapping the contours of the liberal peace, and we remain a long way from fully understanding the respective influence of these different candidate causal mechanisms.

All this being said, the robustness of the democratic peace, as one interrelated empirical aspect of the liberal peace, is impressive. The democratic peace has been interrogated for over two decades and no one has been able to identify an alternative factor that accounts for it in cross-national statistical analyses. Democracy in any two countries (joint democracy) has been shown to be robustly negatively associated with militarized interstate disputes (MIDs), fatal MIDs, crises, escalation, and wars. The democratic peace is for good reason widely cited and regarded as one of the most productive research programs.²

We also agree with the editors and contributors to this volume that additional study of the capitalist peace is likely to generate substantial insight. Our mandate in this chapter, however, is to respond to the specific claims made by Mousseau, Orsun, Ungerer, and Mousseau (2013, henceforth denoted MOUM) that social-market capitalism “accounts for the effect of peace that was previously attributed to democracy” (2013:  extending the

¹Replication code and data can be found at <http://hdl.handle.net/1902.1/17726>

²45% of the respondents to the 2007 TRIP Survey of International Relations judged democratic peace to be one of the three most productive controversies or research programs, getting 9% more respondents than the closest runner-up (Maliniak et al. 2007:29).

alleged finding that “the democratic peace is found to be spurious in analyses of MIDs (Mousseau 2009, 2012)” (MOUM 2013).³ We show that these claims are unsubstantiated, and that their results contra the democratic peace are fragile and unpersuasive. Before turning to the details of the analysis of MOUM, we reflect on the nature of causal inference using the kinds of cross-national analyses typical to this research.

CAUSAL INFERENCE IS HARD

Strong causal inference requires finding evidence that is unlikely under one theory, but is relatively likely under another theory.³ Do MOUM present evidence that is unlikely if democracy is a true cause of peace, but likely under their alternative? The answer is no. A handful of correlations based on cross-national data such as those presented by MOUM could arise for many reasons even if democracy is a potent force for peace.

MOUM present estimated coefficients from three statistical models as sufficient evidence that social-market capitalism “accounts for the effect of peace that was previously attributed to democracy” (p.16). For this evidence to support the inference they claim, the evidence would have to be highly unlikely to arise if democracy was truly a force for peace. However, there are many reasons why a few regression results on observational data may fail to generate appropriately signed significant results for a variable that actually plays an important causal role. The analysis may: (i) induce post-treatment bias from conditioning on a post-treatment variable; (ii) mismeasure a variable; (iii) misspecify the functional form on some variable; (iv) omit an important confound; (v) have insufficient power to reject a false null hypothesis; (vi) suffer from multiple comparisons bias due to systematic (usually unconscious) biases in the reporting of results; (vii) fail on any of the other many assumptions required for regression results to have clear causal interpretations. For further discussion of the many assumptions required for and limits of model-based causal inference, see the works of Berk (2004), Morgan and Winship (2007), Sekhon (2009), Freedman (2010), Dunning (2010), Angrist and Pischke (2010), Imai, Keele, Tingley, and Yamamoto (2011), and others.

What should a scholar believe after reading MOUM (2013), Mousseau (2009), or other statistical critiques of the democratic peace? First, one should be very cautious about accepting interpretations that overturn large bodies of evidence and theory. The idea that democracy causes peace has been elaborated, formally and informally, in many theoretical works, with detailed discussion of many possible causal mechanisms. Many qualitative analyses support it (most recently Hayes 2012). So do hundreds of statistical studies,

³This can be expressed formally using Bayesian inference; see Appendix B.

many of which look at the occurrence of (fatal) militarized interstate disputes and wars (Dafoe 2011; Oneal 2006; Oneal and Russett 1997, 1999a, 1999b, 2001; Russett 1993; Russett and Oneal 2001) or at other behavior related to interstate escalation or civil conflict (Hegre et al. 2001; Huth and Allee 2002), and many of which test other predictions on entirely new empirical domains, such as using content analysis of documents (Schafer and Walker 2006) and laboratory and survey experiments (Geva, DeRouen, and Mintz 1993; Mintz and Geva 1993; Tomz 2007; Tomz and Weeks 2012).⁴ Relevant work is not just by political scientists, but by anthropologists, economists, historians, and psychologists. While there is no consensus about how democracy causes peace, the weight of evidence in favor of a pacifying effect of democracy is certainly much stronger than the evidence in favor of the hypothesis of no (or a very small) effect. Until the contrary evidence at least partially approaches the supportive evidence, a reader should be wary about rejecting the various causal conjectures of the democratic peace research program.

Second, one should look in detail at the contrary results to see exactly what is driving these results. Contrary results may be driven by an error, by an otherwise arbitrary aspect of the specification, or by some noteworthy aspect of the data or analysis procedure that has been heretofore insufficiently appreciated by scholars. Whatever the cause, contrary results suggest that something may be learned from unpacking it.

In the case of MOUM (2013) we identify several problematic features. Those we discuss here are: (i) failing to appreciate that an inability to reject a null of no effect is not the same as the rejection of a null of a negative effect; (ii) using an unconventional operationalization of the key variable DEMOCRACY (LOW) that involves a fundamental reinterpretation of the estimand; (iii) ignoring an alternative specification used and justified by Mousseau (2009) involving an interaction between CIE (LOW) and DEMOCRACY (LOW), again for which DEMOCRACY (LOW) has a significant association with peace for much of the sample; (iv) failing to address the existence of an alternative dyadic specification for CIE that has better fit with the data and for which DEMOCRACY (LOW) is significantly associated with peace. (v) We also respond to MOUM's criticism of alternative cut points for operationalizing joint democracy. Each of these points is discussed in the following sections.

In summary, MOUM's evidence is in fact consistent with the democratic peace, and when any of the above reasonable alternative specifications are employed, the estimated coefficient on DEMOCRACY (LOW) is again significantly less than zero.⁵ Even if MOUM presented robust results based on unproblematic analyses, one would want to be very cautious before assigning those results a clear causal interpretation. In this case, however, we need not

⁴A valuable annotated bibliography is Reiter (2013).

⁵Dafoe and Russett (2013) discuss these and other problems further.

contemplate too much the subtleties of causal inference since the empirical evidence presented against the democratic peace is thin and fragile.

A NEGATIVE ESTIMATE IS NOT EVIDENCE AGAINST A NEGATIVE EFFECT

The coefficient estimates in MOUM's Models 2, 3, and 5 are presented as evidence against the democratic peace. Each of these estimates, however, is still negative: the direction predicted by the democratic peace literature. Assuming for now that the model specification is appropriate, these results say that we cannot reject the null that there is no significant association between democracy and peace. However, it does not imply that we can reject the hypothesis that democracy is associated with peace. Suppose the null hypothesis is that the coefficient on DEMOCRACY (LOW) is -0.10 , as estimated in Model 1; a test against this null using Model 2 would yield an insignificant result ($p = 0.2$). Similarly, the estimated coefficients in Models 3, 4 and 5 are each negative. They are closer to zero than before CIE (LOW) was included in the regression, but not so much that we can reject the hypothesis of an association the size of that estimated in Model 1, let alone reject a hypothesis that there is a weak peaceful association. This error is related to the error of interpretation that Gelman and Stern (2006:328) label as when "the difference between 'significant' and 'not significant' is not itself statistically significant." If we continued to collect data that provided similar results as MOUM (2013) present, DEMOCRACY (LOW) would eventually again be significantly less than zero.

FUNDAMENTAL CHANGE IN THE CONCEPTUALIZATION OF DYADIC DEMOCRACY

Oneal and Russett (1997) introduced a means of operationalizing dyadic democracy involving two variables, one measuring the lowest democracy level of the pair of countries in the dyad (DEMOCRACY (LOW)), and one for the highest democracy level of the pair of countries in the dyad (DEMOCRACY (HIGH)). The relevant portion of the statistical model is:

$$\beta_{OR,DL} \text{ DEMOCRACY (LOW)} + \beta_{OR,DH} \text{ DEMOCRACY (HIGH)} \quad (1)$$

The OR subscripts denote that this is the Oneal and Russett operationalization. We refer to this operationalization as the *lowest-counterfactual* because the coefficient on DEMOCRACY (LOW) implicitly estimates the effect of changing the democracy level of the country with the lowest level of democracy (holding the level of democracy of the other country constant).

MOUM 2013 (citing Choi 2011) employ an alternative operationalization involving DEMOCRACY (LOW) and a measure of REGIME DIFFERENCE = DEMOCRACY (HIGH) – DEMOCRACY (LOW). The relevant portion of the statistical model would then be $b_{M,DL}$ DEMOCRACY (LOW) + $b_{M,RD}$ REGIME DIFFERENCE. By basic algebra we see that MOUM's statistical model involves estimating:

$$\begin{aligned} & \beta_{M,DL} \text{ DEMOCRACY (LOW)} + \\ & \beta_{M,RD} (\text{DEMOCRACY (HIGH)} - \text{DEMOCRACY (LOW)}) \\ \Rightarrow & (\beta_{M,DL} - \beta_{M,RD}) \text{ DEMOCRACY (LOW)} + \beta_{M,RD} \text{ DEMOCRACY (HIGH)} \quad (2) \end{aligned}$$

This implies that:

$$\beta_{M,DL} - \beta_{M,RD} = \beta_{OR,DL}$$

and

$$\beta_{M,RD} = \beta_{OR,DH}$$

Since $\beta_{OR,DH}$ is almost always estimated to have a positive association, this implies that

$$\hat{\beta}_{M,DL} > \hat{\beta}_{OR,DL}$$

That is, this new operationalization involves estimating exactly the same statistical model—compare Models (1) and (2)—and merely redefines the interpretation of the DEMOCRACY (LOW) coefficient in a manner that will make the estimated coefficient closer to zero or positive. Nothing new has been revealed about the empirical association DEMOCRACY (LOW) between democracy and peace. We refer to MOUM's operationalization as the *both-counterfactual*, because the coefficient on DEMOCRACY (LOW) implicitly estimates the effect of changing the level of democracy of both countries simultaneously.

If the goal of a study is to demonstrate that some factor better accounts for peace than democracy, that study should be able to demonstrate this result without reconceptualizing dyadic democracy through a novel operationalization. MOUM write that “most of the independent variables are conventional to the conflict studies literature,” but this operationalization of the central independent variable has little precedent. As reported in Dafoe and Russett (2013), a survey of the operationalization of democracy in a sample of articles ranked highest in a Google Scholar search of “democratic peace” found that 78% (32/41) implemented a specification that we interpret

as consistent with the *lowest-counterfactual* conceptualization;⁶ 15% (6/41) implemented the precise *lowest-counterfactual* (DEMOCRACY (LOW) and DEMOCRACY (HIGH)) that we recommend; zero articles⁷ in our sample implemented the *both-counterfactual* employed by MOUM.⁸ At the least we can say that the *both-counterfactual* operationalization is unconventional, and ought not to be included if the purpose is to demonstrate the effect of including a new variable on the standard models used in the literature.

How should we decide between these two (econometrically equivalent) specifications? It depends on what is the counterfactual of interest. A heuristic for clarifying thinking about the counterfactual of interest is to ask oneself: what is the experiment that researchers would run if they could? (Dorn 1953:680; Sekhon 2009:496). The counterfactual implicit to most democratic peace research, we argue, is that of increasing (or decreasing) the level of democracy of the least democratic country in a dyad. This is the same as the *lowest-counterfactual* implicit to the operationalization suggested by Oneal and Russett. By contrast, the *both-counterfactual* implicit to Choi and MOUM's coding involves increasing (or decreasing) the level of democracy of *both* countries in a dyad *simultaneously* and by *exactly* the same amount. It is hard to imagine a policy manipulation or historical process that would generate this counterfactual, and hence why we should be interested in it. In fact, by consequence of the dyadic data structure, even if we experimentally created the *both-counterfactual* by manipulating the democracy level of two countries, this experiment would induce as a byproduct many *lowest-counterfactuals*; specifically, all other dyads where the country with the lowest democracy level was also a member of this treatment dyad would experience the *lowest-counterfactual* manipulation.

Scholars who want to direct attention towards the conflict inducing aspects of increases in democracy, perhaps because they are considering the counterfactual of an increase in the democracy level of the most democratic country in Africa, should consider the estimated coefficient for DEMOCRACY (HIGH). Thus, irrespective of whether a scholar's counterfactual of interest involves changes in the democracy level of the less democratic or more

⁶Technically, we count all papers with some version of DEMOCRACY (LOW) or JOINT DEMOCRACY (an indicator variable for DEMOCRACY(LOW)), so long as the specification doesn't also have a control variable for REGIME DIFFERENCE or some close variant thereof.


⁷The analyses that we know of that employ the *both-counterfactual* operationalization are Choi (2011) and Henderson (2002); neither of these were among the literatures' top 100. Other operationalizations found in the literature include a monadic coding (DemA, DemB), an interaction monadic coding (DemA, DemB, DemA* × DemB), and (variants of) Maoz and Russett's "Joinreg" variable (Maoz and Russett 1993).

⁸This survey was performed by M.A. research assistants Olga Vera Hänni, Lars Osterberg, and Riho Palis, under supervision by Allan Dafoe. Our coding rubric and data is included in the replication files for (Dafoe and Russett 2013). Dafoe checked a random subset 20% (8/41) of the codings and found no errors in the coding, whether an article involved the *lowest-counterfactual* or *both-counterfactual*.

democratic country in a dyad, $\beta_{OR,DL}$ DEMOCRACY (LOW) + $\beta_{OR,DH}$ DEMOCRACY (HIGH) is the correct specification.

We include in Table A1 of Appendix a (trivial) replication of MOUM's (2013) Table 1, this time using the *lowest-counterfactual* specification. This confirms that, as expected, this modification makes the coefficient on DEMOCRACY (LOW) more negative and that this single modification returns a significant result on DEMOCRACY (LOW) to all of MOUM's models.

INTERACTION BETWEEN CIE_L AND DEMOCRACY (LOW)

Mousseau (2009) claims to provide evidence that contract-intensive development “appears to account for” the democratic peace. MOUM (2013)  make the stronger claim that “the democratic peace is found to be spurious in analyses of MIDs (Mousseau 2009, 2012).” This interpretation, however, involves a misreading of interaction terms. Properly interpreted, leaving aside other questions about the statistical models, Mousseau's (2009) analyses show that DEMOCRACY (LOW) has an insignificant association with peace for the 26% of the dyad years with low values of CIE (LOW),⁹ but a negative and significant association for the 74% of the dyad years with higher values of CIE (LOW), as pointed out in (Dafoe 2011, 249). This is an important qualification of the empirical finding of the democratic peace, but can hardly be read as evidence that contract-intensive development “appears to account for” the democratic peace, or that “the democratic peace [has been] found to be spurious in analyses of MIDs” (MOUM 2013:7).

MOUM (2013) do not include an interaction between CIE (LOW) and DEMOCRACY (LOW). Why, given that Mousseau's (2009) theory presumably suggested that an interaction should be included? Given its use and significance in Mousseau's prior work, we investigated what happens when CIE (LOW) is interacted with DEMOCRACY (LOW) in MOUM's (2013) analysis. Figure 1 summarizes the results for the *both-counterfactual* operationalization of DEMOCRACY (LOW) and Figure 2 for the preferred *lowest-counterfactual* operationalization. Otherwise the statistical model is identical to MOUM's Model 2.¹⁰ Figures 1 and 2 plot the estimated change in the probability of crisis from changing DEMOCRACY (LOW) from the

⁹Technically, Mousseau (2009) employs a dichotomous measure of the lower level of CIECIE in a dyad. This is thus conceptually close to CIECIE_L (LOW) but differs only with respect to the functional form. For convenience of notation, we refer to Mousseau's (2009) variable of ONE STATE CIECIE by the variable name of its 2012 transformation: CIE (LOW)CIE_L.

¹⁰To estimate first differences, CLARIFY (King, Tomz, and Wittenberg 2000) was used. MAJOR POWER was set to 0, CONTIGUITY to 1, *Distance* to its minimum, PEACE YEARS and temporal splines to 0, and CAPABILITY RATIO and NUMBER OF STATES to their median. The treatment variables, DemocracyLow DEMOCRACY (LOW) in Figures 1 and 2, and CIE_L in Figure A1, were altered in their respective analysis from the value at their median to the value at their 90th percentile

Predicted Effect of Democracy Low (Both-Counterfactual)

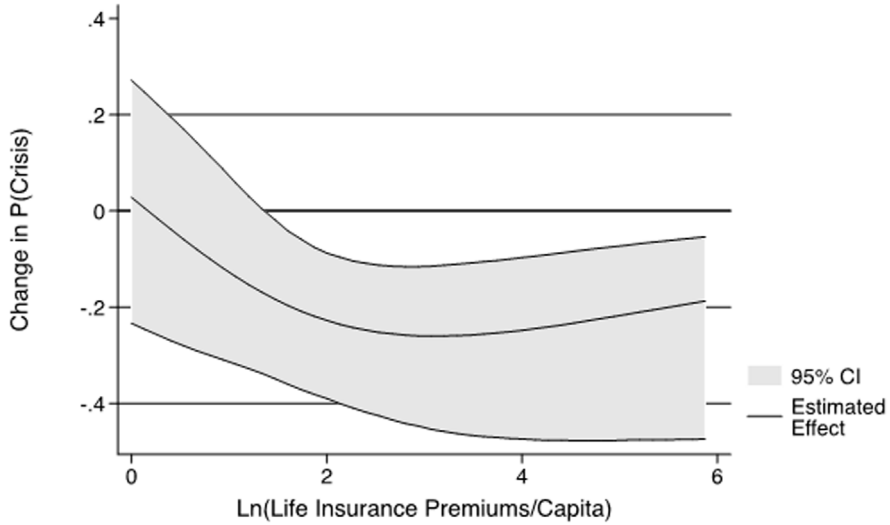


FIGURE 1 The estimated change in the probability of crisis from changing DEMOCRACY (LOW) from the median value (-7) to the 90th percentile value (7), for different values of CIE (LOW) = $\ln(\text{LIFE INSURANCE PREMIUMS/CAPITA})$, holding all other variables constant. Estimates based on MOUM's (2013) Model 2, with a DEMOCRACY (LOW) CIE (LOW) interaction added. The bottom line graphs the density, scale on the right. 95% CI = 95% Confidence Interval.

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Predicted Effect of Democracy Low (Lowest-Counterfactual)

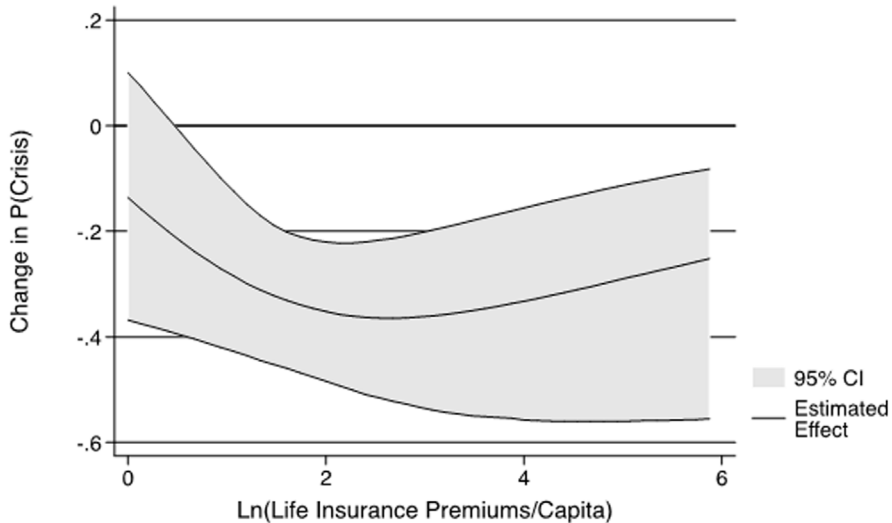


FIGURE 2 The estimated change in the probability of crisis from changing DEMOCRACY (LOW) from the median value (-7) to the 90th percentile value (7), for different values of CIE (LOW) = $\ln(\text{LIFE INSURANCE PREMIUMS/CAPITA})$, holding all other variables constant. Estimates based on MOUM's (2013) Model 2, with a DEMOCRACY (LOW) CIE (LOW) interaction added and REGIME DIFFERENCE replaced with DEMOCRACY (HIGH). The bottom line graphs the density, scale on the right. 95% CI = 95% Confidence Interval.

median value (-7) to the 90th percentile value (7), for different values of CIE (LOW), holding all other variables constant.

Figures 1 and 2 illustrate the (statistically significant) interaction between CIE (LOW) and DEMOCRACY (LOW), and specifically that the estimated coefficient on DEMOCRACY (LOW) is significantly less than zero for sufficiently high values of CIE (LOW). That is, by just adding an interaction term to MOUM's Model 2 (using the *both-counterfactual*) we see that DEMOCRACY (LOW) is significant for CIE (LOW) values greater than 1.3 (which accounts for 32% of the sample). Using the preferred *lowest-counterfactual* operationalization in Figure 2, we see that for 66% of dyads (dyads with a CIE (LOW) >0.5) the estimated effect of DEMOCRACY (LOW) is significantly less than 0 and for all dyads the estimated effect is negative. That is very similar to what Mousseau (2009) reported, and once again provides an important empirical qualification of the democratic peace association, but by no means strong evidence against it. In Figure A1 in the Appendix we also graph the estimated effect of CIE (LOW) for MOUM's Model 2 with an interaction; this figure reveals very similar associations on CIE (LOW); the estimated coefficient on CIE (LOW) is not significant for low values of DEMOCRACY (LOW) (which includes 32% of the sample), but is negative and significant for higher values.

ANOTHER SOURCE OF NONROBUSTNESS: SPECIFICATION OF CONTRACT-INTENSIVENESS

Another modification that we investigated was whether a different specification of how CIE is dyadically operationalized would affect results. Inspired by the above discussion, we control for a measure of the higher level of CIE for a dyad (CIE (HIGH)), so as to have a specification that more closely represents the *lowest-counterfactual* for CIE. We control for CIE (HIGH): the higher level of $\ln(\text{LIFE INSURANCE PREMIUMS/CAPITA})$ within a dyad. As evidence by its absence from MOUM (2013) and Mousseau's (2013) model specifications, Mousseau's theory seemingly doesn't anticipate associations related to CIE (HIGH), but CIE (HIGH) is in fact positive and very significant for all six of MOUM's models (see Table 1). This one modification makes DEMOCRACY (LOW) significant ($p < 0.05$) in Model 2 and DEMOCRACY (LOW)² significant in Model 5.

To summarize, even ignoring the massive problems of drawing strong causal claims from a handful of regression results, MOUM's results themselves (i) are not in fact evidence against the democratic peace; and are not robust to a variety of reasonable modifications of the specification, such as (ii) using the standard and more appropriate *lowest-counterfactual* operationalization, (iii) interacting CIE (LOW) and DEMOCRACY (LOW) as Mousseau (2009) theorized and implemented, and (iv) modifying how CIE is dyadically operationalized.

TABLE 1

	(1)	(2)	(3)	(4)	(5)	(6)
	Crisis $t + 1$	Crisis $t + 1$	Crisis $t + 1$	Crisis $t + 1$	Crisis $t + 1$	Crisis $t + 1$
CIE (Low)		-0.49*** (0.11)	-0.56*** (0.11)	-0.56*** (0.10)	-0.47*** (0.12)	-0.70*** (0.08)
CIE (High)		0.23*** (0.05)	0.20*** (0.05)	0.18*** (0.05)	0.24*** (0.05)	0.26*** (0.05)
Democracy (Low)	-0.10*** (0.03)	-0.08* (0.04)				
Democracy _{binary6}			-0.80 (0.68)			
Democracy _{binary10} Democracy (Low)^2				-∞	-0.00* (0.00)	
Regime Difference	0.05*** (0.01)	0.02 (0.01)	0.03** (0.01)	0.04*** (0.01)	0.01 (0.01)	
Capability Ratio	-0.27** (0.09)	-0.29*** (0.09)	-0.30*** (0.09)	-0.29*** (0.09)	-0.29*** (0.09)	-0.30*** (0.09)
Major Power	2.36*** (0.30)	2.21*** (0.26)	2.23*** (0.26)	2.23*** (0.26)	2.21*** (0.26)	2.19*** (0.26)
Contiguity	2.12*** (0.28)	2.36*** (0.30)	2.38*** (0.30)	2.39*** (0.30)	2.36*** (0.31)	2.39*** (0.29)
log(Distance)	-0.61*** (0.09)	-0.60*** (0.10)	-0.61*** (0.10)	-0.61*** (0.10)	-0.61*** (0.10)	-0.61*** (0.09)
Number of States	-0.00 (0.00)	-0.01** (0.00)	-0.01** (0.00)	-0.01** (0.00)	-0.01** (0.00)	-0.01*** (0.00)
Time Since Last Crisis	-0.32*** (0.05)	-0.31*** (0.05)	-0.30*** (0.05)	-0.30*** (0.05)	-0.31*** (0.05)	-0.30*** (0.05)
CONSTANT	-0.92 (0.82)	-0.42 (0.89)	0.30 (0.94)	0.26 (0.93)	0.30 (0.93)	0.73 (0.93)
Observations	321,811	321,811	321,811	310,502	321,811	328,424
Pseudo R^2	0.248	0.261	0.258	0.255	0.261	0.255
log-likelihood	-1,768.55	-1,738.17	-1,744.99	-1,743.60	-1,736.56	-1,772.62

Standard errors in parentheses. Three temporal spline variables omitted from table.

† $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

-∞ indicates the variable was dropped because it predicted peace perfectly.

ALTERNATIVE CUT POINTS AND DENOMINATOR NEGLECT

MOUM misunderstand the purpose of a footnote in Dafoe (2011), to which they devote a page and a half in response. Mousseau (2009:53,68) writes that “not a single fatal conflict occurred among nations with contract-intensive economies.” By contrast, “ten fatal militarized disputes took place

between democratic nations [defined as $\text{polity} \geq 7$] that lacked contract-intensive economies.” Dafoe argued that the finding of no fatal MID in contract-intensive economies is similar to the finding that the most democratic regimes ($\text{polity} = 10$) also experienced no fatal MID using Mousseau’s data. This similarity is so for two reasons. First, 76% of countries coded as having a contract-intensive economy (CIE) also had $\text{polity} = 10$, so there was considerable overlap in these categories.

Second, comparing the frequency of fatal MID in dyads that both have CIE to the frequency of fatal MID under countries with $\text{polity} \geq 7$ is misleading due to denominator neglect: the comparison attempts to make an inference about the risk of fatal MID by comparing the absolute number of fatal MID for two groups of very different sizes. The inference neglects to consider that the denominators in the comparison are substantially different. There are 35,729 dyad years with $\text{DEMOCRACY (LOW)} \geq 7$, making up 12.4% of the sample; however, there are only 10,866 dyad years with $\text{bothCIE} = 1$, making up 3.8% of the sample. It is thus not a surprise that there are fewer fatal MID under dyad years with $\text{bothCIE} = 1$, than under dyad years with $\text{DEMOCRACY (LOW)} \geq 7$. On the other hand, there are 10,587 dyad years with $\text{DEMOCRACY (LOW)} = 10$, making up 3.7% of the sample; this suggests that $\text{DEMOCRACY (LOW)} = 10$ provides a better comparison group. Dafoe shows that a comparably exclusive sample of democracies also had a total absence of fatal MID.

MOUM are correct to worry about post-hoc adjustments to operationalizations of variables. However, they overstate the consequences. Even if scholars adopted a new operationalization of joint democracy, it is not the case that “all the previous research on the democratic peace [would be] automatically rendered inconsequential” (p. 12). The $\text{polity} \geq 7$ threshold is not immutably deduced from confident theory; rather, most theories of democratic peace (e.g. Russett 2009:12) anticipate continuous effects with unspecified magnitudes and functional forms, perhaps with a positive quadratic curvature reflecting an autocratic peace and increasing marginal effects at the extremes. In most cases, the use of an indicator variable is an approximation to a more complex functional form; consequently, consideration of alternative cut points may provide insight and should not be ruled out. What matters is that modifications of functional forms are consistent with theory, that scholars are explicit about what they are doing, and that the activity is as principled as possible to avoid multiple comparisons bias.

CONCLUSION

The many contributors to this volume advance our understanding about the possible economic causes of the liberal peace. Many liberal political factors

may play an important role in securing the liberal peace, such as regular and contested elections amongst political parties, civilian control of the military, freedom of the press, and transparent political decision making. Similarly, many liberal economic factors could be important in reducing the incentives and tendency for states to wage war against each other, including secure property rights, enforceable contracts, high human capital, gains from trade and labor mobility, economic freedom induced growth, capital openness, and greater mobility of capital. These factors also largely seem to be mutually reinforcing, and are deeply historically entwined in the formation of early institutions (Acemoglu et al. 2008; Robinson 2006). The theoretical and empirical study of how these factors might avert war is extremely valuable. However, it is naive to think that we can easily parse out and estimate the effects of these many potential causes of peace, especially using only cross-national regressions.

MOUM (2013) extend the interesting stream of scholarship by Mousseau, looking at the correlates of the contract-intensiveness of economies. As in the papers that have gone before, MOUM remind us of the strong and provocative empirical associations between peace and CIE, and they extend our understanding of these associations. However, contrary to the claims made by Mousseau (2009, 2012) and here, this scholarship has not provided persuasive evidence to make us doubt the empirical association between joint democracy and peace. Rather, their inferences lean on errors of interpretation, are sensitive to reasonable changes in the specification, and are generally overconfident in model-based causal inference. To echo Dafoe (2011), our understanding would likely advance more by testing more precise theoretical implications, by analysis of mechanisms on new empirical domains, and by the search for better research designs, rather than additional statistical horse races between the same imperfect measures of historically interwoven factors.

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Appendix A

TABLE A1

Table A1 is based on an analysis using exactly the same data and code as that used by MOUM (2013) in their Table 1, except that it substitutes the variable Democracy (High) for Regime Difference.

	(1)	(2)	(3)	(4)	(5)	(6)
	Crisis $t + 1$	Crisis $t + 1$	Crisis $t + 1$	Crisis $t + 1$	Crisis $t + 1$	Crisis $t + 1$
CIE (Low)		-0.39*** (0.11)	-0.50*** (0.11)	-0.53*** (0.09)	-0.36** (0.12)	-0.52*** (0.08)
Democracy (Low)	-0.15*** (0.03)	-0.10** (0.03)				
Democracy _{binary6}			-1.08† (0.63)			
Democracy _{binary10} Democracy (Low)^2				-∞	-0.01** (0.00)	
Democracy (High)	0.05*** (0.01)	0.05*** (0.01)	0.04** (0.01)	0.04** (0.01)	0.05*** (0.01)	
Capability Ratio	-0.27** (0.09)	-0.30*** (0.09)	-0.32*** (0.09)	-0.31*** (0.09)	-0.30*** (0.09)	-0.32*** (0.09)
Major Power	2.36*** (0.30)	2.52*** (0.29)	2.55*** (0.29)	2.54*** (0.29)	2.54*** (0.29)	2.63*** (0.31)
Contiguity	2.12*** (0.28)	2.07*** (0.29)	2.02*** (0.29)	2.01*** (0.28)	2.05*** (0.29)	1.89*** (0.26)
log(Distance)	-0.61*** (0.09)	-0.66*** (0.09)	-0.67*** (0.09)	-0.67*** (0.09)	-0.67*** (0.09)	-0.68*** (0.09)
Number of States	-0.00 (0.00)	-0.01† (0.00)	-0.01** (0.00)	-0.01** (0.00)	-0.01* (0.00)	-0.01** (0.00)
Time since Last Crisis1	-0.32*** (0.05)	-0.31*** (0.05)	-0.31*** (0.05)	-0.31*** (0.05)	-0.31*** (0.05)	-0.32*** (0.05)
CONSTANT	-0.92 (0.82)	0.04 (0.85)	1.33 (0.86)	1.41 (0.88)	1.00 (0.84)	1.43 (0.90)
Observations	321,811	321,811	321,811	310,502	321,811	328,424
Pseudo R^2	0.248	0.254	0.248	0.244	0.254	0.243

Standard errors in parentheses. Three temporal spline variables omitted from table.

† $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$ (all two-sided).

-∞ indicates the variable was dropped because it predicted peace perfectly.

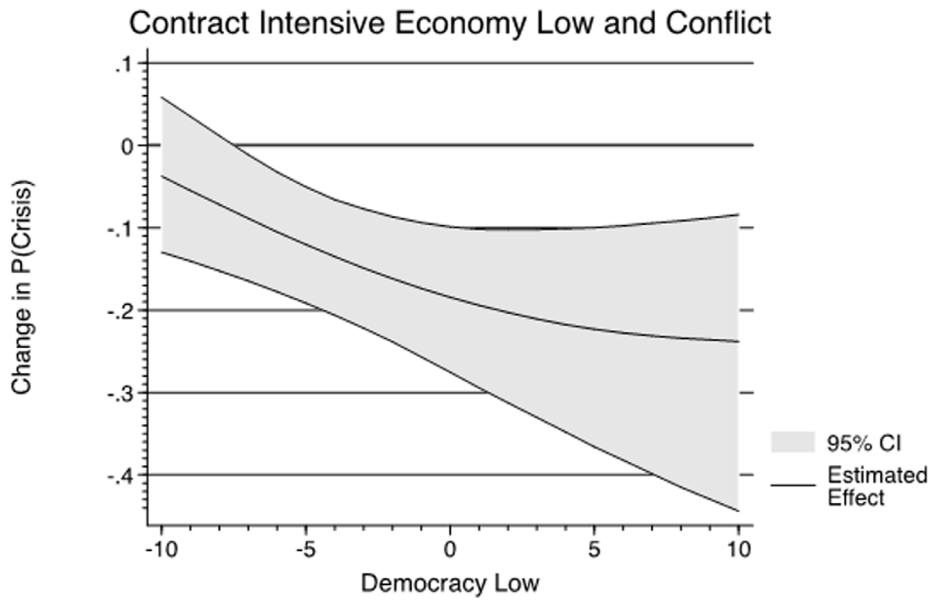


FIGURE A1 The estimated change in the probability of crisis from changing CIE (LOW) from the median value (0.85) to the 90th percentile value (2.38), for different values of DEMOCRACY (LOW), holding all other variables constant. Estimates based on MOUM's (2013) Model 2, with a DEMOCRACY (LOW) CIE (LOW) interaction added. The estimated association is insignificant when DEMOCRACY (LOW) < -7, which includes 32% of the sample.

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Appendix B

Strong causal inference requires finding evidence (X) that is unlikely under a large subset of plausible causal theories (A), is likely under a small subset of theories (B), and, when really persuasive, gives us confidence that the truth is likely to be in this smaller subset (B); this can be expressed as $P(A|X) \ll P(A)$, $P(B|X) \gg P(B)$, and $P(B|X) > P(A|X)$, where $P(A|X)$ denotes the probability that the truth is in A given that we observed evidence X and $P(A)$ is the prior probability that the truth is in A . Given X , we can have much greater confidence that the truth is in B rather than A . MOUM argue that the evidence (X) they present in their chapter allows a rational observer to substantially reduce their beliefs that democracy is a cause of peace (denoted DP): $DP \in A$, $P(DP|X) \ll P(DP)$.

As can be seen through the application of Bayes formula, this requires that $P(X|DP) \ll P(X|DP)$: the probability of observing the evidence must be low if democracy is a cause of peace but relatively likely under one of the plausible alternatives.

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Does the Market-Capitalist Peace Supersede the Democratic Peace? The Evidence Still Says Yes

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We appreciate the chance to respond to Dafoe and Russett's (henceforth DR) reaction to our chapter and the challenge to the democratic peace (DP) causal hypothesis that the economic norms theory poses. DR have analysed our data and presented arguments that the best inference to draw from our chapter (Mousseau, Orsun, Ungerer, and Mousseau 2013, henceforth MOUM) and other works by Mousseau (2000, 2009) is that democracy remains at least one cause of the DP correlation. We would be perfectly content to reach this same conclusion, but cannot in light of the evidence.

Our main points are as follows. Foremost, we stress that DR are defending only the existence of the DP correlation: the inference of causation requires theory, which they take little heed of. Second, DR's results hold only with a specific erroneous measure of regime difference; we solve this issue by adopting a less-controversial measure, which shows the MOUM results are robust. Finally, we test DR's unsupported assertion that democracy is still significant in the MOUM regressions, showing that it is not. DR raise some important points to consider in the economic norms challenge to the DP, but close examination of them does not save the DP correlation, and by implication the DP causal hypothesis.

A CORRELATION, OBSERVED AGAIN AND AGAIN, IS STILL NOT CAUSATION

The heart of DR's argument that democracy causes peace  that it is supported in "hundreds of statistical" and other studies (p.2; see also Dafoe 2011:14). DR acknowledge, however, that there is no consensus on a causal explanation for the DP. So DR's resort to "hundreds" of studies is analogous to "hundreds" of studies reporting the correlation of ice cream consumption

with shark attacks: just as the latter correlation is evidence that eating ice cream causes shark attacks, it cannot alone be compelling because (i) it lacks theory with substantial corroborating evidence; and (ii) there could be a third confounding variable that might cause both ice cream consumption and shark attacks, making the initial correlation spurious. A third variable might be summer season, which, by causing both ice cream consumption and swimming, may be the ultimate cause of shark attacks.

Similarly, the many studies of the DP correlation cannot, alone, be compelling evidence for democracy causing peace: not even millions of reports of the same correlation reduce the odds that at some future date a third variable can arrive offering an account of both variables. We understand that the idea that democracy causes peace might feel more intuitively correct than the idea that eating ice cream causes shark attacks, but the analogy fits because scientific knowledge derives from evidence, not intuition.¹

Scientifically, the only way to infer causation in historical analyses is to compare competing theories for it (Bremer, Regan, and Clark 2003:8–9). Most agree that the most important factors in assessing theories are the generation of novel predictions, extent of corroborated novel predictions, the degree of novelty predicted, and the scope of anomalous evidence; the importance of a theory lies in its explanatory value.² The upshot is that to infer causation, we must consider the wider stream of evidence beyond the issue at hand.

As a causal explanation for the DP correlation, Mousseau (2000) introduced a third variable: CONTRACT-INTENSIVE ECONOMY (CIE). If a third variable (Z) fully accounts for the correlation of two variables (X and Y), evidence for this will be seen in a regression analysis, where inclusion of Z would remove the correlation of X and Y. In Mousseau (2000) direct data on CIE was lacking, but with Mousseau (2009) and MOUM direct data became available and the initial deduction was corroborated: CIE appears to account for the DP correlation. But merely rendering a variable (X) insignificant is not meaningful unless it is accompanied with theory. The Mousseau studies not only have theory, but by scientific standards economic norms theory is a comparatively strong one, having well surpassed any competing theory in the DP research program.³

¹Philosophers of science agree that causation cannot be observed with direct evidence of the senses: we can only observe the indirect effects of causation. In historical (nonexperimental) research, such as large-N data analyses, coefficients can be interpreted in multiple ways, and thus cannot directly indicate causation. If one believes in a certain causation, however, such as the DP, it is human nature to perceive evidence for it as direct; it is precisely because of this human weakness that we seek scientific method. DR mention experimental studies in the DP research program, but none of these are true experiments in that none can be said to have isolated the purported causation from democracy to peace.

²For a review, see Ungerer (2012).

³See MOUM

In their defense of democracy as a cause of the DP correlation, DR do not draw on any theory: they focus entirely on the DP correlation, defined narrowly as a dearth of militarized conflict among democracies, with most of their attention even more constricted to the specific regressions in MOUM, where they introduce two new variables that make some of the democracy coefficients significant: an interaction of CIE (LOW) \times DEMOCRACY (LOW) (DR: Figures 1, 2, A1) and CIE (HIGH) (DR Table 1). Since DR offer no theoretical justification for the inclusion of these variables, their inclusion appears as an ad hoc and thus degenerating attempt to save a hypothesis (see Lakatos 1978:72).⁴ DR know the importance of theory and evidence for it, as they repeatedly promote “testing more precise theoretical implications” (pp. 11, see also Dafoe 2011:13–14) even as they disregard all the more precise testing of the theoretical implications of economic norms theory. Strangely, they describe our claim of the DP being spurious as based only on a “handful of regressions” (pp. 2, 10). We do not understand this, as anyone can read MOUM and any number of the Mousseau studies and see that all this research is guided by theory and a solid record of “testing more precise theoretical implications.” The stress on correlation as causation, selective neglect of the wider stream of evidence, and the peculiar thesis that we, not they, are ignoring the wider stream of evidence cannot serve as convincing foundations for democracy being a cause of the peace.

A CORRELATION CANNOT SURVIVE ON EPISTEMIC ERROR

In their effort to save the DP correlation, DR advocate controlling for the third factor regime difference, an established covariate of conflict related with democracy, using a specific measure, DEMOCRACY (HIGH) (meaning the *higher* democracy score in the dyad) over the one we used, REGIME DIFFERENCE (DEMOCRACY (HIGH) – DEMOCRACY (LOW), meaning the *lower* democracy score in the dyad). DR go to great lengths to describe the MOUM operationalization as “novel”, “unconventional”, and having “little precedent” (pp. 4–5). This is odd, since REGIME DIFFERENCE has a long tradition in the literature (Werner 2000:345–49 especially), and we employed it because, to our knowledge, everyone who has compared DEMOCRACY (HIGH) and REGIME DIFFERENCE favors the latter: Henderson (2002:32–33) first observed that DEMOCRACY (HIGH) “conflates both the allegedly

⁴Furthermore, the statistically significant portion of the sample for DEMOCRACY (LOW) accounts for only 32% of the sample where CIE (LOW) > 1.3, as reported by DR in Figure 1, a substantial limitation on the supposed peace-making powers of democracy. DR also draw from this interaction the empirical result that CIE is not significant for very low values of democracy, implying that CIE is conditioned by democracy. But this is an error: the reason CIE is insignificant at very low values of democracy is because there are *no cases in the data* of both nations being CIEs (defined by CIE_{binary}) with below-median values of DEMOCRACY (LOW), as predicted by economic norms theory.

conflict-dampening impact of joint democracy and the conflict-exacerbating impact of political distance ... making it difficult to distinguish between the competing processes” (see also Choi 2011).⁵

It is easy to demonstrate that to test the DP using DEMOCRACY (LOW), REGIME DIFFERENCE, and not DEMOCRACY (HIGH) is the better theoretically derived measure. Our operationalization model estimates:

$$\text{INTERNATIONAL CRISIS} = z, \text{ where } z = b_0 + b_1 \text{ DEMOCRACY (LOW)} + b_2 \text{ REGIME DIFFERENCE} + b_{3+k} \text{ Other Controls}$$


Given REGIME DIFFERENCE = DEMOCRACY (HIGH) – DEMOCRACY (LOW), the operationalization defended by DR is


$$\text{INTERNATIONAL CRISIS} = z, \text{ where } z = b_0 + b_1 \text{ DEMOCRACY (LOW)} + b_2 (\text{REGIME DIFFERENCE} + \text{DEMOCRACY (LOW)}) + b_{3+k} \text{ Other Controls}$$

As we show in Table 1, the DEMOCRACY (HIGH) specification implies that, given regime difference is zero – democracy scores for states A and B are identical – countries will be more conflict prone as they democratize. This obviously contradicts the core hypothesis that the more democratic two countries, the more likely it is to observe a peace among them.

TABLE 1 Epistemic Implications of Democracy (High) and Regime Difference

Democracy _A	Democracy _B	Democracy (High)	Regime Difference
10	10	10	0
	-10		20
9	9	9	0
	-10		19
8	8	8	0
	-10		18
7	7	7	0
	-10		17
6	6	6	0
	-10		16
-10	-10	-10	0

DR (pp. ) are correct when they note the coincidental mathematical relation between REGIME DIFFERENCE and DEMOCRACY (LOW); however,

⁵DR claim DEMOCRACY (HIGH) is the standard measure on the grounds of their Google Scholar survey. We could not replicate this survey, but it is not scientifically relevant anyway: ceteris paribus, older studies will have more citations than newer ones, and the whole idea of knowledge cumulation is that newer studies supersede older ones. As, an example, using Google Scholar citation numbers in the year 1500, we would continue to believe the world is flat. 

as we demonstrated above, DEMOCRACY (HIGH) is also not immune to this mathematical relation. Given that the models are statistically identical, what matters is the theoretical motivation of the researcher: if we care mostly about the minimum and maximum levels of democracy in the dyad, and less so about the difference between them, we should use DR's DEMOCRACY (LOW) and DEMOCRACY (HIGH); if our aim is to assess regime difference and DEMOCRACY (LOW), the MOUM specification is the correct one. Since the issue at hand is the significance of the DP correlation controlling for regime difference, the MOUM specification is the correct one to follow. Furthermore, DEMOCRACY (HIGH) fails to measure regime difference *at all* when the DP correlation is tested using any other democracy measure than DEMOCRACY (LOW), which is precisely what DR are advocating (pp. 100-101).

To be considered robust, correlates must hold using divergent reasonable measures, so another way to settle the controversy is to examine a new measure that is not mathematically related to DEMOCRACY (LOW). We thus turn to the operationalization introduced by Werner (2000), which has the advantage of coding institutional difference according to the component parts of the Polity2 measure in the Polity IV dataset, with the sound reasoning that there are in fact "multiple paths to the same value on the Democracy and Autocracy scales" (p.355).⁶ As can be seen in Table 2, the robustness of the results using REGIME DIFFERENCE are confirmed using POLITICAL DISTANCE.⁷ We have thus shown that the results of the original MOUM models are robust while controlling for regime difference in a way that is not mathematically related to DEMOCRACY (LOW).⁸

⁶The equation for computing this measure is: $POLITICAL\ DISTANCE_{ij} = [((x_{rcomp_i} - x_{rcomp_j})/3)^2 + ((x_{ropeni} - x_{ropen_j})/4)^2 + ((x_{consti} - x_{const_j})/6)^2 + ((p_{arcomp_i} - p_{arcomp_j})/5)^2]^{0.5}$. Werner (2000) inverts the scale (multiplied by -1) in order to gauge political similarity; however, since we are measuring political distance we do not invert the scale and renamed it; thus, as the variable increases, so does POLITICAL DISTANCE.

⁷The results presented here are almost identical when following the Polity II imputation rules for missing data and thus are not reported.

⁸Due to space constraints other model specifications can be viewed in the online appendix at: <http://home.ku.edu.tr/~mmousseau/>.

TABLE 2 CIE, Democracy and ICB Crisis Onset 1961–2001

	Model I	Model II	Model III
CIE (Low)		-0.35*** (0.11)	-0.44*** (0.11)
Democracy (Low)	-0.10*** (0.03)	-0.06 (0.04)	
Democracy _{binary6}			-0.37 (0.68)
Political Distance	0.80*** (0.15)	0.83*** (0.14)	0.93*** (0.15)
Capability Ratio	-0.28*** (0.09)	-0.31*** (0.09)	-0.31*** (0.09)
Major Power	2.48*** (0.31)	2.63*** (0.29)	2.63*** (0.29)
Contiguity	2.06*** (0.27)	1.98*** (0.27)	2.00*** (0.27)
Distance	-0.65*** (0.09)	-0.70*** (0.09)	-0.70*** (0.09)
Number of States	-0.00 (0.00)	-0.00* (0.00)	-0.01** (0.00)
Intercept	-0.95	0.017	0.64
Pseudo R^2	0.255	0.260	0.258
Pseudo log-likelihood	-1649.1	-1637.8	-1643.1
Observations	301,291	301,291	301,291

±All independent variables lagged one year. Standard errors (in parantheses) corrected for clustering by dyad. Peace years and cubic spline variables not shown for reasons of space.

* $p < 0.10$, ** $p < 0.05$, *** $p < 0.01$

THE INSIGNIFICANCE OF DEMOCRACY IS SIGNIFICANT


DR are correct to point out that the inability to reject the null hypothesis is not the same as the ability to accept the null hypothesis.  That to make this assertion one must “look at the statistical significance of the difference between variables rather than the difference between each variable’s significance levels” (Gelman and Stern 2006:329). Rather than perform this test, however, DR just assumed that the differences between the DEMOCRACY (LOW) coefficients in MOUM Models 1 and 2 are insignificant. We carried out the test.

TABLE 3 Significance of Difference and Decomposition of the Democracy Variables

	Democracy (Low) Model I	Democracy _{binary6} Model II	Democracy (Low) ² Model III
Democracy ^{ReducedModel}	-0.09*** (0.03)	-1.20** (0.59)	-0.005*** (0.01)
Democracy ^{FullModel}	-0.05 (0.04)	-0.42 (0.69)	-0.003 (0.002)
Democracy ^{Difference}	-0.04*** (0.01)	-0.78** (0.19)	-0.002*** (0.00)
Observations	321,811	321,811	321,811
Pseudo R ²	0.25	0.25	0.25

Standard errors corrected for clustering by dyad are in parentheses. ** $p < 0.05$, *** $p < 0.01$. Decomposition of the total effect of the Democracy variables is performed through the KHB method (Karlson, Holm, and Breen 2010), which introduces CIE (Low) into baseline models of Democracy (Low) (Table 1, Model 1), Democracy_{binary6} (Table A1, Model 1) and Democracy (Low)² (Table A1, Model 2) in MOUM 2013. As mentioned in MOUM 2013, Democracy_{binary10} creates a problem of quasi-complete separation and is thus not decomposable.

As can be seen in Model I in Table 3, DEMOCRACY (LOW)^{ReducedModel}, negative (-0.09) and significant ($p < 0.01$), is the total effect of DEMOCRACY (LOW). DEMOCRACY (LOW)^{FullModel}, negative (-0.05) but insignificant ($p = 0.165$) is the direct effect of DEMOCRACY (LOW).⁹ The pivotal indicator proposed by Gelman and Stern (2006) would be DEMOCRACY (LOW)^{Difference}, the difference between DEMOCRACY (LOW)^{Model 1} and DEMOCRACY (LOW)^{Model 2}, and we can see that it is highly significant ($p < 0.001$), meaning that in the MOUM regressions the DP correlation is in fact insignificant. Table 3 also shows that the total effect of DEMOCRACY (LOW) is significant and negative ($\beta = -0.09$, $p < 0.01$). However, decomposition of this variable into direct and spurious effects shows that democracy does not have a direct effect on peace, whereas its spurious effect explained by CIE (LOW), ($\beta = -0.04$), is starkly significant and negative. The measure DEMOCRACY_{binary6} shows an even starker picture: DEMOCRACY_{Reduced Model binary6} has a total effect of -1.20, whereas the direct effect DEMOCRACY_{Full Model binary6} is again insignificant, and the spurious effect is -0.78 and significant, meaning that around 64.8% of this peace effect is significantly explained by CIE (LOW), thus spurious, and what remains—35.2%—is statistically indistinguishable from zero. We also see similar results for the variable DEMOCRACY (LOW)² in Model III.

⁹Gelman and Stern (2006:331) are primarily concerned with the 5% significance level. In our case, the significance levels associated with DEMOCRACY (LOW), DEMOCRACY_{binary6} and DEMOCRACY (LOW)², respectively, are uncomparably high levels of 16.5%, 54.4%, and 17.7%.

THE PROGRESS OF KNOWLEDGE: THE ECONOMIC PEACE
SUPERSEDES THE DEMOCRATIC PEACE

Dafoe and Russett have gone through the MOUM data and claim to have found “massive problems” in our results (p.10); but all they have shown is that it is possible to tweak the MOUM data and make the DP correlation significant with new variables that have no theoretical justification. They have thus made the grave error of equating correlation with causation, overlooking the wider stream of evidence that appears to favor the economic norms explanation over competing explanations for the democratic peace. They also sought to save the DP correlation by advocating a specific measure of a third factor, regime difference, that had previously been shown to artificially inflate the significance of democracy, and with the unsupported assertion that the insignificance of the DP in MOUM is not significant. But the democratic peace cannot stand on a specific and faulty measure of a third variable, and an unsupported assertion cannot override an empirical finding. Using an alternative and legitimate specification of regime difference, and employing the appropriate method for testing insignificance, we showed that the DP correlation is still insignificant across specifications, thereby overturning the primary evidence for the DP causal hypothesis.

Noting the “hundreds of statistical studies” reporting the DP correlation, DR assert that “until the contrary evidence at least partially approaches the supportive evidence, a reader should be wary about rejecting the various causal conjectures of the democratic peace” (p.14); see also Dafoe 2011:14). In fact, there is no scientific basis for being particularly “wary” of a challenging idea simply because a prior correlation has been observed again and again: like the correlation of ice cream consumption with shark attacks, even thousands of studies of the DP correlation would not reduce the odds that a previously untested third variable cannot explain the relationship. New ideas and new third variables *always* arrive without substantial bodies of research behind them, and the large number of studies in the DP research program are no more evidence for democracy causing the DP correlation than they are evidence for economic norms causing it, since the present evidence indicates that all the “hundreds” of prior studies, quantitative and quasi-experimental, were underspecified.

DR also assert, referring to numerous purposed variables in the DP research program, that “it is naive to think that we can easily parse out and estimate the effects of these many potential causes of peace” (p.14). We never said it was easy, but we must make something very clear: it is not any harder to parse out contract-intensive economy from democracy than it was parsing out other variables from democracy back in the day when “hundreds” of prior studies *supported* the democratic peace. Roughly half of all democratic nation-years lack contract-intensive economies, and these nations are not in peace (Mousseau 2012), and in Table 2 (MOUM:26) we

reported only moderate or low correlations of CIE with all the other economic variables in the DP research program.


The assertion that democracy must be a cause of peace because so many studies have said so, the selective neglect of the wider stream of counter-evidence, and the rhetorical labeling of anyone challenging the DP correlation as “naive” to think they can “easily” distinguish democracy from other factors, all remind us of Lakatos’ description of how challenging ideas are often treated by defenders of defeated research programs:

It’s very difficult to defeat a research program supported by talented, imaginative scientists. Alternatively, defenders of the defeated program may offer *ad hoc* explanations of the experiments or a shrewd *ad hoc* “reduction” of the victorious program to the defeated one. But such efforts we should reject as unscientific. (Lakatos 1978:72)

The gravity of this exchange can hardly be overstated: once the heavy rhetoric is plowed aside, it is clear that the strongest effort to save the democratic peace causal hypothesis has not succeeded, and the democratic peace correlation has at long last an explanation that seems to prevail over all others. The economic norms peace now appears as the next progressive step in the democratic peace research program.

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