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# America and the Yuan: A Quantitative Analysis of Opinions at the Industry Level

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**AMERICA AND THE YUAN: A QUANTITATIVE ANALYSIS OF  
OPINIONS AT THE INDUSTRY LEVEL**

By

Kevin Ryan Nowaskey

\* \* \* \* \*

Submitted in partial fulfillment  
Of the requirements for  
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## **ABSTRACT**

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Prof. Bradley Lewis (Economics); Prof. Mark Dallas (Political Science)

Since China’s emergence as a developed economy, its unconventional monetary policies have drawn criticism from foreign trading partners. Despite pressure from Western governments, the People’s Republic continues to maintain a policy of “pegging” the value of the Yuan to the U.S. Dollar. A natural consequence of this has been an outcry for increased trade protectionism in the United States. Contrary to economic intuition, however, not all industries in the United States voice grievance against the Chinese, and some have even opposed protectionist legislation. The economic or other reasons for this private sector divergence of opinion have remained largely unclear. Equally unclear is whether U.S. protectionist legislation is implemented proactively or reactively. I explore various connections to determine what drives U.S. protectionist policies and speculate as to what factors most heavily influence opinions. I hypothesize that the primary determinants are an industry’s exchange rate “pass-through” and its specific exchange rate relative to the real effective exchange rate (REER) of the Yuan. To test the factors identified, I analyze lobbying data for The Currency Reform for Fair Trade Act (2010), which provides a mechanism for entities to call for trade protectionist measures. I find that the REER of the Yuan is the primary factor driving industry opinions on protectionism. I also find that unanimity in opinion for protectionism is most visible at the level of “manufacturing,” while unanimity in opinion against protectionism is most apparent at the level of “non-manufacturing.” Lastly, I find that Congressional responsiveness via protectionist legislation is predominantly reactive.

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## CHAPTER ONE

### INTRODUCTION

#### *A. Background on Exchange Rates and Foreign Trade*

As most economists would agree, “the exchange rate is the most important price in any economy, for it affects all other prices.”<sup>1</sup> Not only does it affect prices in the domestic economy, but a country’s exchange rate has ripple effects on the price of goods for every foreign consumer of its products. Changes in an exchange rate can benefit some industries, harm others, change the purchasing power of foreign citizens and governments, and thrust entire economies into turmoil. With such dramatic potential, decisions over “appropriate” exchange rate policies affecting a currency are inevitably heated, with segments within each side’s economy taking different sides for different reasons, the majority of which are self-serving. Based on characteristics specific to an industry or firm that make it more or less sensitive to changes in exchange rates, it will allocate huge amounts of resources to promote its agenda amongst policymakers. The ongoing debate over China’s depreciated Yuan and its forced “peg” to the U.S. Dollar is no exception to this trend.

#### *B. Historical Background on Chinese Monetary Policy*

In the years leading up to 1994, China maintained an unusual exchange rate regime. Rather than one, universal exchange rate system, China instead had a dual system in which there were two exchange rates for its currency. Similar to its current status, the official system was “fixed” and not subject to a valuation float, while it separately had “a relatively market-based exchange rate system that was used by importers and exporters in ‘swap markets,’ although access to foreign exchange was highly restricted in order to limit imports, resulting in a large black market for foreign exchange.”<sup>2</sup> Rather than a purely market-based system, however, which would dictate one, across-the-board exchange rate, China’s system yielded two different rates. As of 1993, the official Yuan-

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<sup>1</sup> Frieden, Jeffrey A. "The Political Economy of Exchange Rates." P.587

<sup>2</sup> Morrison, Wayne M. and Marc Labonte. 2010. "China’s Currency: An Analysis of the Economic Issues." P.2

Dollar exchange rate was 5.77, while the Yuan held a value of 8.7 against the Dollar in the swap markets.<sup>3</sup> At the time, many in the United States perceived such discrepancies as evidence of foreign import limitation by China.

In 1994, the Chinese central bank modified its dual rate policy, opting to continue the official system of “pegging” the Yuan value to that of the Dollar at an initial exchange rate of 8.70 Yuan-per-Dollar.<sup>4</sup> The Chinese monetary authorities were able to maintain the peg through a process of “buying (or selling) as many dollar-denominated assets in exchange for newly-printed Yuan as needed to eliminate excess demand (supply) for the Yuan.”<sup>5</sup> As is the case with every commodity in the global marketplace, the “price” of a currency is dictated by the forces of supply and demand.<sup>6</sup> The Chinese policy of offsetting market-based changes with countermeasures ensures that their exchange rate is insulated from both supply and demand shocks that would otherwise change its value. While free-market intuition makes such interventionist policies seem detrimental to economic welfare, they bear certain advantages under certain market conditions. Particularly in an economy like China’s, which relies tremendously on export-driven growth, an artificially-depreciated currency results in relatively lower prices for foreign consumers of domestically produced goods. As a result, foreign demand surges, while demand for goods produced by foreign firms declines due to static overall demand. In essence, disabling the free market mechanism for pricing a currency heightens free market demand for goods priced in the currency.

By contrast with the policies of global economic powers that adopted floating exchange rate policies and allowed market forces to control inflation, China’s pegged exchange rate regime kept the value of the Yuan at approximately 8.28 Yuan-per-Dollar from 1994 to July 2005.<sup>7</sup> Over the same time period, as other currencies appreciated naturally and resulted in relative increases in

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<sup>3</sup> Morrison, Wayne M. and Marc Labonte. 2010. “China’s Currency: An Analysis of the Economic Issues.” P.2

<sup>4</sup> Aaron, Mehrotra, and Sanchez-Fung Jose. “China’s Monetary Policy and the Exchange Rate.” P.10

<sup>5</sup> Morrison, Wayne M. and Marc Labonte. 2010. “China’s Currency: An Analysis of the Economic Issues.” P.2

<sup>6</sup> Ibid., P.5

<sup>7</sup> Ibid., P.2

price levels for imported goods, the Yuan and goods valued under it remained comparatively cheap. Such low prices relative to goods produced in foreign countries increased foreign demand for Chinese goods, thereby boosting China's aggregate output and rapidly expanded its macro and micro-economy.<sup>8</sup> The rate of economic expansion in China in recent years is much faster than that in other modern economies, as it experienced annual growth of 10.4% from 2007 to 2009,<sup>9</sup> despite the global recession that slowed or even reversed the growth of other economies.

On July 21<sup>st</sup>, 2005, in light of growing pressure from the international community, particularly its most vocal member on matters of trade, the United States, China agreed to enable the Yuan to become adjustable based on market supply and demand as dictated by movements of currencies in a predefined "basket."<sup>10</sup> The Yuan was allowed to be revalued at 8.11 Yuan-per-Dollar, a 2.1% appreciation from 8.28. As of July 21<sup>st</sup>, 2008, the Yuan had appreciated, albeit much more slowly than most currencies over the same time period, to 6.83 against the Dollar under a system referenced by some as a "managed float."<sup>11</sup> While this appreciation represents an increase in value of roughly 20%, economists specializing in matters of exchange rate policy estimate that the Yuan would need to appreciate an additional 40% to reflect its true market value.<sup>12</sup> Since 2008, however, as a result of the financial crisis driving down foreign demand for Chinese exports, the Yuan was held nearly constant at 6.83 Yuan-per-Dollar until June 2010.

### *C. The U.S. Perspective*

On September 29, 2010, the United States House of Representatives passed H.R. 2378, the *Currency Reform for Fair Trade Act*. As stated in the legislation's text, its purpose is "to amend title VII of the Tariff Act of 1930 to clarify that fundamental exchange-rate misalignment by any foreign nation is actionable under United States countervailing and antidumping duty laws, and for

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<sup>8</sup> Campa, José and Linda S. Goldberg. 1999. "Investment, Pass-through, and Exchange Rates: A Cross-Country Comparison." P.8

<sup>9</sup> Morrison, Wayne M. and Marc Labonte. 2010. "China's Currency: An Analysis of the Economic Issues." P.6

<sup>10</sup> Ibid., P.2

<sup>11</sup> Ibid., P.2

<sup>12</sup> Brown, Alan S. "Manufacturing at the Crossroads." P.31



other purposes.”<sup>13</sup> While the bill’s statement of purpose leaves unspecified the country with which it is most concerned, rhetoric on Capitol Hill and beyond overwhelmingly indicates that its primary, if not exclusive, goal is to mitigate exchange rate “manipulation” by the People’s Republic of China.<sup>14</sup> According to the Library of Congress (THOMAS) summary of the bill, its creation was motivated by the need for an explicit mechanism by which to identify foreign currency manipulators, and provide grounds for a subsequent U.S. trade policy response to countervail the effects of such manipulation. The summary then explains the various criteria required for a country to be formally deemed as a currency manipulator, such as being undervalued by a minimum of 5% in the past 18 months, substantial foreign exchange intervention by the country’s monetary authorities in the same time period, and whether the country’s holdings of foreign currency denominated reserves exceed its debt obligations coming due in the next year.<sup>15</sup> Despite its intended effect of preserving American jobs and protecting export-driven American firms, H.R. 2378 resulted in a sharp polarization in opinion between firms. The economic levels on which opinions with respect to currency manipulation diverge, and the nature of U.S. legislative responsiveness to manipulative practices, however, remain to be determined.

On January 13<sup>th</sup>, 2011, U.S. Treasury Secretary Timothy Geithner publicly criticized China for keeping its currency “substantially undervalued,” thereby imposing “substantial costs on other emerging markets that run more flexible exchange rates, and as a result have experienced a substantial loss of competitiveness.”<sup>16</sup> The U.S. Treasury, which has the final word in officially labeling a country as a “currency manipulator,” has yet to brand China as such, despite America’s trade deficit with the country surging from \$10 billion in 1990 to \$266 billion in 2008.<sup>17</sup> Under

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<sup>13</sup> See Library of Congress HR 2378 full text: <http://www.gpo.gov/fdsys/pkg/BILLS-111hr2378eh/pdf/BILLS-111hr2378eh.pdf>

<sup>14</sup> Morrison, Wayne M. and Marc Labonte. 2010. “China’s Currency: An Analysis of the Economic Issues.” P.1

<sup>15</sup> THOMAS H.R.2378 Summary: <http://thomas.loc.gov/cgi-bin/bdquery/z?d111:HR02378:@@@D>

<sup>16</sup> Katz, Ian. "Geithner Says China Must Boost 'Undervalued' Yuan - Bloomberg."

<sup>17</sup> Morrison, Wayne M. and Marc Labonte. 2010. “China’s Currency: An Analysis of the Economic Issues.” P.5

intense scrutiny from several world powers, however, it appears that China may be positioning to allow gradual appreciation of the Yuan in the near future.

On the receiving end of currency manipulation are industries and their employees in the importing countries who don't have the benefit of a depreciated currency, which has an effect economically equivalent to a subsidy. In the case of the Yuan, these groups overwhelmingly emanate from the United States. The U.S. is China's largest international trading partner, and in 2010 had a trade deficit of \$273 billion with the People's Republic.<sup>18</sup> Put simply, the U.S. imported \$273 billion more in goods and services from China than China imported from the United States. This commerce imbalance is arguably the most tangible statistic explaining the calls for protectionist measures addressing Chinese monetary policies which prevent the Yuan from appreciating against the Dollar.

#### D. *The Yuan and Market Distortion: The Empirical Validity of Allegations*

While a thorough investigation of alternative explanations extends beyond the intent of this project, it is imperative to acknowledge the possibility that actual causality for negative opinions towards Chinese exchange rate policies does not lie solely, if at all, with any measure of the exchange rate between the two countries. Rather, it may be the case that the influential determinant is instead a factor, or a plurality of factors, which emerge as a consequence of public policy.

The overwhelming argument used to back the case for forced appreciation of the Yuan is that which cites its undervaluation as a driving factor behind rising American unemployment. A closer look at empirical data, however, reveals a pattern that sharply undermines this argument. A 2011 study conducted by the Heritage Foundation and the Asian Studies Center illustrates that over the past two decades, periods of rising U.S. unemployment have coincided with discernible *appreciations* of the Yuan. Conversely, during times when the American unemployment rate was

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<sup>18</sup> 2010 U.S.-China Trade Deficit according to the Office of the U.S. Trade Representative (\$273 billion): <http://www.ustr.gov/countries-regions/china>

steadily falling, the Yuan was simultaneously *depreciating*<sup>19</sup>. In other words, recent history directly conflicts with the claim that the value of China's currency is negatively correlated with the American unemployment rate.

While historical trends initially appear to discredit U.S.-based arguments for protectionism against an undervalued Yuan, a more detailed analysis reveals that blame has merely been misdirected. It goes without saying that a wide variety of internal factors influence the value of a country's currency relative to major trading partners. Chief among such factors are those originating from the realm of public policy, particularly in countries whose economy is heavily driven by government intervention, if not outright state ownership.<sup>20</sup> In the case of China, whose economy is overwhelmingly export-based and maintained via mechanisms including state-owned enterprises (SOEs), total control over industry entry/exit, strict limits on and suppression of the growth and scale of privately-owned enterprises and the dissemination of stolen intellectual property,<sup>21</sup> such factors can neither be discounted nor considered independently from exchange rates.

The People's Republic has also been seen taking similar "far beyond permissive" measures to boost exports, ranging from preferential access to bank loans to enhanced tax/tariff relief for state-owned enterprises.<sup>22</sup> Illustrating the enormity of these SOEs, which are regularly given guaranteed revenue and domestic production subsidies, Channel News Asia reported in 2010 that two SOE leaders in the oil and telecom industries declared profits exceeding those of the largest 500 private Chinese firms *combined*.<sup>23</sup> These measures have been statistically proven to have been "an important influence" in sustaining otherwise-impossible volumes of exports.<sup>24</sup>

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<sup>19</sup> Scissors, Derek. "The Facts about China's Currency, Chinese Subsidies, and American Jobs." P.2

<sup>20</sup> Broz, J. Lawrence and Jeffry Frieden. 2006. "The Political Economy of Exchange Rates." P.591

<sup>21</sup> Scissors, Derek. "The Facts about China's Currency, Chinese Subsidies, and American Jobs." P.5

<sup>22</sup> Eckaus, Richard S. "China's Exports: Subsidies to State Owned Enterprises and the WTO." P.3

<sup>23</sup> "China State Giants Outstrip Private Firms," Channel News Asia, August 30, 2010.

[http://www.channelnewsasia.com/stories/afp\\_asiapacific\\_business/view/1077996/1/.html](http://www.channelnewsasia.com/stories/afp_asiapacific_business/view/1077996/1/.html)

<sup>24</sup> Eckaus, Richard S. "China's Exports: Subsidies to State Owned Enterprises and the WTO." P.8

Given that the lopsided trade balance between China and the United States weighs heavily on various exchange rates, notably those weighted by exports and imports, it seems probable that excessive subsidization policies have a substantial degree of influence on the opinions of foreign firms toward their Chinese counterparts. In his testimony before the U.S.-China Economic and Security Review Commission on the distorting effects of Chinese subsidies on international trade, economist Derek Scissors makes the points that these subsidies block exports to China, distort imports from China, damage foreign firms in China, destabilize the world economy, and simultaneously cause overinvestment and under-consumption within the country.<sup>25</sup>

#### *E. The Political Economy of the U.S.-China Exchange Rate Impasse*

The ongoing ambiguity of what accounts for negative perceptions of Chinese monetary policy amongst the U.S. private sector is likely not a result of complexity or misinterpretation, but is instead a likely consequence of the incomplete and intentionally-obstructed view afforded to foreigners by Chinese policymakers. In sharp contrast to the immediate availability of economic and public policy data in modern democracies, comparable statistics for the highly secretive People's Republic are sparse and partially accurate at best, while non-existent or entirely fabricated at worst. However, this lack of transparency might afford some explanatory power in terms of China's decision to "peg" its currency to the Dollar; a highly-transparent policy would be inconsistent with typically tight-lipped Chinese public policy. J. Lawrence Broz argues that "in nations where public decision-making is opaque and unconstrained, governments must look to a commitment technology that is more transparent and constrained (i.e., fixed exchange rates) than the government itself."<sup>26</sup> Clearly, this fits the model of China's exchange rate regime, which openly acknowledges the extent and mechanisms used to maintain the current peg on the bilateral USD/CHY exchange rate.

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<sup>25</sup> Scissors, Derek, "Chinese State-Owned Enterprises and U.S.-China Economic Relations," testimony before the U.S.-China Economic and Security Review Commission, March 30, 2011. <http://www.heritage.org/Research/Testimony/2011/04/Chinese-State-Owned-Enterprises-and-US-China-Economic-Relations>

<sup>26</sup> Broz, J. Lawrence. "Political System Transparency and Monetary Commitment Regimes." P.2

Continuing with a political framework, exchange rate policy is not limited in its implications as merely being a reflection of transparency. Recent research identifies two pressures that act for or against coordination and cooperation in international affairs. The first of these pressures follows that “exchange rate policies have *electoral* implications. The exchange rate is such an important price that politicians may wish to manipulate it for the purpose of winning elections, rather than stabilizing an international regime.”<sup>27</sup> Although China’s system of government is not nearly as transparent or democratic as other governments presiding over modern economies, its leaders are still elected by eligible voters as representatives of the one ruling party. This one-party regime is almost certainly the explanation behind the minimal linkage of exchange rate policy with electoral considerations. Given an absence of policy alternatives stemming from one-party rule, considerations afforded to voters in decision-making are limited to personal attributes of the candidates or minor ideological discrepancies with competing candidates. The absolute control enjoyed by the Communist party ensures that no candidate has the ability to pursue, or even propose pursuing, a change as dramatic as instating a floating exchange rate system. In light of this obvious barrier, considering this as a functional pressure in the context of China would not be a relevant undertaking. However, in countries with floating exchange rate systems influenced solely by market forces, exchange rate policy bears heavily on electoral considerations. While the very nature of floating exchange rate systems prevents policymakers from directly affecting the value of currency, more likely electoral considerations include stances toward policies addressing foreign currency practices, the central bank, and international trade.<sup>28</sup>

While exchange rate policies substantially affect elections in robust, modern economies, they do so to an even greater extent in developing countries with no clearly established monetary policy or even those developed countries seeking to fundamentally change their exchange rate system. In such cases, the two decisions facing policymakers are far more drastic in their

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<sup>27</sup> Frieden, Jeffrey A. "The Political Economy of Exchange Rates." P.591

<sup>28</sup> Ibid., P.594

implications. The first is the choice of regime type, which is typically the decision between allowing the currency to float freely against others versus actively “pegging” it to some recognized, stable currency. Recent studies have concluded that this choice is often contingent on the type of political regime in place. Non-democracies more often opt for fixed exchange rate regimes than do democracies, having a greater ability to do so by virtue of their greater insulation from both foreign and domestic audiences.<sup>29</sup> The second choice can be made only after making the first, being that of deciding the target exchange rate in domestic and international terms. This decision is arguably more significant than the first, as it entails the “political-economy trade-off between *competitiveness* and *purchasing power*.”<sup>30</sup> The rationale behind these options will be discussed in greater detail throughout subsequent sections, but it goes without saying that these are of utmost importance to the citizens of every country and are thus carefully considered by political candidates.

This second pressure is described by noting that “exchange rate policies involve trade-offs with the domestic *distributional* implications.”<sup>31</sup> In the case of China, these implications have been sharply pronounced in the form of domestic under-consumption and overinvestment. While a depreciated Yuan encourages foreign consumption of Chinese goods, which are made cheaper by depreciation, it acts conversely on the prices of domestic goods. Put simply, in order to maintain an export-based, exchange-rate fueled economy, Chinese citizens have to dole out more Yuan for domestic purchases than they would otherwise. Despite this burden on its citizens, Chinese policymakers have likely weighed their alternatives and concluded that the foreign trade advantages yielded by the currency peg outweigh the consequences of having a warped distribution of domestic goods. Regardless of exchange rate type, though, “export and import competing industries lose and domestically oriented (non-tradeables) industries gain from currency

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<sup>29</sup> Broz, J. Lawrence. "Political System Transparency and Monetary Commitment Regimes." P.2

<sup>30</sup> Frieden, Jeffrey A. "The Political Economy of Exchange Rates." P.592

<sup>31</sup> Ibid., P.591

appreciation.”<sup>32</sup> Bearing this in mind, policymakers are reasonably able to predict the distributional effects of a particular policy seeking to appreciate or depreciate a currency, thereby realizing the subsequent political repercussions that will consequently work either for or against them in terms of electability.

While such political economy considerations are worthy of future research and discussion, they are only relevant for purposes of this project to the extent that they bear on private sector opinions and legislative responsiveness in the context of foreign exchange.

#### F. *Divergence in Private Sector Opinions*

Within the American private sector, opinions as to the efficacy and consequences of the most recent protectionist legislation vary to a significant extent. On the one hand, groups in support of what they perceive as an overdue protectionist measure cite substantial employment outsourcing and diminishing relative competitiveness as grounds justifying such a measure.<sup>33</sup> Members of this contingent likely perceive exchange rate manipulation as a quasi-subsidy enjoyed by foreign producers which affords them a comparative advantage in price competition. Additionally, given that production is cheaper when priced in a depreciated currency, this side of the debate cites the incentive for U.S. multinationals to shift production, and thus employment, to China in order to take advantage of Yuan-denominated pricing. It is this element of their argument which could potentially explain the dramatic decrease in manufacturing employment in the U.S., which dropped from 18 million workers in 2000 to 12 million less than a decade later in 2009.<sup>34</sup> On the other hand, groups opposing the intervention defend their opinion by pointing to the possible disruption of free-market efficiency, a relative cost increase of imported inputs of production, the possibility of triggering a “trade war” with one of the U.S.’s biggest trading partners, and their conclusion that the bill’s intended effects will fail to materialize in the economy.

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<sup>32</sup> Frieden, Jeffrey A. "The Political Economy of Exchange Rates." P.594

<sup>33</sup> Brown, Alan S. "Manufacturing at the Crossroads." P.33

<sup>34</sup> Ibid., P.31

Among corporations opposed to intervention, the most significant of these motives is likely that of exchange-rate-driven cost increases. A significant appreciation of the Yuan would translate into higher inputs of production costs for U.S. businesses importing such inputs from China, and these firms would then be faced with a decision to either pass on the costs to their consumers, thereby diminishing their relative competitiveness as prescribed by the free market, or absorb the costs internally, resulting in financial damages that may only be sustainable in the short-term. The potential “trade war” this same contingent cautions against would have the same effect: out of retaliation for forcing the Yuan upwards, China might impose tariffs on U.S. imports or tax U.S. business operations in China more heavily, both of which would increase the cost of production for any U.S. business involved.

While the opinions of nearly every American industry have been publicly voiced to varying degrees, it remains largely ambiguous as to the industry or firm-specific factors which most heavily influence opinions on the issue. Similarly unclear is the level on which opinions are formed, a question that inherently depends on the factors identified as stimuli. Such ambiguity gives rise to the question of whether all firms within an industry are unanimous in their opinion as to how, if at all, to address the issue and whether there are firm-specific factors that take precedence over broader, industry-level factors. In layman’s terms, is variance in opinion on this issue most prominently observed at the macro, industry level, or the micro, firm level? Answering this question would enable lawmakers and businesses alike to empirically speculate as to the probable impact of currency reform legislation on the American economy. If, for instance, a high degree of variance in opinion is found at the *firm* level, thus suggesting the probable effects of passing H.R. 2378 on U.S. industries will be variable and potentially unpredictable, the Senate would likely conclude that the potential consequences of passing the bill outweigh the benefits. If, on the other hand, firms within major industries are found to be generally unanimous in their positions for or against H.R. 2378, the Senate could make an empirically-grounded decision based on whether the macro-economic benefits for the firms in favor of the legislation outweighed the



macro-economic consequences, including the possible “trade war” with China predicted by industries opposing the bill. As it currently stands, published research quantifying cohesion of opinion within industries on the issue of currency reform is narrow in scope and incomplete in conclusion,<sup>35</sup> while research addressing the matter explicitly with respect to H.R. 2378 is nonexistent.

Given that research examining deviation in opinions on this issue at the industry level has largely failed to materialize in scholarly literature, studies addressing the issue at the firm level are even scarcer. The research question best addressing this micro-level issue, however, can be stated as follows: Have U.S.-based multinationals become so multinational that their label as “American” is nothing more than just that? Placing the question in the context of currency manipulation, are most globally-intertwined multinationals benefiting from currency manipulation by China, so much so that they have become disinterested to its effect on their dollar-denominated operations? It is important to note, however, that even in the same industry, no two multinationals have the same invested stake in China, and thus there must be a demarcated threshold separating firms that would rather see a continuously depreciated Yuan from those that have an interest in seeing the currency strengthen relative to the dollar. It is this question of just how “American” are multinational entities based in the U.S. that allows for an analysis of variance at the firm level within industries.

#### *G. Addressing Foreign Exchange Grievances: The Role of the International Trade Administration*

To preface the evaluation of the level on which opinions pertaining to currency reform are formed, a discussion of what quantifies the private sector attitude towards trading partners’ foreign exchange policies is necessary. Aside from directly influencing proposed legislation by means of lobbying and “buying” relationships with representatives via campaign contributions, firms and industries in the United States can voice their grievances on foreign exchange rate abuses by filing “anti-dumping” petitions with the International Trade Administration (ITA), which operates under

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<sup>35</sup> Eichengreen, Barry, and Hui Tong. “The External Impact of China's Exchange Rate Policy: Evidence from Firm Level Data” P.16

the Executive branch as an agency within the U.S. Department of Commerce. The agency, though initially created to protect domestic industries from unfair foreign trade practices via the offset of such abuses by means of subsidies and tax rebates, now must also “confront foreign governments and their firms in the process of implementing U.S. trade laws.”<sup>36</sup> The ITA has independent decision-making power in terms of its discretion in declaring a particular grievance as founded or unfounded but is still subject to oversight by the Department of Commerce, and thus the Treasury and White House. The extent to which partisan oversight influences the agency’s rulings, however, remains undetermined.

Though the ITA has no direct power to *create* legislation for approval by Congress, its enforcement branch, the Import Administration, does have the authority to implement countervailing subsidies and create information-gathering programs to protect specific U.S. industries. One such program currently in effect is the Steel Import Monitoring and Analysis System (SIMA), which gathers and publishes information about steel product imports to the United States. According to its description, the system serves the U.S. steel industry using “two tools: the steel licensing program and the steel import monitor.”<sup>37</sup> The former allows U.S. businesses importing steel products to obtain licenses to do so more quickly, while the latter monitors the pricing and quality of steel imported to the U.S. relative to domestically-produced steel. In the event that the tools at its disposal are insufficient to address perceived trade manipulation, the agency may use its discretion and make recommendations to Congress as to the appropriate and effective course of action, including formal legislation and direct negotiations with the country or entity(s) involved.<sup>38</sup> In the specific context of H.R.2378: *The Currency Reform for Fair Trade Act*, the ITA is given the authority to determine whether or not manipulation by a given country has

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<sup>36</sup> “Nation-State and Pluralistic Decision Making in Trade Policy: The Case of the International Trade Administration.” P.182

<sup>37</sup> See “Steel Import Monitoring and Analysis System” <http://ia.ita.doc.gov/steel/license/index.html>

<sup>38</sup> See “How is dumping remedied?” in ITA FAQ Section: <http://trade.gov/faq.asp#dumping>

occurred and subsequently impose a counteracting tariff or subsidy to protect the international competitiveness of American businesses.<sup>39</sup>

While the ITA's current scope of authority extends far beyond its original purpose, this project will not consider any functions beyond the evaluation of dumping petitions filed by U.S. industries. According to the ITA's website, "dumping" occurs "when a foreign producer sells a product in the United States at a price that is below that producer's sales price in the country of origin (home market), or at a price that is lower than the cost of production."<sup>40</sup> When a U.S. industry comes to the consensus that a foreign country is dumping to the detriment of the industry's competitiveness in the domestic economy, "it may request the imposition of antidumping or countervailing duties by filing a petition (with the International Trade Administration)."<sup>41</sup> These petitions are recorded, evaluated, and subsequently acted on based on the consensus of the Department of Commerce and the ITA commission that "the imported products of foreign firms sold at less than fair value, or the foreign firms are instead taking advantage of their government's subsidization policies. The ITA's commission, the International Trade Commission, officially charges a foreign firm or firms with dumping if the price charged in the U.S. is lower than the foreign market value of the product, measured by the price foreign exporters charge in their domestic markets on other trading partners' markets."<sup>42</sup> The secretive nature of the evaluation and deliberation process makes it difficult to identify which of the two government entities exerts the majority of influence in resolving issues pertaining to international trade. Charging a country with dumping results in an order to the U.S. Customs Service to assess and impose a tariff on its imports to the United States, thereby increasing the price of the imported product and helping U.S.

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<sup>39</sup> See THOMAS H.R.2378 Summary: <http://thomas.loc.gov/cgi-bin/bdquery/z?d111:HR02378:@@D>

<sup>40</sup> See "Dumping" in ITA FAQ Section, <http://trade.gov/faq.asp#dumping>

<sup>41</sup> See "How is dumping remedied?" in ITA FAQ Section: <http://trade.gov/faq.asp#dumping>

<sup>42</sup> "Nation-State and Pluralistic Decision Making in Trade Policy: The Case of the International Trade Administration." P.183

industries compete more effectively with the sanctioned country.<sup>43</sup> While the process is reasonably accessible, the relief it provides typically takes over a year to fully materialize. According to a statement on Import Administration's information page, the process from the time of petitioning to the imposition of countervailing measures is generally completed "within 12 to 18 months."<sup>44</sup> This raises the question of whether such a tedious process deters some, if not a majority, of potential petitioners. An additional deterrent is the likelihood of inaction on their petition. This is particularly the case when, due to sensitive political relationships like the one which currently exists between the U.S. and China, policymakers are hesitant to ruffle the proverbial feathers. Like any form of accusation levied in the international community, "unfair" practice allegations validated by the ITA have "important ramifications for political as well as economic relationships between the U.S. and foreign countries."<sup>45</sup> If these two deterrents even moderately affect decisions to file anti-dumping petitions, the extent of U.S. private sector resentment with respect to unfair trade practices must be vastly understated.

While every industry in the United States is eligible to file and pursue anti-dumping petitions, records indicate that both industries and individual firms are highly dissimilar in their frequency and intensity of use. Existing research fails to identify or even speculate as to specific characteristics which explain this high variance. Of the prior attempts to establish a relationship between a quantifiable industry or firm-specific variable and the extent to which such an entity makes use of anti-dumping provisions, some end abruptly at the broad conclusion that there is variance based on unspecified "changes over time in industry exposure to international trade."<sup>46</sup> Other studies speculate that the explanation lies with factors such as import and export shares of an

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<sup>43</sup> Nation-State and Pluralistic Decision Making in Trade Policy: The Case of the International Trade Administration." P.183

<sup>44</sup> "Import Administration." International Trade Administration. Web. 15 Jan. 2012. <http://trade.gov/ia/>

<sup>45</sup> Nation-State and Pluralistic Decision Making in Trade Policy: The Case of the International Trade Administration." P.206

<sup>46</sup> Goldberg, Linda S. 2004. "Industry-Specific Exchange Rates for the United States." P.7

industry, product differentiation relative to foreign competitors, and capital-to-labor ratios.<sup>47</sup> Aside from the fact that all but the latter factor are very difficult to quantify in a way that would allow for an empirical comparison, such explanatory variables would likely preclude any analysis from venturing beyond the industry level to an examination of individual firms. In contrast, some other projects identify the most prolific users of trade protection mechanisms, noting that “steel and steel-related industries are by far the largest users of U.S. unfair trade laws,”<sup>48</sup> yet these analyses all stop short of making assertions as to what factors underlie this finding. It is interesting to note, however, that while some industries utilize unfair trade mechanisms more heavily than others, the ITA is seemingly “blind” to industry when making its rulings. Since 1995, for instance, the agency has issued favorable rulings to domestic petitioner in 75% of dumping cases, independent of industry or firm-specific characteristics.<sup>49</sup>

#### *H. Exchange Rate Pass Through*

One possible factor that might explain firm-level divergence is the degree of exchange rate “pass-through” ability a particular firm has by virtue of their reputation, industry, or geographic location. While firms within an industry generally have similar amounts of pass-through ability, some have more than others depending on varying degrees of differentiation, reputation, and market share. Exchange rate pass through might be the factor omitted by scholars who merely come to the largely unexplained, albeit prevalent conclusion that “exchange rate changes can trigger vastly different pressures on producers in different industries.”<sup>50</sup> Exchange rate pass-through has not been thoroughly evaluated as a causal regressor affecting differences in exchange rate pressure and sensitivity felt by firms or industries. Exchange rate pass-through is formally defined as “the percent change in import (or export) prices for a percent change in the exchange

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<sup>47</sup> Yang, Jiawen. 1998. “Pricing-to-Market in U.S. Imports and Exports: A Time Series and Cross-Sectional Study” P.844

<sup>48</sup> Hansen, Wendy L., and Kee Ok Park. 1995. “Nation-State and Pluralistic Decision Making in Trade Policy: The Case of the International Trade Administration.” P.191

<sup>49</sup> Nation-State and Pluralistic Decision Making in Trade Policy: The Case of the International Trade Administration.” P.207

<sup>50</sup> Goldberg, Linda S. 2004. “Industry-Specific Exchange Rates for the United States.” P.2

rate.”<sup>51</sup> Thus, firms most sensitive to exchange rate fluctuations are usually exported-oriented with a high degree of foreign competition and low degree of differentiation, as their relative competitiveness with foreign producers would be significantly diminished if they “passed-through” exchange rate costs to their consumers. Consumers of goods traded by such firms would simply purchase the product from a foreign producer whose price was unaffected by the exchange rate fluctuation and was thereby comparatively cheaper. Recognizing the likelihood of this shift, affected firms sometimes opt to keep prices constant in order to retain their consumer base and preserve their established reputation, despite the long-term consequences posed by the shock if the exchange rate fails to revert from its detrimental level.<sup>52</sup> Given that this intuition obeys widely recognized free-market intuition, pass-through likely affects the degree of an industry and its firms’ foreign exchange sensitivity, and grievances related to such sensitivity can be quantified via anti-dumping petitions.

Considering pass-through as a factor influencing the degree to which an industry is sensitive and formally responds to exchange rate fluctuations is a time-worthy endeavor for a number of reasons, but one stands out as particularly consequential. If pass-through is identified as the primary factor, policymakers and economic leaders would have the ability to project the probable effects of exchange rate fluxes, and preemptively counteract changes to keep domestic industries globally competitive. Such steps might include the subsidy of production costs for producers, purchase cost for consumers, or tax incentives for either party. Especially in a time of outsourcing attributable to rising production costs in the U.S. coupled with falling production costs in emerging markets, policymakers need to enhance their ability to protect American industries and their domestic operations.

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<sup>51</sup> See Econbrowser: “Exchange Rate Pass-Through”,  
[http://www.econbrowser.com/archives/2006/05/exchange\\_rate\\_p.html](http://www.econbrowser.com/archives/2006/05/exchange_rate_p.html)

<sup>52</sup> Yang, Jiawen. 1998. “Pricing-to-Market in U.S. Imports and Exports: A Time Series and Cross-Sectional Study” P.847

## I. Industry-Specific Exchange Rates

Reverting to the discussion of anti-dumping petitions and their functional purpose in the private sector, another lens under which they could be considered is via their correlation to *industry-specific* real exchange rates, which are determined and published by the Federal Reserve Bank of New York on a quarterly basis. The bank explains that the rates are weighted by a consideration of numerous factors that other measures of exchange rates typically omit, including pass-through, industry position in the economy, foreign and domestic competitive standing, and the average share of revenue earned from exports versus imports for a given industry.<sup>53</sup> Explaining how these figures can be interpreted for use in an analysis, they describe that the exchange rates “are defined as foreign currency per unit of U.S. dollar, so that an increase (decrease) is a dollar appreciation (depreciation).”<sup>54</sup> Interestingly, in a formal publication released by the New York Fed, it is noted that the construction of such specific exchange rates is largely motivated by the inconsistent impact of exchange rate fluctuations on different players in the private sector. Writing on behalf of the *Economic Policy Review* and the Federal Reserve Bank of New York, Linda Goldberg notes that “Although some industries are made worse off by real dollar depreciations,” which can be considered equivalent to real Yuan *appreciations* for purposes of this project, “on average the profits of U.S. producers rise.”<sup>55</sup> It is subsequently observed that this inconsistency owes itself to the varying proportions of industries’ revenue composed of exports versus imports, as major currencies “generally have a stronger presence in U.S. exports than imports.”<sup>56</sup> In light of this discrepancy, additional measures which are weighted by export and import intensity, such as industry-specific exchange rates, are useful when considering the effect of foreign exchange rate fluctuations on certain industries in the United States. The variables incorporated in calculating these rates include the share of industrialized economies in U.S. exports, denoted “M”, the share of

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<sup>53</sup> See Fed. Reserve Bank of NY on industry-specific exchange rates

[http://www.ny.frb.org/research/global\\_economy/industry\\_specific\\_exrates.html](http://www.ny.frb.org/research/global_economy/industry_specific_exrates.html)

<sup>54</sup> See: [http://www.ny.frb.org/research/global\\_economy/industry\\_specific\\_exrates.html](http://www.ny.frb.org/research/global_economy/industry_specific_exrates.html)

<sup>55</sup> Goldberg, Linda S. 2004. “Industry-Specific Exchange Rates for the United States.” P.2

<sup>56</sup> Ibid., P.3

these same countries in U.S. imports, denoted “X,” the real exchange rate of the U.S. Dollar weighted by the currencies of the five largest U.S. trading partners, denoted “rer,” and the overall trade-weighted real exchange rate of the U.S. Dollar, denoted “ter”.

The equation as formally stated by the Federal Reserve Bank of New York, is as follows<sup>57</sup>:

$$ter_t^i = \sum_c \left( \left( .5 \frac{X_t^{ic}}{\sum_c X_t^{ic}} + .5 \frac{M_t^{ic}}{\sum_c M_t^{ic}} \right) \cdot rer_t^c \right)$$

#### J. Real Effective Exchange Rates (REER)

The effect of industry-specific rates on anti-dumping petitions by industry will not be considered as a standalone relationship, but is rather done via a chronological comparison of the volume of petitions filed, the industry-specific exchange rate for each industry segment, and the real effective exchange rate (REER) of both the Chinese Yuan and the U.S. Dollar in a respective year. Existing research utilizes nominal and broad-spectrum real exchange rates for similar purposes, but fails to yield any compelling conclusions due to the lack of movement in the Yuan’s value by those measures.<sup>58</sup> By utilizing the real *effective* exchange rate (REER), however, which accounts for what exchange rates *should* have been based on average foreign and domestic levels of inflation and purchasing power while incorporating trade balances,<sup>59</sup> industry-specific exchange rate changes could be more conclusively identified and linked directly to China in identifying a causal relationship with anti-dumping petitions.

<sup>57</sup> See Fed. Reserve Bank of NY on industry-specific exchange rates

[http://www.ny.frb.org/research/global\\_economy/industry\\_specific\\_exrates.html](http://www.ny.frb.org/research/global_economy/industry_specific_exrates.html)

<sup>58</sup> Knetter, Michael and Thomas Prusa. 2003. "Macroeconomic Factors and Antidumping Filings: Evidence from Four Countries."

<sup>59</sup> Investopedia: "Real Effective Exchange Rate (REER) Definition." <http://www.investopedia.com/terms/r/reer.asp>



To further narrow the parameters of this project to China, only those anti-dumping petitions which specify China as the target country will be included. Based on the strength and direction of the correlation, if it exists at all, several conclusions could be reasonably inferred. First, holding U.S. REER constant, if a broad comparison of anti-dumping petitions against China in the U.S., industry-specific exchange rates, and the Yuan REER indicates a statistically significant, negative relationship between Yuan appreciation and the number of overall petitions, it would indicate that U.S. industries' perceptions of exchange rate abuses by foreign governments are, to some extent, influenced by their given industry's exchange rate as influenced by the real effective exchange rate of China. Thus, the ITA and other trade-related bureaus of the government would have a greater deal of direction in deciding which factors to more closely consider in the mitigation of foreign exchange abuses alleged by U.S. industries. Such a finding might also facilitate more dramatic changes in U.S. foreign exchange rate policy. Such changes could include legislation explicitly specifying China as the target country, or the imposition of a permanent, across-the-board tariff on both inputs of production and final, finished goods imported from China.

To control for the effect of industry specific exchange rates with respect to changes in the Chinese exchange rate, analyzed separately from the real effective exchange rate (REER) of the Yuan and the Dollar is the bilateral exchange rate, quoted as annual average Yuan-per-Dollar. It is worth preemptively noting that the regressions verifying the results yielded by the REERs via replacing them with real bilateral exchange rates in identical regressions returned the same correlations, and thus, analogous conclusions. Given that including these synonymous results adjacent to those yielded by the REER data would be redundant and improperly elevate them beyond an ancillary role, they are instead located in Appendix A.

### *K. Data Interpretation*

While the results of our analysis may have broad implications for U.S. foreign policy, this project aims to narrow the scope of interpretation even further. To identify whether opinions across industries align on the issue, the aforementioned data will be primarily interpreted as follows:

If industry-specific exchange rates are insignificant in their effect on anti-dumping petitions when considered simultaneously with the Dollar REER, which proves relatively significant in its comparison, it can be inferred that across the broadest measures of industry (manufacturing vs. nonmanufacturing), there is general consensus in opinion, which will be assumed to hold true for the subcategories of these two segments.

If the significance of the U.S. Dollar REER disappears when industry-specific exchange rates are considered simultaneously with the Yuan REER by their effect on anti-dumping petitions, it can be reasonably assumed that across the broadest categories there are diverging opinions, but there still may be an agreement across *sub*-industries (e.g. metal manufacturing, textile products).

If the significance of *both* the U.S. REER and industry specific exchange rates drop to insignificant in their effect on petitions, there must be firm-level characteristics below those specific to industries which account for divergence in opinion on the Yuan exchange rate.

While the private sector is the segment most pronouncedly affected by exchange rate changes and makes the impact of changes clear via prices and petitions, its firms and industries have a limited ability to address such changes independently. Equally important to an evaluation of the level on which foreign exchange attitudes are shaped is a determination of how those attitudes are addressed and represented in legislation. Any conclusions pertaining to factors or characteristics determining the sensitivity of a firm or industry to exchange rate fluctuations, after all, would be rendered irrelevant if policymakers were found to be uninfluenced or even unresponsive altogether to petitions and foreign exchange shocks. One angle from which political responsiveness to private sector grievances in this context can be measured is through a chronology of anti-dumping petitions filed and legislation categorized as “import regulation”. This will allow for a determination of the degree to which the mechanism serving to express the foreign exchange complaints of U.S. industries and inspire legislation addressing such complaints is adequately responsive and functional in practice. Existing work addressing the question of political responsiveness to foreign exchange manipulation fails to specify if the inspiration for responses

was petitions filed by affected industries or the U.S. government's independent recognition of the manipulation and a subsequent decision to address it. As an illustration, Hanson and Park (1995) conclusively identify the steel industry as that which petitions for and secures the most protection from the U.S. government,<sup>60</sup> but leave open to speculation the probable explanation as to why that is. Recognizing the shortcoming of their research, the two scholars explicitly encourage future research to broaden in scope so as to consider causal explanations, including "domestic political factors", "national interest factors," and "international relations factors."<sup>61</sup>

Regardless of whether a relationship exists between anti-dumping petitions and import regulatory measures proposed simultaneously, an examination of whether the U.S. government independently recognizes and addresses the effects of exchange rate fluctuations is a necessary undertaking. While holding the number of anti-dumping petitions constant, evaluating the quantity of trade regulatory measures with respect to industry-specific exchange rates and anti-dumping petitions filed by individual industries against China will allow for a conclusion as to whether the U.S. government *proactively* recognizes the value of the Yuan as having significant implications for American industries and firms. The alternative and more likely case, though, is that the majority of U.S. legislative responses are the product of Congress' tendency to be *reactive* to private sector currency concerns, formally voiced by industries and firms via anti-dumping petitions.

Given that all legislation proposed in Congress since 1949 is centrally recorded and identified by multiple categories and subcategories of issue type, attempting to identify a positive correlation between the number of proposed pieces of relevant legislation and anti-dumping petitions filed at the same time is a viable task.

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<sup>60</sup> Hansen, Wendy L., and Kee Ok Park. 1995. "Nation-State and Pluralistic Decision Making in Trade Policy: The Case of the International Trade Administration." P.197

<sup>61</sup> Ibid., P.207

## CHAPTER TWO

### CASE STUDY: H.R. 2378 (2009-10), “THE CURRENCY REFORM FOR FAIR TRADE ACT”

In order to observe the perspectives mentioned above in a context which elicits a wide variety of highly polarized opinions, the starting point for my analysis is a case study of a pertinent U.S. legislative measure. As highlighted earlier, due to its potentially aggravating effect on economic relations between the U.S. and China, and its likely detriment to American importers of goods from China, the 2010 bill has drawn controversy and support from both sides of the Congressional aisle and a wide array of groups in the private sector. Interestingly, however, as a consequence of a trade dispute being with a major trading partner and world power, the conventional route of mitigation through the ITA and Department of Commerce is entirely omitted in news media reports on the bill. The likely explanation behind this is that firms and industries recognize the futility of filing petitions against China, as the ITA would be very unlikely to take conciliatory measures that risked igniting a trade war with the world’s second largest economy and primary U.S. trading partner. According to the Congressional Budget Office (CBO), the bill “would expand the definition of countervailing subsidies—financial benefits granted by governments to certain domestic exporting firms—that could trigger the imposition of additional import tariffs under current U.S. countervailing duty law. This bill would add to the list of such subsidies the benefit enjoyed by a firm exporting from a country with a ‘fundamentally undervalued’ currency’. The bill specifies the mechanisms for determining the size of this subsidy and for identifying a fundamentally undervalued currency.”<sup>62</sup> Thus, the legislation would enhance the ability of the U.S. government to *proactively* identify and address currency manipulation by foreign monetary authorities. Prior to the introduction of H.R. 2378, as stated earlier, the primary means by which U.S. authorities could begin an investigation of currency manipulation was in

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<sup>62</sup> CBO Cost Estimate: H.R.2378: <http://www.cbo.gov/ftpdocs/119xx/doc11913/hr2378.pdf>

response to anti-dumping petitions filed by U.S. industries or interest groups, rather than their being able to independently intervene based on its independently-derived perceptions.

Additionally, given the enhanced ability of U.S. authorities to impose countervailing tariffs and subsidies in the event that they identify currency manipulation, the CBO projects the bill to raise federal revenues by \$125 million by the year 2020, with no peripheral effects on direct spending.<sup>63</sup>

Following its approval in the House of Representatives on September 29<sup>th</sup>, 2010, H.R. 2378 was subsequently sent to the Senate, where it presently remains in lieu of a more detailed analysis by the Senate Committee on Finance. The CBO analysis continues a discussion of fiscal implications for the government itself, but stops short of speculating on the potential costs incurred by the U.S. private sector as a consequence of appreciated foreign currencies or retaliatory monetary policies. According to some scholars, however, omitting this consideration makes for an incomplete analysis, as doing so only accounts for a fraction of the groups affected by trade policy decisions. While the effect on government finances is substantial, “three actors are involved in the process: interest groups, politicians, and bureaucrats. Interest groups seek to maximize their wealth by lobbying politicians, politicians seek to maximize their political support from interest groups by delivering interest group pressures to bureaucrats, and bureaucrats seek to maximize agency budgets, subject to politicians’ rewards and sanctions.”<sup>64</sup> Intuitively, then, an analysis of trade policy requires a consideration of the aforementioned perspectives, which shift the focus to more narrow interests, rather than merely projecting the policy’s effect on government spending power.

As is the case when most pieces of legislation are being debated by Congress, an even more intense debate is taking place within the private sector. Unlike the debate within government, however, which is constrained by traditional avenues and mechanisms by which legislators may voice the opinions they perceive from their constituents, the private sector utilizes lobbying and other forms of unconventional leverage to promote firm and industry interests. H.R. 2378 is by no

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<sup>63</sup> CBO Cost Estimate: H.R.2378: <http://www.cbo.gov/ftpdocs/119xx/doc11913/hr2378.pdf>

<sup>64</sup> Hansen, Wendy L., and Kee Ok Park. “Nation-State and Pluralistic Decision Making in Trade Policy: The Case of the International Trade Administration.” P. 185

means an exception to this tendency, but has rather become something of an anomaly on the upper- bounds of lobbying intensity. According to the Center for Responsive Politics (CRP), a nonpartisan, non-profit, money-tracking government watchdog, over 80 individual firms and associations have filed 221 reports in either support or opposition to the bill, with total spending exceeding \$100 million.<sup>65</sup> While these figures seem excessively high at first glance, it is noteworthy to point out that many of these groups lobbied as individual firms as well as via their relevant interest groups with other firms in their industry, and such instances can be grouped together by industry or lobby group association for purposes of a more concise analysis. Table 1 contains, in alphabetical order, the industries and interest groups that were reported to have lobbied for or against H.R. 2378.

The documentation backing a particular group's stance towards H.R. 2378 is readily available online, sans an identification of the influencing factors. While these factors will be eventually addressed, doing so must be prefaced with a breakdown of the explicitly stated arguments behind the various groups' positions on the bill. An analytical dissection of every position for or against would be unfeasible and redundant, however, as groups sharing the same broad opinion generally highlight similar, if not identical reasons for doing so.

Beginning with those groups *supporting* H.R. 2378 via their lobbying efforts, the Alliance for American Manufacturing cites an ongoing threat to U.S. manufacturing jobs, the historical success of currency reform measures, and the sheer size of its supporting contingent of firms as grounds for the U.S. House of Representatives to pass the bill.<sup>66</sup> More specifically, the group estimates that from 2001 to 2008, currency manipulation by China alone has eliminated or displaced 2.4 million American jobs, and speculates that additional U.S. job losses will range from 512,000 to 566,000 annually if the situation continues to go unchecked. The group proceeds to

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<sup>65</sup> "Lobbying Spending Database H.R.2378, 2010. <http://www.opensecrets.org/lobby/billsum.php?id=107205>

<sup>66</sup> "The Alliance for American Manufacturing: Official Position on *the Currency Reform for Fair Trade Act*." Letter to U.S. House of Representatives. <http://www.americanmanufacturing.org/wordpress/wp-content/uploads/2010/09/aam-currency-support-letter92810.pdf>

highlight the efficacy of aggressive, confrontational legislation in the past in order to predict that similarly favorable results would be produced by H.R. 2378, noting that in the face of intense U.S. Senatorial pressure in 2005, the Chinese authorities allowed the Yuan to appreciate by nearly 21% before 2008. The final assertion made by the Alliance holds that successfully passing the legislation would be in the interest of the majority of the private sector and its employees, as what it describes as “hundreds of companies, associations, and other organizations” stand with it in supporting the passage of H.R. 2378.<sup>67</sup> As noted earlier, though, the letter does not reference specific characteristics shared by firm or industry members which influenced their position in favor of the legislation, and the letter limits the extent of its argument to merely outlining the detrimental effect of currency manipulation on American workers and the U.S. economy *as a whole*, rather than isolating specific sectors where injurious effects would be most pronounced.

Advocating for the *Currency Reform for Fair Trade Act* along similar lines, the International Association of Machinists and Aerospace Workers takes a comparable macroeconomic perspective in conveying its members’ support for the legislation. The Association identifies the growing U.S. trade deficit with China, the apparent futility of diplomatic conciliatory measures, and the declining health of the U.S. economy as the primary factors underlying its support for H.R. 2378.<sup>68</sup> The group’s letter to the House of Representatives makes an unverified claim that the Yuan is currently kept between 35 and 40 percent below its true value, and observes that this undervaluation is the primary cause of the \$600 billion U.S.-China trade deficit existing as of 2009. The staggering trade deficit, it declares, is “like a cancer eating away at the heart of the American economy.”<sup>69</sup> The letter proceeds to cite Paul Krugman’s estimate that reducing the trade deficit, to an amount it leaves unspecified, would increase U.S. GDP by 1.5%. It then highlights the

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<sup>67</sup> “The Alliance for American Manufacturing: Official Position on *the Currency Reform for Fair Trade Act*.” Letter to U.S. House of Representatives. <http://www.americanmanufacturing.org/wordpress/wp-content/uploads/2010/09/aam-currency-support-letter92810.pdf>

<sup>68</sup> “The International Association of Machinists and Aerospace Workers: Official Position on the Currency Reform for Fair Trade Act.” Letter to the U.S. House of Representatives. [http://www.goiam.org/publications/pdfs/IAM\\_Currency\\_HR\\_2378-9-10.pdf](http://www.goiam.org/publications/pdfs/IAM_Currency_HR_2378-9-10.pdf)

<sup>69</sup> Ibid.

results of a Peterson Institute study, which approximates that one million American jobs would be created in the event that Chinese currency manipulation were to end.<sup>70</sup> Once more, though, the group's discussion limits itself to factors affecting the health of the U.S. *macro*-economy and that of American workers *independent* of sector, while remaining curiously silent as to the factors which divide private sector opinions on the broader issue of currency manipulation and policies developed in response.

The final argument chosen for an analysis of opinions in *favor* of H.R. 2378 is the testimony of Leo Gerard, President of United Steelworkers, before the U.S. House of Representatives Ways and Means Committee. Testifying on behalf of unions representing employees of the steel, paper and forestry, rubber, miscellaneous manufacturing, energy, and industrial service industries, Gerard emphasizes the need for economic recovery, the containment of U.S. job losses, the importance of skilled labor for the survival of the American middle class, and the increasingly-impaired ability of the U.S to operate self-sufficiently.<sup>71</sup> Deviating slightly from the domestically-oriented arguments of his colleagues in the contingency supporting H.R. 2378, Gerard testifies that the Chinese government, via its downward pressure on the Yuan, is essentially affording Chinese exporters a 40% export subsidy for goods shipped to the United States, and from the perspective of Chinese and other foreign consumers of U.S. goods, imposing a tariff on U.S. imports abroad. The extent of his argument's deviation from those of his fellow supporters, however, ends abruptly following that point. The testimony which follows cites the trade deficit and its negative effect on the U.S. economy, the outward flow of foreign direct

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<sup>70</sup> "The International Association of Machinists and Aerospace Workers: Official Position on the Currency Reform for Fair Trade Act." Letter to the U.S. House of Representatives.  
[http://www.goiam.org/publications/pdfs/IAM\\_Currency\\_HR\\_2378-9-10.pdf](http://www.goiam.org/publications/pdfs/IAM_Currency_HR_2378-9-10.pdf)

<sup>71</sup> Official Position of United Steelworkers on H.R. 2378 & China's Exchange Rate Policy, 111th Cong., 4 (2010) (testimony of Leo W. Gerard). <http://assets.usw.org/releases/misc/china-currency-gerard-wm-testimony-usw091510.pdf>



investment from the U.S. to China, and the deteriorating health of the American middle class and its workers.<sup>72</sup>

In light of the finding that arguments in favor of protectionist, countervailing measures like those contained in H.R. 2378 entirely lack any micro-economic and firm level considerations, new research which investigates the underlying factors which influence protectionism and the economic level on which opinions towards currency manipulation and mitigation diverge appears to be warranted to an even greater degree.

Transitioning to a discussion of entities lobbying *against* H.R. 2378, every group identified as an opponent, via their signatures affirming association at the bottom of the document, acknowledged that their opinion is wholly conveyed by means of a U.S. China Business Council letter to Congress. The Council has membership spanning dozens of major industries, including financial services, consumer electronics, footwear and apparel, miscellaneous retail, agriculture, and the U.S. Chamber of Commerce. In contrast to arguments in support of the bill, which emphasize the effects of currency manipulation on the U.S. economy, this contention acknowledges the need for China to appreciate its undervalued currency, but stresses that this should be done by means of less confrontational methods. The primary alternative suggested by the Council is to increase U.S. diplomatic negotiations with China and its monetary authorities, a solution which has been vehemently rejected by supporters of H.R. 2378 as either too sluggish or even entirely futile. In official language, the Council believes that the U.S. “should continue to work multilaterally and bilaterally to press China to allow market forces to determine the value of its currency, and thereby aid in the global economic rebalancing that it has called for along with the other members of the G-20.”<sup>73</sup> Aside from putting forth alternative suggestions, the petition makes sure to outline its major criticisms of the proposed legislation. It appears to suggest that H.R. 2378

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<sup>72</sup> Official Position of United Steelworkers on H.R. 2378 & China's Exchange Rate Policy, 111th Cong., 4 (2010) (testimony of Leo W. Gerard). <http://assets.usw.org/releases/misc/china-currency-gerard-wm-testimony-usw091510.pdf>

<sup>73</sup> "Official Position of the U.S. Business Coalition on The Currency Reform for Fair Trade Act." [https://www.uschina.org/public/documents/2010/business\\_coalition\\_letter\\_opposing\\_hr2378.pdf](https://www.uschina.org/public/documents/2010/business_coalition_letter_opposing_hr2378.pdf)

does add in terms of new identification mechanisms and independent authority, but it is desperately lacking in its specification of *how much* and *under what circumstances*, thereby subjecting policy to the potentially disastrous consequences of discretionary interpretation.<sup>74</sup> In concluding its argument, the Council observes that China in particular has been historically known to be unresponsive and even antagonized by foreign policy measures which seek to control the value of its currency, and thus an additional measure might not have its originally intended effects, and may actually do more harm than good should China retaliate and declare an outright “trade war” with the U.S. Even if China didn’t take personal grievance with the measure, the Council warns that enacting a highly aggressive trade policy might inadvertently shift the label of unfair trade practitioner in the international community from China to the U.S., potentially decreasing foreign demand for American goods as other countries took protectionist steps of their own. The effects of such a shift, it adds, are economically counterproductive and work directly against the bill’s intended outcome of economic growth and the preservation of American jobs.<sup>75</sup>

Unsurprisingly, just as the positions in *favor* of the legislation made no mention of industry or firm-specific factors which influenced their formal stance beyond those shared by the macro-economy as a whole, the stated opinions of groups *against* its passage were equivalently vague in their discussion of inwardly-oriented considerations. It seems imperative, then, to initiate new analyses seeking to identify the *micro-economic* or even *firm-level* factors shared by groups taking similar positions on issues of currency manipulation. Such an undertaking, however, must be preceded by a conclusive identification of the *industry* level on which private sector opinions most frequently diverge.

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<sup>74</sup> "Official Position of the U.S. Business Coalition on The Currency Reform for Fair Trade Act." [https://www.uschina.org/public/documents/2010/business\\_coalition\\_letter\\_opposing\\_hr2378.pdf](https://www.uschina.org/public/documents/2010/business_coalition_letter_opposing_hr2378.pdf)

<sup>75</sup> Ibid.

**CHAPTER THREE**

**THE U.S. PRIVATE SECTOR: IMPACT OF AND REACTIONS TO CHINA'S  
EXCHANGE RATE POLICY**

In order to identify the industry level where divergence in private sector opinion is most evident, the degree to which industries are analogously affected by fluctuations in the Yuan at the broadest levels of “manufacturing” and “non-manufacturing” must first be determined. As outlined earlier, this question is addressed via a series of regressions which reason that the real effective exchange rate (REER) of the Yuan affects U.S. industry exchange rates, and thus an industry’s *sensitivity* to changes in the value of the Yuan, via its direct impact on the U.S.-China *trade balance* when the real effective exchange rate of the Dollar is held constant.

Beginning with the industries classified as “manufacturing,” I argue that the isolated effect of the Yuan REER on industry specific exchange rates will be limited, albeit not to the extent that it will be across the category of non-manufacturing. However, the effect of the Yuan on industry exchange rates when considered indirectly via its effect on the U.S.-China trade balance will be noticeably more robust. While the proportion of the effect cannot be feasibly isolated to account solely for the amount attributable to the REER of the Yuan, the analysis proceeds under the assumption that the intentions underlying China’s decision to peg its currency to that of its largest trading partner are sufficient grounds to reason that the actual effect of the policy on widening the vast trade gap between the two countries is substantial.

Table 2 summarizes the results of three separate regressions. From the results of the first regression, it is evident that when considered as a standalone regressor, the real effective exchange rate of the Yuan is only moderately significant in its effect on aggregate U.S. manufacturing industries’ exchange rates. The coefficient of  $-.005$  is significant only at the 5% level, despite a sample of 744 observations across the three decades spanning 1980-2010.

In the second analysis, however, which adds the trade balance between the U.S. and China across the same time period, the robustness of the Yuan REER increases substantially. The coefficients on both variables are significant at the 1% level, and the r-squared value increases nearly seventy-fold from the first regression. It is widely recognized that, particularly between countries that trade heavily with each other, the relative value of their currencies plays a dominant role in the resulting trade balance between the two nations. In the context of American consumerism, which relies almost exclusively on the depreciated Yuan for the continued availability of low-cost manufactured products from China, this effect is likely to be atypically pronounced when analyzing the cause of the U.S.-China trade deficit. Reverting to an analysis of *producers*, however, the fact that both regressors are statistically significant at the same level is reasonable grounds to assert that the Yuan REER, by virtue of its status as a factor affecting the U.S.-China trade balance, carries significant weight in affecting U.S. industry-specific exchange rates.

The third analysis enhances the statistical validity of the conclusion reached in the second. Even while holding constant the real effective exchange rate of the U.S. Dollar, which has also been recognized as a factor having a large effect on industry-specific exchange rates, the robustness of the Yuan remains comparably significant at all levels at or above 1%. It is noteworthy to mention that the U.S.-China trade balance was omitted in the third regression due to the inclusion of its two primary determinants, and thus the additional presence of the trade balance would redundantly account for the same variables.

Although the hypotheses are generally validated across an examination of the “manufacturing” industries, the case might prove differently across their “non-manufacturing” industry counterparts. Table 3 lists the results of three regressions similar to those discussed above, with the only difference being that the dependent variable is the aggregated “*non-manufacturing*” industries’ exchange rates.

From the results of the first regression, it seems apparent that even for non-manufacturing industries, the Yuan REER by itself has a limited impact on industry exchange rates. The resulting coefficient, while significant at the 10% level, holds no further significance at either the 5 or 1% level. While this conclusion is similar to those discussed earlier, the correlation is even weaker than the 5% significance returned in the comparable regression conducted across manufacturing industries. This may be the result of the components that most heavily contribute to the trade deficit with China. While many U.S. non-manufacturing industries deal frequently with China and thus have inevitable exposure to its currency, rather than the buying and selling of *goods* over which China enjoys a comparative advantage, they deal instead in comparably intangible *services*. In contrast to the substantial imbalance suffered by the U.S. as a result of more goods being imported than exported, the imbalance with respect to the flow of services typically tilts in favor of the U.S. In 2009, for example, the U.S. had a services *surplus* with China totaling \$7.5 billion.<sup>76</sup> While this figure is miniscule compared to the \$279 billion *goods deficit* existing in the same year, it is an important observation for purposes of interpretation in this particular context. For example, the fact that the correlation between the Yuan REER and non-manufacturing exchange rates is less robust than the comparable correlation across manufacturing industries indicates that the driving force behind non-manufacturing industry-specific must lie with some other regressor. Intuitively, this suggests that non-manufacturing industries and firms are less sensitive, and thus less responsive, to fluctuations in the value of the Yuan, assuming its value is considered independently.

In terms of statistical significance, the results of the second regression for non-manufacturing are identical to those returned by the second regression for manufacturing. While holding the REER of the U.S. Dollar constant, the effect of the Yuan REER becomes significantly more pronounced, yet there is no statistical discrepancy between the significance of the two currencies. Both are significant at the 1% level in their effect on non-manufacturing exchange

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<sup>76</sup> See *Office of the U.S. Trade Representative* webpage, “China”- <http://www.ustr.gov/countries-regions/china>

rates, and, the coefficients again reveal the counteracting force of the two variables on each other. When the REER of the Yuan increases, for example, the aggregate non-manufacturing exchange rate can be expected to *decrease*, while an increase in the REER of the Dollar dictates an *increase* in the same industry-wide rate. Given that the two currencies move essentially in lockstep with one another by virtue of the peg maintained by the Chinese, the question arises as to whether this effect would be at all noticeable in reality. Nevertheless, the results indicate that the effect of the Yuan REER on the aggregate exchange rate for non-manufacturing industries, even while simultaneously controlling for the effect of the U.S. Dollar REER, is statistically indiscernible from that which it has on the exchange rate for manufacturing.

The third and final regression conducted in the context of non-manufacturing industries' exchange rates and the causal impact of real effective exchange rates reveals a notable discrepancy with the third regression on manufacturing discussed earlier. As highlighted above, in light of U.S. non-manufacturing's trade *surplus* with China, the statistical significance of the trade balance between the two countries can be expected to be lower than that found across manufacturing, and hence, other factors must account for a greater portion of what affects their industry-wide exchange rates. According to Yang (1998), additional factors represented in industry-specific exchange rates include an industry's degree of product differentiation, its producer price index, the trade weighted producer price indices of foreign competitors, the proportion of total industry supply composed of imports, and the variability of marginal production cost.<sup>77</sup> While an empirical analysis seeking to determine the extent to which each of these factors impacts a given industry's exchange rate extends beyond the breadth of this study, it is important to recognize the broad range of factors shaping industry exchange rates conjointly with pass-through elasticity. Despite this extensive list of factors, however, the results of the regression clearly validate the predicted outcomes. The Yuan REER is seen to be significant down to the 1% level, while the U.S.-China trade balance, found to

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<sup>77</sup> Yang, Jiawen. 1998. "Pricing-to-Market in U.S. Imports and Exports: A Time Series and Cross-Sectional Study." P.849

be significant at the 1% level for manufacturing, is instead only significant at or above the 5% level.

In analyzing the results of the regressions conducted for both “manufacturing” and “non-manufacturing” as an aggregate, several conclusions can be reasonably inferred. First, provided that the significance of the Yuan real effective exchange rate on industry-wide exchange rates for both sectors was virtually nil when considered by itself but highly significant in conjunction with the trade balance, the Yuan REER *indirectly* affects U.S. industry-specific exchange rates overwhelmingly via its effect on the U.S.-China trade balance. This effect is shown to be significant, and its significance remains constant even when the U.S. Dollar REER is simultaneously held constant.

Second, the effect of the U.S.-China trade balance is most substantial across the groups which most heavily contribute to its *imbalance*, which in this specific context are the American manufacturing industries. These industries are helpless to mitigate the growing trade deficit which owes its existence to a currency-driven Chinese comparative advantage in production. As a consequence of producing and trading *goods*, rather than the less currency-sensitive *services* brokered by the non-manufacturing industries, the aggregate manufacturing exchange rate is noticeably more dependent than is the non-manufacturing rate on the trade balance, or lack thereof, between the U.S. and China.

Lastly, given that the analyses reveal similar correlations in what *causes* changes in industry-specific exchange rate changes at broad economic levels, the question remains as to what factors influence a group’s *opinion of* and *response to* the Chinese real effective exchange rate.

To gauge industry responsiveness to China’s real effective exchange rate, I observed the effect of industry pass-through elasticity, the Yuan REER, and industry-specific exchange rates on anti-dumping petitions against China filed in the U.S. As outlined earlier, an industry or firm may file an anti-dumping petition with the U.S. International Trade Administration against another foreign industry or firm if it believes that the firm is exporting products to the domestic market at a

price lower than that dictated by the forces of supply and demand. The forces accusers typically cite as the means by which the accused party is able to do so include currency manipulation, foreign export subsidies, and labor costs.<sup>78</sup> The results of the analyses are contained in Tables 4 and 5.

Table 4 contains the results of the regressions analyzing responses by the manufacturing industries. The most visible trend is the diminishing causal significance of pass-through elasticity as additional regressors are added. While pass-through is significant at the 5% level in the first regression and at the 10% level once the Yuan REER is added in the second, it becomes entirely insignificant once industry-specific exchange rates and the Yuan REER are simultaneously incorporated in the third. Given that our analysis has previously concluded that the Yuan REER is closely linked to U.S. private sector attitudes, it is evident that the effect of pass-through elasticity on U.S. manufacturing industry responses to Chinese currency manipulation is miniscule in comparison. It is important to note, however, that pass-through elasticity is a factor in calculating industry-specific exchange rates, so its 5% significance returned by the first regression may be partially reflected by industry exchange rates in the third.

Overall, the data suggests that the Yuan REER is again a significant variable affecting attitudes towards the Chinese Yuan, but fails to yield any robust conclusions as to the net effect of pass-through elasticity. However, given that pass-through was found to have *some* significance as a standalone variable, it must, to an unknown extent, affect industry-specific anti-dumping petitions. The general lack of significance it carries indicates the possibility of omitted variables that might more substantially affect manufacturing industries' responsiveness to exchange rate manipulation via anti-dumping petitions. Lastly, in light of the finding that the Yuan REER remained robust at the 1% level even when pass-through elasticity and industry-specific exchange rates were considered simultaneously, it might be the case that some industries are more sensitive to the rate

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<sup>78</sup> See International Trade Administration FAQ : <http://trade.gov/faq.asp#dumping>



than others. For example, some industries may think changes in the rate have even more negative implications for the health of their industry than they actually do. Put simply, a “fear factor” may exist with respect to the Yuan exchange rate from the perspective of some U.S. manufacturing industries.

Table 5 contains the results of the regressions analyzing responses by the non-manufacturing industries. From the results of the regressions, it is outwardly evident that the effect of pass-through elasticity on non-manufacturing industries’ anti-dumping petitions is negligible. Even when considered independently, pass-through has no statistical significance in its effect on industry responses, and its significance departs even further from minute once additional variables are considered. This suggests that unlike the results of the regressions conducted on manufacturing industries’ data, pass-through does *not* have an indirect effect on anti-dumping petitions by virtue of its inclusion in the derivation of industry-specific exchange rates. However, the fact that industry exchange rates are significant at all levels implies that a factor other than pass-through elasticity used in calculating these rates might substantially influence non-manufacturing responsiveness.

Other factors used in the derivation of industry-specific exchange rates include an industry’s producer price index, its degree of product differentiation, the trade-weighted price indices of foreign competitors, the percentage of total industry supply composed of imports, and the variability of marginal production costs.<sup>79</sup> Interestingly, the real effective exchange rate of the Yuan and industry-specific exchange rates are significant at all statistical levels, reinforcing the possibility that these two regressors are more substantial in their effect on U.S. private sector attitudes towards the impact of the Yuan on competitive trade

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<sup>79</sup> Yang, Jiawen. 1998. “Pricing-to-Market in U.S. Imports and Exports: A Time Series and Cross-Sectional Study.” P.849

**CHAPTER FOUR**

**THE U.S. PRIVATE SECTOR: SENSITIVITY TO AND PREFERENCES FOR  
THE YUAN'S VALUE**

While the availability of research addressing which factors influence an American industry's opinion on the Yuan/Dollar exchange rate is limited, there are some analyses which have explored the sensitivity and preferences of U.S. industries to the *Dollar* exchange rate by itself. Such single-currency analyses are useful for purposes of this project to the extent that the Dollar and the Yuan are, by virtue of the peg in place, inextricably linked. As such, a depreciation of one is equivalent to an appreciation of the other, and this relationship holds regardless of the magnitude of the fluctuation in either currency.

The conceptual framework outlined by Frieden (1991) is particularly useful in the way it illustrates the distinct categories U.S. industries can be classified under in the context of exchange rates. Table 6 contains a modified version of Frieden's framework, interpreted to fit the context of this analysis. The industries were positioned in the framework based on lobbying both for and against H.R.2378, whose primary, albeit unsaid objective is to force the appreciation of the Yuan relative to the Dollar. To determine a given industry's preferred level of the exchange rate, simply identifying whether an individual firm or industry lobbied for or against the inflammatory bill was the process leading to the conclusion of whether the group favors a depreciated or appreciated Yuan. Lobbying *in favor* of the bill's passage was considered indicative of a preference for the Yuan's appreciation, while lobbying *against* the bill suggests the group has an interest in the Yuan's value relative to the Dollar remaining at its current *depreciated* level. To determine a given industry's *sensitivity* to a change in the value of the Yuan, and thus the *degree of impact* a given change has on the health of the industry, industry-specific pass-through elasticities as determined by Yang (1998) were considered below or above a midpoint threshold of .5. A pass-through elasticity below .5 implies that the industry is highly-sensitive to changes in the value of the Yuan,

suggesting that by virtue of its characteristics or reputation it has more difficulty passing on exchange-rate-driven increases in the cost of production to its consumers. A pass-through elasticity above .5 implies that the industry is less-sensitive, if at all, to changes in the value of the Yuan, as it is able to pass exchange-rate-driven increases in production costs to its consumers without jeopardizing its financial health.

As discussed above, on the horizontal axis industries are grouped following an analysis of their preference level for the Yuan/Dollar exchange rate. Across this category, opinions are polarized at the broader categories of “manufacturing” and “non-manufacturing,” suggesting that their sub-industries are unanimous in their preferences. On the one hand, the manufacturing contingent prefers an appreciated Yuan, and thus a relatively depreciated Dollar. On the other hand, the non-manufacturing industries prefer a depreciated Yuan, and thus a relatively appreciated Dollar. While these preferences are unsurprising, they are necessary for the subsequent grouping based on sensitivity.

Along the vertical axis, industries are grouped based on the extent of the implications posed by changes in the value of the Yuan relative to the Dollar. Contrary to industry position on the level of the Yuan exchange rate, across this category there are industries from both manufacturing and non-manufacturing that share the same grouping. For example, industries most significantly affected by changes in the Yuan/Dollar exchange rate include “Telecom,” “Repair,” “Textiles & Fabrics,” “Fabricated Metal Products,” “Food Manufacturing,” and “Primary Metal.” Conversely, industries least affected by fluctuations in the Yuan are identified to be “Financial,” “Business,” “Machinery,” and “Plastics/Rubber.” Thus, an industry’s *sensitivity* to exchange rate changes cannot simply be predicted based on whether or not it produces tangible goods, rather than services.

The categorizations along the vertical axis were made based on an industry’s pass-through elasticity in conjunction with a qualitative analysis of its operations. To be classified as highly affected by changes in the Yuan exchange rate, an industry must have a pass-through elasticity

below .5. Any elasticity above .5 is grounds for the assumption that the effect of fluctuations in the value of the Yuan on an industry is negligible. The classifications, however, while made based solely on one statistical threshold but not as redundant in their implications as those along the horizontal axis, make intuitive sense. Those industries *least* affected by exchange rate changes cater primarily to the *domestic* market and use many inputs of production, which can be either obtained domestically or imported from a wide variety of countries other than China. This is particularly true in the context of the machinery and plastics industries, which likely have many alternative countries from which they can obtain raw materials. Thus, changes in the Yuan exchange rate might simply dictate a change in the source of industry's supply of inputs, causing miniscule effects on the industry's health as a result of the Yuan changing in value.

In the context of the "business" industry, too, which is predominantly composed of retail chains such as Wal-Mart, Target, McDonalds, and Home Depot, there are almost certainly contingency plans to contend with changes in the currency of major supplier countries. Non-differentiated clothing produced in Chinese factories, for example, can instead be obtained for a similar price from nations such as Bangladesh, Thailand, and India, whose currencies remain unchanged. Generic food labels, too, can likely be sourced to countries with more favorable exchange rates with limited effort expended by the parent firm. As a result, companies brokering such products to the U.S. domestic market experience little to no change in their margins in the event that the value of the Yuan changes, and consequently feel a limited effect on the health of their industry.

While the least affected firms appear to be those which have a diversified scope of products and a large domestic consumer base, the fact that many of these companies have an equally visible presence in foreign markets is also worthy of consideration. The rise of U.S. multinational corporations (MNCs) has reshaped the realm of global commerce, particularly because exchange rate exposure has become a substantial consideration in business decision-making. However, the sheer degree of the expansion of U.S. firms overseas which initially gave

rise to exchange rate considerations has since made such considerations less significant. Some firms are so diversified in their exposure to currencies and foreign markets that it becomes unclear as to the *net* effect of an exchange rate change on the health of their business. For instance, a firm that has production facilities in both the U.S. and China seeks to gain from an appreciation of the Yuan, but simultaneously loses from a relative depreciation of the Dollar. Its investments in China become more valuable in Dollar terms, but its competitive advantage in terms of U.S. consumer demand for its Chinese-made products diminishes. As a result of the effect pulling in both directions for some U.S. multinational conglomerates, the net effect of a change in the value of the Yuan on the health of their firm might be close to zero. Consequently, such firms might be entirely passive in their opinion and activism pertaining to exchange rate levels. Reverting to the case study of H.R. 2378, one potential means to explore this possibility could involve identifying major U.S.-based MNCs that were *not* represented at all in the lobbying campaigns either for or against the passage of the bill. Although further elaboration on this possibility extends beyond the scope of this analysis, it inevitably begs the question of just how “American” some of these U.S.-based firms actually are.

Given that those industries found to be least affected by changes in the Yuan/Dollar exchange rate, by virtue of their high degree of pass-through, are those either catering primarily to a domestic consumer base or those which use non-differentiated inputs of production, those industries *most* affected by changes in the value of the Yuan are all those which fail to meet these criteria. In Figure 4, those industries with pass-through elasticities *below* .5 are classified as “high” on the vertical axis, indicative of the large effect had by variations in the value of the Yuan relative to the Dollar. Continuing with the industry groupings utilized in this study, these contingents encompass the non-manufacturing sectors of “Telecom” and “Repair,” and the manufacturing sectors of “Fabricated Metal Products,” “Food,” “Textiles & Fabrics,” and “Primary Metal Products.” These industries have primarily international consumer bases, produce non-differentiated goods for which there are alternative foreign suppliers, and, by virtue of their

specialized nature, have less diversified exchange rate exposure. These industries' status as *suppliers* of raw materials to other industries, such as those classified as having low exchange rate sensitivity, render their firms merely one of many options available to firms purchasing their products. If the Yuan appreciates, for example, foreign and domestic demand for U.S.-produced steel, textiles, food, and primary metal products would likely increase, as the comparable Chinese products would be more expensive in comparison.<sup>80</sup> Conversely, if the Yuan were to depreciate beyond its current levels, demand for those same U.S.-produced items would diminish in favor of the newly cheaper Chinese alternatives.<sup>81</sup> Unless one of these industries were to establish extensive production networks in China, changes in demand following exchange rate fluctuations will continue to dictate their sensitivity to such changes.

Amongst the non-manufacturing industries identified as most sensitive to changes in the value of the Yuan, a similar pattern is evident. Unlike the other two non-manufacturing sectors selected for analysis, the "Telecom" and "Repair" industries based in the U.S. have a smaller international consumer base, and provide services which are relatively non-differentiated compared to other non-manufacturing industries. Their low levels of pass-through elasticities, therefore, are unsurprising, and can be expected to continue having pass-through elasticities in the future.<sup>82</sup> Unfortunately, unlike the possibility of diversification by broad, increasing exchange rate exposure discussed as a potential explanation for passivity of highly-visible and far-reaching "financial" and "business" U.S. multinational corporations, the number and scope of "telecommunications" and "repair" MNCs is minute in comparison.

Based on the trends seen following the categorization of the manufacturing and non-manufacturing industries by their preferred Yuan/Dollar exchange rate and the degree to which each industry is affected by a change in its level, six conclusions are significant and supported by data in the context of this discussion.

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<sup>80</sup> Frieden, Jeffrey A. "The Political Economy of Exchange Rates." P.595

<sup>81</sup> Ibid., P.594

<sup>82</sup> Broz, Lawrence J. "Exchange Rates and Protectionism." P.11

First, the sub-industries within manufacturing and non-manufacturing are unanimous in their opinions of what the Yuan/Dollar exchange rate *should* be. While this conclusion partially conflicts with the hypothesis that pass-through elasticity is the primary driver of a group's preferred exchange rate, lobbying data and public statements by industry representatives provide conclusive grounds on which to generalize their preferred Yuan/Dollar exchange rate. This is not to say, however, that all sub-industries within these two categories are affected to the same extent by changes in the level of the rate.

Second, the industries composing "non-manufacturing" strongly prefer a *depreciated* Yuan relative to the Dollar. This is almost certainly a result of some element of the business models behind industries in this group which are based on the provision of *services*, rather than *goods*. Despite the variance of pass-through elasticity seen among the four sub-industries selected as representative of non-manufacturing as a whole, scholarly studies and extensive lobbying patterns reveal that the general consensus across this group is that the Yuan should remain at its current depreciated level.

Third, the industries composing "manufacturing" strongly prefer an *appreciated* Yuan relative to the Dollar. Again, this conclusion relies on the assumption that some component of these industries' business models, which are all based on the provision of *goods* rather than *services*, serves as the explanatory factor behind the sector's preferences. Similar to the anomaly identified across non-manufacturing sub-industries, there is also a wide variance in pass-through elasticity variance among the industry members of manufacturing. Regardless of these disparities, extensive empirical data backs the conclusion that all sub-industries within manufacturing advocate for an appreciated Yuan relative to the Dollar.

Fourth, in terms of the magnitude of the *effects* inflicted on a given industry, there are clear characteristics explaining both high and low magnitudes seen across U.S.-based contingents, and, unlike exchange rate *preferences*, the effects of changes in the Yuan/Dollar exchange rate are *not* identical for all industries within each of the two broad categories. Rather, there are manufacturing

and non-manufacturing industries which illustrate similarly-high sensitivities to changes in the Yuan/Dollar exchange rate, while there are other groups within the two categories which conversely reveal low-sensitivity. It is apparent that whether an industry is classified as either manufacturing or non-manufacturing holds no weight in predicting the magnitude of the financial impact a change in the Yuan/Dollar exchange rate has on the industry's health.

Utilizing the tenets of the fourth conclusion, an industry can thus be expected to experience a "low" magnitude of impact as a result of a change in the value of the Yuan if it either:

- Has a primarily *domestic* consumer base, or
- Produces a *highly-differentiated* offering of *final* goods or services composed of *non-differentiated inputs*, or
- Offers a *highly-diversified* range of production inputs to a large international contingent of firms and consumers

These characteristics render an industry and some, if not all, of its firms as either entirely insulated from Yuan fluctuations or geographically diversified enough across other currencies to offset detrimental changes in the value of the Yuan.

Lastly, on the opposite end of the spectrum, an industry can be expected to experience a "high" degree of impact following a change in the value of the Yuan if it:

- Has a predominantly *foreign* consumer base concentrated in China and the immediate surrounding region, or
- Produces *non-differentiated, highly-competitive inputs* of production, or
- Offers a *non-diversified* range of *final* products, or
- Is a U.S.-based conglomerate with growth disproportionately concentrated in and dependent on the Chinese economy

These characteristics render a firm or industry highly-sensitive to changes in the Yuan exchange rate, and thus mean it has much to lose or gain based on which direction the rate moves. It is important to note, however, that an industry's sensitivity is not inherently permanent or necessarily slow to change. This being understood, the classifications made in this analysis were



made under current economic conditions and characteristics of the selected industries in the present day, and might not be empirically valid on the mid to long-term horizon.

## CHAPTER FIVE

### THE U.S. PUBLIC SECTOR: MONITORING, IDENTIFYING & ADDRESSING CHINESE EXCHANGE RATE MANIPULATION

While an analysis of private sector perceptions of the Chinese exchange rate is critical to answering the research questions of on what level and to what extent industries diverge in their opinions, equally important is an analysis of the issue from the perspective of the U.S. public sector. After all, anti-dumping petitions and industry exchange rates would be useless mechanisms if what they inferred was not subsequently acknowledged and addressed by some authority. The extent and procedure by which protectionist measures are formally instated by the United States Congress remains a topic that lacks substantive empirical research. Unanswered questions in this realm include, but are not limited to, whether the U.S. government *independently* and *proactively* addresses exchange rate manipulation, the degree, if any, of legislative *responsiveness* to private sector foreign currency grievances, and whether that responsiveness *varies* depending on the industry(s) declaring such infringements.

Although there is no formal statistic which conveys the responsiveness of Congress in addressing issues of foreign currency manipulation, all legislation since 1940, both proposed and passed, is catalogued and identified based on the issue(s) addressed.<sup>83</sup> By identifying all legislation addressing issues of international trade abuses by China and subsequently comparing all such instances to grievances voiced against China by the U.S. private sector at the same time, a general measure of legislative responsiveness may be established. If the correlation is strong, a reasonable conclusion would be that Congress is primarily *reactive* in addressing foreign currency manipulation, only doing so after such instances are brought to its attention by the private sector. If, however, the correlation is only moderately strong or even inconsequential, an alternative inference would be that the government is primarily *proactive* in implementing protectionist measures, and

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<sup>83</sup> Data on legislation was retrieved online from *The Congressional Bills Project* and the Library of Congress. See <http://congressionalbills.org/index.html> & <http://thomas.loc.gov/home/thomas.php>

the mechanisms afforded to the private sector for bringing the issue to lawmakers' attention are largely futile in their efficacy.

For the purposes of this analysis, the following categories of legislation were identified as relevant:

- 1802: "*Trade Negotiations, Disputes, and Agreements*"
- 1804: "*Import regulation*"
- 1806: "*Productivity and Competitiveness of U.S. Businesses*"
- 1807: "*Tariff and Import Restriction*"
- 1808: "*Exchange Rates and Related Issues*"

To consolidate the data for manipulation, pieces of legislation in every year since 1980 classified as one of the above types and having China as its target country were aggregated and paired with anti-dumping petitions against China filed across the same time period. However, doing so only analyzes the public sector's response to currency manipulation from a *reactive* angle. In order to determine whether Congress is partially or entirely *proactive* in addressing the issue, two additional variables must be included. The additional variables which account for this possibility were each year's U.S-China trade balance and the real effective exchange rate (REER) of the Yuan for the same year. Given that the Yuan REER has a substantial influence on the U.S.-China trade balance, and thus including both figures simultaneously would result in a double-variable bias, the two statistics are independently analyzed in two separate regressions.

Table 7 contains the results of four separate regressions conducted to examine whether legislative responsiveness to Chinese exchange rate manipulation is either proactive, reactive, or a combination of the two.

From the results of the first regression, it is clear that anti-dumping petitions are positively correlated with the introduction of new protectionist measures in Congress. Anti-dumping petitions are significant in their effect at the 1% level, indicating a strong statistical relationship. From this

regression by itself, however, it is unclear whether other factors weighing on Congress are the true causality for increased amounts of legislation.

The second regression, which incorporates the effect of the U.S.-China annual trade balance as an additional regressor, has several possible implications. The most obvious of these implications is that both anti-dumping petitions and the trade balance across the same time period have similarly large, significant effects on the amount of protectionist legislation introduced in Congress, and exert their influences independently of one another. The second and more likely possible implication is that the two variables exert their effect on the number of protectionist measures in a conjoined yet unclear manner. For instance, it is likely that anti-dumping petitions are higher when the trade balance is more lopsided, as there are more groups adversely affected by the deficit with incentives to petition for legislative protection. Taking this perspective, it is difficult to determine which of the two factors, if not certain elements of both, Congress is taking into account in making the decision to introduce additional legislation. Both regressors are statistically identical in their significance as causal variables, so the subsequent analysis must clarify the true causal regressor by isolating the factors which most substantially affect the trade balance itself.

In the context of the U.S.-China trade balance, the most important determinant of how big America's deficit with China is in any given year is the real effective exchange rate of the Yuan, which almost completely dictates U.S. consumer demand for Chinese exports. The third regression accounts for this variable independently of the trade balance in order to determine whether the positive correlation between protectionist legislation and the trade balance is merely an indirect consequence of the government responding to an increased volume of petitions during times of large trade deficits. The results of the regression confirm this possibility, as the significance of the Yuan when included simultaneously with anti-dumping petitions is inconsequential at all levels. The significance of anti-dumping petitions remains robust at all levels at or above 1%, giving rise to the preliminary conclusion that the government is more *reactive* in its implementation of

protectionist legislation, rather than taking a *proactive* approach based on its internal perceptions of foreign currency and trade policies.

The results yielded by the fourth regression provide further support for the conclusion that in introducing new protectionist measures, Congress is doing so reactively rather than proactively. The significance of the trade balance at the 1% level, as discussed earlier, can be explained by the cause-effect relationship between a trade deficit with a foreign trading partner and an increased volume of anti-dumping petitions against that partner. The third regression illustrates that Congress is primarily responding to the effect in this relationship, that being the increase in anti-dumping petitions filed in response to the cause, identified as the lopsided trade balance. To further reinforce this conclusion, the real effective exchange rate of the U.S. Dollar was added as a variable in the fourth regression, as changes in this regressor would not only affect the trade balance with China, but would also spur changes in the number of anti-dumping petitions filed by U.S. firms and industries whose financial health is significantly reliant on this trade-weighted value of domestic currency. This regressor also proved to be significant down to the 1% level, but this can be explained via its propensity to affect anti-dumping petitions in a manner similar to that of the trade balance.

Although it may seem reasonable to entirely write off the possibility that the government is independently proactive in addressing foreign currency and trade manipulation, some of the claims outlined above rely, at least in-part, on assumptions made as to cause-effect relationships between various elements in the macro-economy. As a result, a more detailed analysis might reach the same conclusions with more empirical backing, but the question itself is not of utmost importance for this particular project, so the analysis discussed above, though partially speculative, is sufficient to meet our eventual research objectives.

Bearing in mind the implications of the regression contained in Table 6, primarily the suggestion holding that Congress is predominantly *reactive* in addressing foreign currency manipulation, the question arises as to whether lawmakers are *more* reactive to grievances filed by

some industries than they are to those filed by others. For example, are anti-dumping petitions filed by the steel industry more positively correlated with new protectionist legislation for the steel industry than are petitions filed in the same time period by the financial industry? An inherent consequence of exploring this question is a resurfacing of the question asking whether Congress is reactive or proactive, but the results will have instead implications at micro, rather than macro levels of the economy. An additional question follows that if there is variance in Congress' response based on the identity of the petitioner, what factors specific to the industry can explain such discrepancies? While the natural inclination is to assume that Congress is universally "blind" to the identity of those petitioning for trade protectionism, historical evidence and sharply varying degrees of private sector lobbying influence make this assumption unlikely to be validated.

To address these questions, industries at the extremities of pass-through elasticity were isolated within "manufacturing" and "non-manufacturing." The stark differences in pass-through ensure that the industries are as different from each other as possible in terms of their specific exchange rate sensitivity and preferences, thus providing discernible grounds for Congress to be more receptive to petitions filed by one industry over the other. In the first set of regressions, the receptiveness of Congress to the exchange rate for "primary metal," the manufacturing industry with the lowest pass-through elasticity and consequently the highest exchange rate sensitivity, is compared to lawmakers' responsiveness to the "financial" industry's petitions, which has the highest degree of pass-through amongst the non-manufacturing industries. In the second set of regressions, the *non-manufacturing* industry with the *lowest* pass through, "repair services," is paired with the *manufacturing* industry with the *highest* pass-through, "machinery," and the results are interpreted along identical lines as discussed above. In the second regression for each industry, anti-dumping petitions are included as a factor in order to further illustrate Congress' status as reactionary in its implementation of protectionist measures. This assertion will be furthered if the statistical significance of industry exchange rates increases across-the-board following the

incorporation of industry anti-dumping petitions. Table 7 contains the results of the first set of regressions, while Table 8 contains those yielded by the second.

As is shown in Table 8, the effect of the financial industry's exchange rate on legislation identifying the industry as either driving or protected by its implementation is significant at the 10% level by itself. However, this effect increases to significance at the 1% level once anti-dumping petitions are included in the second regression. This is unsurprising, though, as it merely reiterates Congress' reactive nature in implementing protectionist legislation. Further evidence of this is the change in  $R^2$ , which increases by nearly six fold between the first two regressions, again illustrating the strength of anti-dumping petitions in producing protectionist legislative measures. While the possibility that Congress independently recognizes and mitigates foreign currency threats to the financial industry cannot be completely disregarded, the reactive nature of lawmakers is evident in the context of the financial industry.

From the data yielded by the regressions for the financial industry alone, the assumption that Congress is "blind" to the identity of the petitioner is supported. Shifting to the industry with lower pass-through relative to the financial industry, however, the results of two regressions suggest otherwise. The exchange rate for primary metal manufacturing, considered independently, is more significant in its effect on protectionist legislation than is that of the financial industry, as it is shown to be statistically robust down to the 5% level. While this seems statistically trivial, the  $R^2$  for its relationship with protectionist legislation represents an 84% increase from the comparable regression conducted for the financial industry. Thus, a preliminary conclusion is that Congress is more likely to independently recognize and address, thereby taking a *proactive* approach, detriments facing the primary metal manufacturing industry than they are for those facing the financial industry. The results of the fourth regression, which incorporates primary metal anti-dumping petitions, are nearly identical to those returned by the equivalent regression conducted for the financial industry. The effects of both the industry exchange rate and industry anti-dumping petitions on protectionist legislation are significant down to the 1% level, and the comparable value

of  $R^2$  is indicative of a similar level of Congressional reactivity to petitions by the two industries. The most substantial conclusion, however, is revealed by the final regression. Once anti-dumping petitions by both industries were omitted, and the only included factors were the two industries' exchange rates, the significance of the financial industry's rate drops to inconsequential, while the primary metal rate is shown to still have an effect at the 10% level. While this is not the strongest of relationships, it is important to recognize that the regression isolates the nature of Congress as a *proactive* force, because industry exchange rates alone do not directly pressure lawmakers into taking action like anti-dumping petitions do. Given that Congress has been seen as a predominantly *reactive* force, the partial significance of a variable gauging a *proactive* response suggests that Congress might preemptively protect certain industries.

From the data contained in Table 9, there is some divergence from the patterns which emerged in the regression summarized in Table 8. Even when considered independently, "repair services," the non-manufacturing industry with the lowest pass-through, was shown to be statistically significant at or above the 1% level. This gives further rise to the possibility that Congress proactively protects industries with lower pass-through elasticity, regardless of their manufacturing or non-manufacturing status. This is likely a result of the cost control measures taken by industries hit hardest by exchange rate fluctuations in the interests of financial solvency. One effective and highly controversial means by which U.S. companies have done so in recent years is via layoffs of their American employees;<sup>84</sup> an issue that has sparked constituent outrage and intense partisan debate in the halls of Congress and beyond. Given that lawmakers have a vested interest in preserving U.S. jobs and increasing productivity, it is a reasonable assumption that they would primarily attempt to do so for industries most vulnerable to exchange rate-driven cost increases. Reverting to the analysis of our data, once anti-dumping petitions filed by the repair services industry are included, the significance of the industry's exchange rate remains robust at the 1% level, and the petitions themselves are shown to be equally significant. Interestingly, the  $R^2$

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<sup>84</sup> Morrison, Wayne M. and Marc Labonte. 2010. "China's Currency: An Analysis of the Economic Issues." P.19



increases three fold from the first regression, suggesting that even for industries with low degrees of pass-through, Congress is still highly reactive in its implementation of protectionist measures.

In the context of the machinery industry, which represents the manufacturing industry with the highest degree of pass-through, the results reinforce the conclusion that Congress is more proactive on behalf of industries with low pass-through. As the conclusion would predict, the significance of the machinery industry's exchange rate is only significant at the 5% level when considered independently, compared to the 1% significance held by the lower pass-through industry of repair services in the first regression. In turn, the significance of the exchange rate increased in robustness to 1% significance once the variable assessing the reactive component, anti-dumping petitions, was included. In the final regression, however, the expectations dictated by our preliminary conclusion were defied. Once the exchange rates of the two industries were considered simultaneously and anti-dumping petitions were omitted, both variables became significant at the 1% level. Unlike the results of the comparable regression summarized in Table 8, the high pass-through industry was not only statistically robust, but actually *increased* in significance to the highest degree of robustness from the regression which considered it independently. While this partially detracts from our "low pass-through, proactive response" conclusion, two possibilities are worth mentioning. Congress may be generally more proactive for *all* manufacturing industries, due to their comparably low pass through and historical stigma as the true "American" tenets of the U.S. economy. If this is the case, the data can still provide for the conclusion that in the context of non-manufacturing industries, which have a higher degree of pass-through variance, Congress is partially proactive for those industries with lower pass through, and almost entirely reactive for those industries with higher pass through. An additional possibility behind the anomaly in the fifth regression is that the machinery industry, by virtue of its interconnectedness to similar manufacturing industries with lower pass-through, is so closely intertwined with such industries that it is frequently grouped together as a primary driver of legislation. Unlike non-manufacturing industries, which are more distinct in the purpose and scope

of their functions, manufacturing industries might be difficult to discern from one another, as the line dividing them can be blurred by their status as producing either inputs or final units of production, or both. Despite this anomaly, as significant in its implications as it is, the conclusions that lawmakers are more likely to implement protectionist measures *proactively* for industries with lower pass through and are even more likely to do so *reactively* for the same industries are both still supported by the data.

## CHAPTER SIX

### CONCLUSION

From the results of my analysis, three conclusions and their subsequent implications are robustly supported.

First, reverting to the original question asking where divergence in opinion on issues of exchange rates predominantly occurs, it is evident that the bifurcation of U.S. private sector opinion occurs at the broadest levels of “manufacturing” and “non-manufacturing.” Intuitively, this divide is thus between the sector which *produces* tangible goods and that which provides services or *sells* tangible goods. When taken in the specific context of the Yuan, the two sides advocate for the currency to be either appreciated or depreciated relative to the Dollar, respectively. Below this level, however, firms and industries are overwhelmingly unanimous in their stance. Consequently, in political decision-making on protectionist legislation, lawmakers should be conscious of the impact their vote has on their reputation amongst these two massive economic groups.

Second, following the identification of where divergence in opinion primarily occurs, an analysis of economic variables which might account for such divergence revealed that, contrary to my original hypotheses citing exchange rate pass-through and industry-specific exchange rates, the real effective exchange rate (REER) of the Yuan has the most robust correlation with industry level opinions. This remains true of the variable even when considered simultaneously with the Dollar REER and the U.S.-China trade balance. While it is still the case that an industry with high pass-through is less affected by changes in exchange rates than is an industry with low pass-through, no divergence in opinion was found between industries within the two broad sectors, despite having vastly different pass-through elasticities. The most important implication of this finding follows: that the factor underlying the polarization at the broadest levels must be related to the groups’ status as either providing goods or services, and in this particular case, secondary factors pertaining

to China and its economic relationship with the United States almost certainly have some degree of influence.

Third, I have shown that legislative responsiveness to industry grievances concerning the Yuan suggests that Congress is predominantly *reactive*, rather than *proactive*, in implementing protectionist measures which defend and promote the competitiveness of U.S. firms and industries. Further, its degree of responsiveness is uniform for all industries, regardless of their standing or importance in the U.S. economy. Interestingly, however, when Congress is instead *proactive* and independent in implementing protectionist legislation, it does not do so in the same objective manner. Our results indicate that legislators independently identify foreign trade disadvantages burdening manufacturing industries more often than they do for non-manufacturing industries. While this is not to suggest legislative favoritism or biases, it does first raise the question of whether lawmakers are conscious of this tendency, and, if so, is it a consequence of their perception that manufacturing industries are more valuable to the economy or are instead simply in greater need of protection.

Although my analysis returned several substantive conclusions with significant implications for U.S. trade policy, it is not without limitations. Chief among these emerges due to the regressors, which, by virtue of being indicators of similar things, are so closely related and in some cases even partially overlapping. Industry-specific exchange rates, for instance, incorporate the real effective exchange rates of the Dollar and major trading partner currencies. This makes it difficult to isolate the effect of one over the other, and while this was partially controlled for via holding one constant, the precise extent of the effect of the Yuan REER on American private sector opinions is likely not contained in my data.

An additional, more discernible limitation is the narrowness of the time period analyzed, which spanned a mere three decades from 1980-2010. However, given that the bulk of modernization in China has occurred in the past *twenty* years, extending the time frame further into the past would undoubtedly skew the results of the data with economic statistics comparable to a

third-world economy, rather than a global superpower. However, this short chronological window also prevents an analysis of the U.S. before 1980, which might have returned dramatically different results than those outlined earlier.

The final limitation to my analysis is also one stemming from a limited field of view. The case study, substantive as it is, only allows for the analysis of a single instance involving the issue at hand. However, given the highly-visible nature of the debate and lobbying efforts, coupled with a wealth of publicly-accessible data, the case still provides a clear vantage point from which to identify the industry players on both sides of the issue.

Future work should not only address the weaknesses outlined above, but could also reinforce the possibility that some of my conclusions are indeed specific to China and its manipulated economy and exchange rate. This could be done more than one way, though the most direct route would utilize similar empirical tests, but do so for some other major U.S. trading partner. Potential subject countries include Canada, Japan, and Germany. These all represent countries with exchange rate systems similar to the United States, and have a U.S. trading volume similar to that of China. Should the results appear similar to those returned in this project, the conclusion that the unique sensitivity of U.S. industries to the Yuan is due to its status as “pegged” at an excessively depreciated level would be substantially undermined. If, however, discernible differences were found between those nations and China following an analysis via the same series of regressions, the same conclusion would be further validated.

Additionally, future work should analyze political decision-making at the level of individual Congressmen. Our research suggests that Congress is universally responsive and at least partially proactive in mitigating exchange rate concerns, but does not quantify the role of special interests at play on behalf of the petitioners. For instance, it may be the case that the sheer volume of lobbying and campaign contributions by the steel or primary metal industry drove the eventual creation of H.R.2378. Conversely, the lobbying efforts of the bill’s opponents might explain its ongoing status as tabled and stagnant in the Senate. While lobbying efforts are typically similar in

their intensity on both sides of an issue, an exploration into such possibilities is an important undertaking for the future.

Despite these limitations, I have illustrated perhaps the most invaluable reality of the 21<sup>st</sup> century: the U.S. private sector, and with it the global economy, is at the mercy of Chinese exchange rate policy. Movements in the value of the Yuan, due to the underlying factors which indirectly affect it, reverberate throughout firms ranging from corner stores to multinational conglomerates, yet there is no clear consensus amongst those affected as to its appropriate value. In light of this disagreement, even remedial policies implemented by the U.S. government will inevitably result in damages to a substantial bloc of the economy, and even so, run the risk of triggering a U.S.-China “trade war” that could all but eliminate the export market for certain industries and push the domestic cost of living to unprecedented levels. Consequently, Chinese monetary policymakers have virtually boundless control over the health of foreign firms and industries. A normative discussion as to whether the situation should be addressed via forced or diplomatic measures would deviate beyond the bounds of this analysis, but given the implications discussed throughout, the one certainty is that government and the private sector alike cannot afford the continuance of indecision.

## TABLES & FIGURES

<b>Table 1: Lobbying Data on H.R. 2378</b>	
Groups Supporting H.R. 2378	Groups Opposing H.R. 2378
<ul style="list-style-type: none"> <li>• AFL-CIO</li> <li>• Alliance for American Manufacturing</li> <li>• Aluminum Extruders Council</li> <li>• American Iron &amp; Steel Institute</li> <li>• International Association of Machinists and Aerospace Workers</li> <li>• United Steelworkers</li> </ul>	<ul style="list-style-type: none"> <li>• American Apparel &amp; Footwear Association</li> <li>• American Meat Institute</li> <li>• American Soybean Association</li> <li>• Coalition of Service Industries</li> <li>• Financial Services Roundtable</li> <li>• International Dairy Foods Association</li> <li>• National Cattleman’s Beef Association</li> <li>• National Council of Farmer Cooperatives</li> <li>• National Fisheries Institute</li> <li>• National Retail Federation</li> <li>• Pacific Coast Council of Customs Brokers &amp; Freight Forwarders</li> <li>• Securities Industry &amp; Financial Markets Association</li> <li>• Sporting Goods Manufacturers Association</li> <li>• TechAmerica</li> <li>• U.S. Chamber of Commerce</li> <li>• USA Poultry &amp; Egg Export Council</li> </ul>

*The data on groups in support or opposition to H.R. 2378: The Currency Reform for Fair Trade Act, was retrieved from J. Lawrence Broz (2010), who organized the data based on lobbying research completed by a research team at Maplight.org, a nonprofit research organization which tracks money in politics. Maplight lobbying research was conducted via the compilation of separate data from OpenSecrets, FollowTheMoney and GovTrack.*

<b>Table 2</b> <b>DV: Mfg. Industry</b> <b>Exchange Rate</b>	1	2	3
<b>Yuan REER</b>	-.05 (.055)** <i>-.9189</i>	-.0844 (.0033)*** <i>-25.58</i>	.11165 (.0157)*** <i>7.11</i>
<b>USD REER</b>	-----	.8141 (.0079)*** <i>45.56</i>	-----
<b>U.S.-China Trade</b> <b>Balance</b>	-----	-----	-1.308e <sup>-5</sup> (4.05e <sup>-6</sup> )*** <i>-3.266</i>
<b>Constant</b>	17.53 (.849)*** <i>-.919</i>	34.5854 (1.659)*** <i>20.84</i>	92.9156 (1.982)*** <i>46.87</i>
<b>Number of</b> <b>Observations</b>	744	744	744
<b>R<sup>2</sup></b>	.001144	.73852	.07827

Figures in parenthesis represent robust standard errors; italicized figures represent t-statistics; significance at the 10, 5, and 1% levels is denoted “\*,” “\*\*,” and “\*\*\*,” respectively

<b>Table 3</b> <b>DV: Non-Mfg.</b> <b>Industry Exchange</b> <b>Rate</b>	1	2	3
<b>Yuan REER</b>	.00486 (0068)* <i>.7106</i>	-.0861 (.0042)*** <i>-20.74</i>	.1685 (.0179)*** <i>9.405</i>
<b>USD REER</b>	-----	.9296 (.0225)*** <i>41.35</i>	-----
<b>U.S.-China Trade</b> <b>Balance</b>	-----	-----	-1.053e <sup>-5</sup> (4.574e <sup>-6</sup> )** <i>-2.303</i>
<b>Constant</b>	103.594 (1.0596)*** <i>97.76</i>	20.384 (2.085)*** <i>9.776</i>	83.8959 (2.2572)*** <i>37.17</i>
<b>Number of</b> <b>Observations</b>	620	620	620
<b>R<sup>2</sup></b>	.0008	.7351	.1463

Figures in parenthesis represent robust standard errors; italicized figures represent t-statistics; significance at the 10, 5, and 1% levels is denoted “\*,” “\*\*,” and “\*\*\*,” respectively



<b>Table 4</b> <b>DV: Mfg. anti-dumping petitions</b>	<b>1</b>	<b>2</b>	<b>3</b>
<b>Pass-Through Elasticity</b>	.00392 (1.0458)** <i>.003744</i>	-.00398 (.9579)* <i>-.00416</i>	.1821 (.95023) <i>.1916</i>
<b>Yuan REER</b>	-----	-.02243 (.00188)*** <i>-11.93</i>	-.02218 (.00186)*** <i>-11.91</i>
<b>Industry Exchange Rate</b>	-----	-----	.04846 (.01255)*** <i>3.86</i>
<b>Constant</b>	5.3506 (.3473)*** <i>15.41</i>	8.5284 (.4146)*** <i>20.56</i>	3.2604 (1.4253)** <i>2.288</i>
<b>Number of Observations</b>	739	739	739
<b>R<sup>2</sup></b>	-.00136	.16213	.17877

Figures in parenthesis represent robust standard errors; italicized figures represent t-statistics; significance at the 10, 5, and 1% levels is denoted “\*,” “\*\*,” and “\*\*\*,” respectively

<b>Table 5</b> <b>DV: Non-mfg. anti-dumping petitions</b>	<b>1</b>	<b>2</b>	<b>3</b>
<b>Pass-Through Elasticity</b>	1.0615e <sup>-12</sup> (2.8656) <i>1.276e<sup>-13</sup></i>	1.0652e <sup>-12</sup> (7.4825) <i>1.424e<sup>-13</sup></i>	-1.15263 (7.44695) <i>-.1548</i>
<b>Yuan REER</b>	-----	-.02476 (.000204)*** <i>-12.12</i>	-.02494 (.00203)*** <i>-12.28</i>
<b>Industry Exchange Rate</b>	-----	-----	.03516 (.011965)***
<b>Constant</b>	5.3548 (2.8656)* <i>1.869</i>	8.8531 (2.5934)*** <i>3.414</i>	5.6069 (2.8042)** <i>1.999</i>
<b>Number of Observations</b>	620	620	620
<b>R<sup>2</sup></b>	-.0016	.19239	.20355

Figures in parenthesis represent robust standard errors; italicized figures represent t-statistics; significance at the 10, 5, and 1% levels is denoted “\*,” “\*\*,” and “\*\*\*,” respectively

Magnitude of Effect Caused by a Change in the Yuan/USD Rate	Table 6	Preferred Yuan/Dollar Exchange Rate Level	
		Depreciated (Non-Manufacturing)	Appreciated (Manufacturing)
	Low	Financial (.682) Business (.589)	Machinery (.7559) Plastics & Rubber (.5318)
High	Telecommunications (.4137) Repair (.333)	Fabricated Metal Products (.3138) Food Manufacturing (.2485) Textiles & Fabrics (.3124) Primary Metal (.2123)	

Table 7 DV: Industry-Specific Protectionist legislation	1	2	3	4
Anti-Dumping Petitions	.1748 (.0182)*** 9.5828	.0657 (.0188)*** <i>3.5001</i>	.1685 (.0199)*** <i>8.4516</i>	.0697 (.0174)*** <i>3.9969</i>
Trade balance	-----	-9.04e <sup>-6</sup> (7.31e <sup>-7</sup> )*** <i>-12.374</i>	-----	-6.5e <sup>-6</sup> (7.2e <sup>-7</sup> )*** <i>-9.028</i>
Yuan REER	-----	-----	-.0009 (.0011) <i>-.7893</i>	-----
Dollar REER	-----	-----	-----	-.0548 (.005)*** <i>-11.0304</i>
Constant	2.327 (.1173)*** <i>19.8416</i>	2.213 (.1072)*** <i>20.6526</i>	2.485 (.2319)*** <i>10.7114</i>	8.06 (.5392)*** <i>14.9463</i>
Number of Observations	739	739	739	739
R <sup>2</sup>	.1108	.2639	.2915	.3685

Figures in parenthesis represent robust standard errors; italicized figures represent t-statistics; significance at the 10, 5, and 1% levels is denoted “\*,” “\*\*,” and “\*\*\*,” respectively

<b>Table 8</b> <b>DV: Industry-Specific Protectionist Legislation</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
<b>Exchange Rate: Financial</b>	-0.039 (.0227)* <i>-1.7648</i>	-0.051 (.0194)*** <i>-2.6284</i>	————	————	-0.0042 (.0295) <i>-1.436</i>
<b>Exchange Rate: Primary Metal</b>	————	————	-0.044 (.018)** <i>-2.4775</i>	-0.047 (.0153)*** <i>-3.0623</i>	-0.042 (.0239)* <i>-1.7391</i>
<b>Anti-Dumping Petitions</b>	————	.306 (.0494)*** <i>6.1954</i>	————	.2861 (.0479)*** <i>5.9759</i>	————
<b>Constant</b>	7.417 (2.354)*** <i>3.1514</i>	6.731 (2.005)*** <i>3.3561</i>	8.052 (1.92)*** <i>4.1822</i>	6.714 (1.68)*** <i>4.0011</i>	8.243 (2.349)***
<b>Observations</b>	100	100	100	100	100
<b>R<sup>2</sup></b>	.0308	.3056	.0567	.3032	.057

Figures in parenthesis represent robust standard errors; italicized figures represent t-statistics; significance at the 10, 5, and 1% levels is denoted “\*,” “\*\*,” and “\*\*\*,” respectively

<b>Table 9</b> <b>DV: Industry-Specific Protectionist Legislation</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>5</b>
<b>Exchange Rate: Repair Services</b>	-0.0756 (.0222)*** <i>-3.411</i>	-0.0803 (.019)*** <i>-4.2927</i>	————	————	-0.0247 (.0592)*** <i>-3.9978</i>
<b>Exchange Rate: Machinery</b>	————	————	-0.0432 (.021)** <i>-2.092</i>	-0.056 (.0176)*** <i>-3.1861</i>	.1556 (.0533)*** <i>2.917</i>
<b>Anti-Dumping Petitions</b>	————	.302 (.0464)*** <i>6.5053</i>	————	.312 (.0484)*** <i>6.4412</i>	————
<b>Constant</b>	11.12 (2.321)*** <i>4.7908</i>	9.825 (1.968)*** <i>4.9914</i>	7.771 (2.18)*** <i>3.5655</i>	7.272 (1.85)*** <i>3.9404</i>	11.563 (2.245)*** <i>5.15</i>
<b>Number of Observations</b>	104	104	104	104	104
<b>R<sup>2</sup></b>	.1024	.3674	.0411	.3203	.1721

Figures in parenthesis represent robust standard errors; italicized figures represent t-statistics; significance at the 10, 5, and 1% levels is denoted “\*,” “\*\*,” and “\*\*\*,” respectively.

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## APPENDIX A

<b>Table A1</b> DV: Mfg. Industry Exchange Rate	<b>1</b>	<b>2</b>	<b>3</b>
USD/CHY	.752 (.137)*** 5.477	-----	.921 (.1669)*** 5.519
U.S.-China Trade Balance	-----	-6.23e <sup>-6</sup> (3.812)	8.1e <sup>-6</sup> (4.55)* 1.78
Constant	102.343 (.887)*** 115.374	106.34 (.457)*** 232.9	101.959 (.912)*** 111.842
Number of Observations	744	744	744
R <sup>2</sup>	.039	.003	.043

<b>Table A2</b> DV: Non-Mfg. Industry Exchange Rate	<b>1</b>	<b>2</b>	<b>3</b>
USD/CHY	.354 (.173)**	-----	.588 (.217)*** 2.719
U.S.-China Trade Balance	-----	9.626e <sup>-7</sup> (4.77e <sup>-6</sup> ) .206	1.07e <sup>-5</sup> (5.94e <sup>-6</sup> )*
Constant	102.158 (1.125)***	104.354 (.57)*** 183	101.576 (1.169)*** 86.926
Number of Observations	620	620	620
R <sup>2</sup>	.007	.00006	-.012

<b>Table A3</b> DV: Mfg. anti-dumping petitions	<b>1</b>	<b>2</b>	<b>3</b>
Pass-Through Elasticity	.00392 (1.0458)** .003744	.006 (.917)* .0065	.077 (.917) .084
USD/CHY	-----	.687 (.046)*** 14.908	.67 (.047)***
Industry Exchange Rate	-----	-----	.018 (.012) 1.49
Constant	5.3506 (.3473)*** 15.41	1.26 (.409)*** 3.075	-.65 (1.34) -.484
Number of Observations	739	739	739
R <sup>2</sup>	-.00136	.232	.234



<b>Table A4</b> DV: Non-mfg. anti-dumping petitions	<b>1</b>	<b>2</b>	<b>3</b>
<b>Pass-Through Elasticity</b>	1.06e <sup>-12</sup> (8.32) .0001	-1.15e <sup>-13</sup> (7.2) -.0001	-.569 (7.2) -.079
<b>USD/CHY</b>	-----	.7189 (.0489)*** 14.417	.7128 (.04998)*** 14.2602
<b>Industry Exchange Rate</b>	-----	-----	.0174 (.012) 1.496
<b>Constant</b>	5.35 (2.866)* 1.869	1.041 (2.498) .4167	-.537 (2.709) -.198
<b>Number of Observations</b>	620	620	620
<b>R<sup>2</sup></b>	.0001	.252	.255

<b>Table A5</b> DV: Protectionist legislation	<b>1</b>	<b>2</b>	<b>3</b>
<b>Anti-Dumping Petitions</b>	.27 (.0225)*** 11.999	-----	.1725 (.0255)***
<b>Trade balance</b>	-----	-----	-7.81e <sup>-6</sup> (1.09e <sup>-6</sup> )*** -7.176
<b>USD/CHY</b>	-----	.308 (.0336)*** 9.173	.0136 (.0404) .3367
<b>Constant</b>	1.552 (.145)*** 10.667	1.149 (.2188)*** 5.254	1.395 (.211)*** 6.597
<b>Number of Observations</b>	620	620	620
<b>R<sup>2</sup></b>	.1889	.1198	.2717