Freedom Fries*

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Abstract

Do firms always choose the cheapest suitable inputs, or can group attitudes affect their choices? To investigate this question, we examine the deterioration of relations between the US and France from 2002-2003, when France's favorability rating in the US fell by 48 percentage points. We estimate that the worsening attitudes reduced bilateral trade by about 10-12 percent, and that much of this was due to reduced trade in firms' inputs. We use these estimates to calculate the average decrease in firms' willingness to pay for French (or US) commodities when attitudes changed.

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1 Introduction

Economists often assume that firms choose inputs to minimize their cost of production. In other words, we typically assume that firms purchase the cheapest suitable inputs, regardless of the supplier's nationality, race, or gender. But it is difficult to actually test whether attitudes towards a particular group affect firm choices, since the group members may possess better or worse inputs. And even if attitudes do affect firm choices, it is difficult to assess how much firms pay to accommodate them.

To shed light on this issue, we examine whether firms change their inputs when attitudes towards a foreign country change. Specifically, we consider a change in international relations that affects attitudes, but does not involve risk of bilateral war, threats of violence, economic sanctions, or even imposition of substantial formal trade barriers. Neoclassical theory tells us that while consumers and governments may take this change into account, firms should continue to choose the cheapest inputs. Firms that fail to do so are at a competitive disadvantage, and would tend to contract.[1]

And yet there are at least three reasons why attitudes may still affect firms' choice of inputs. First, as Becker (1957) argues, firms that earn rents may stay in business even if their owners pay for their preferences.[2] Second, if managers are imperfectly monitored, worse attitudes might reduce their private benefits from business travel or interactions, affecting sales or purchases. Or it may be harder for managers to purchase or sell if worse attitudes reduce trust. Finally, external pressures from consumers or governments may also affect firms' choice of inputs. In this paper we assess the overall impact of attitudes on trade in inputs through all these channels.

In order to examine whether attitudes affect trade, we use variation in international relations that affects attitudes, but little else. We do so by examining the deterioration of relations between the US and France, which took place from 2002-2003. The US government

[1] See Becker (1957), pages 43-45 and Becker (1993), page 388.

[2] Firms may earn rents if they have market power (Becker 1957) or if they control a scarce resource, such as managerial talent (Lucas 1978).

tried to obtain a United Nations (UN) Security Council mandate to use military force against Iraq, and the French government opposed this move. The resulting standoff worsened US public opinion towards France. The fraction of US Gallup Poll respondents who viewed France favorably declined from 83 percent in February 2002 to 35 percent in March 2003, and recovered only to 57 percent in February 2006. Very negative opinions of France became common among people with high income, a group which likely includes many managers. By contrast, attitudes towards Germany worsened much less and recovered rather quickly, and attitudes towards the UK, Spain, and Italy appear to have changed very little. In France, US favorability fell from 63 percent in 2002 to 43 percent in 2003 (Pew Global Attitudes Project 2006).

Aggregate figures suggest that from 2001-2003 the US expanded its international transactions with France more slowly than with other Eurozone countries. Although this is the case for both trade in goods and services and other income payments, our analysis focuses on trade in goods, where high quality data is readily available. Comparing France to OECD or Eurozone countries from 1999-2005, we estimate that the shock to attitudes may have reduced US imports from France by as much as 15 percentage points. There is also some evidence that the shock may have reduced US exports to France by about 8 percentage points. One limitation of these estimates, however, is that they do not account for changes in the composition of trade flows over time. To address this concern, our preferred specifications focus on France's share of US trade with the Eurozone within 4-digit Harmonized System (H0) commodity groups. These specifications suggest that France's share of both imports and exports declined by about 11-13 percent.

Having found some evidence that worsening attitudes decreased trade, we examine the contribution of trade in firm inputs to this decline. Using a US input-output table, we identify 2-digit commodity groups where 75 percent or more of US consumption in 1999 is attributed to firms. Trade in these commodities accounted for almost half of US imports from France in 1999. Our estimates suggest that the worsening attitudes reduced France's

share of US imports from (and exports to) the Eurozone within commodity groups by about 11-14 percentage points.[3]

We interpret these results as evidence that attitudes affect trade in inputs. Our estimation strategy allows us to address several potential concerns regarding the validity of this interpretation. First, the magnitude and timing of the shock to relations suggests reverse causality is not a problem for our analysis: it is very unlikely that trade itself caused the change in attitudes that we document. Second, we net out fixed aspects of the suitability of French inputs to US firms (and vice versa), and any fixed barriers to trade. Third, tariffs between the two countries remained low throughout the period, and we show that changes in specific trade barriers from 1999-2005 do not explain much of the changes in trade. Fourth, there was little risk of violence or bilateral war between the US and France, so risk was probably not an important reason for firms to reduce trade in inputs.[4] Fifth, the use of a common currency in France and in the rest of the Eurozone addresses potential concerns about spurious exchange rate fluctuations. Sixth, our results are robust to restricting the sample to 2001 and 2003 - the years between which the effect of attitudes was likely the largest. An examination of monthly trade data also suggests that there were no similarly large and persistent shocks to individual Eurozone countries from 1999-2005, except for the one we analyze. Seventh, we find no significant decline in unit values of US inputs traded with France compared to US inputs traded with the rest of the Eurozone. This suggests that the decline in trade was due to a fall in quantity, rather than a decline in quality. Finally, our results do not appear to be driven by a negative aggregate shock to France's economy. Changes in France's GDP and unemployment were very similar those of the rest of the Eurozone from 2001-2003. And our findings on the effect on trade are mostly robust

[3] Using the input-output tables we also identify commodities used primarily by governments and by consumers. We find that the effect on trade in consumer goods was not very precise, but there was a large and significant decline in trade of ordnance – the only category consumed primarily by governments. Yet ordnance accounts for much less than 1 percent of trade, so the direct impact of governments on trade through purchases seems very limited.

[4] There is evidence that war decreases trade (Martin, Mayer, and Thoenig 2008) and even lower levels of violence can affect economic outcomes (Abadie and Gardeazabal 2003).

(although smaller) when we control for changes in France's share of Eurozone trade with OECD countries other than the US.[5]

But if relations between the US and France affected the attitudes of businesses, should we not expect them to affect flows of people, as well as inputs? Our measures of travel are rather noisy, but they do suggest that there was a decline in both tourism and business travel to France (compared to Western Europe) from the US around 2002. While the decline in trade may have reduced the need to travel, it is also possible that attitudes reduced managers' appetite for travel; such a decline may have affected both sales and purchases.

Having found evidence that attitudes reduced trade in inputs, we examine how much firms might have paid to accommodate this change in attitudes. To do so, we estimate what average increase in French commodity prices would have decreased trade by the same amount as did the change in attitudes. For a broad range of substitution elasticities between commodities produced in France and those produced elsewhere, we estimate that the implied price increase was about 1-6 percent.

Taken together, our results suggest that attitudes can substantially affect trade in firms' inputs. But is this due to owner preferences, external incentives by consumers or governments, or managerial behavior? Since most large US firms are not held by a single owner (La Porta, Lopez-de-Silanes, and Shleifer 1999) and public attitudes varied greatly, coordinated action on part of owners seems unlikely to explain much of the response we find. As we discuss below, the responses we find for consumers and governments may have contributed somewhat to the aggregate decline in trade of inputs, though we find no evidence for an indirect boycott that would have caused firms to change their input composition. But our most likely explanation is that managers' own attitudes led them to make decisions that reduced bilateral sales or purchases of inputs.

[5] Another question is whether we can use events to study the effects of attitudes on trade. At first sight it may seem that such events are not very rare. For example, journalistic accounts suggest that a recent crisis may have substantially reduced Danish exports to the Middle East (BBC 2006). But the incident we analyze is unusual because we can detect the strong public response, find a plausible control group for one of the trading partners, and rule out at least some leading alternative explanations for the effect of international relations on trade.

Our finding that attitudes can affect firms' choice of inputs appears relevant for discussions of firm employment decisions. It suggests that even if competition incentivizes firms to overcome group attitudes, the effect of these attitudes need not be eliminated (Becker 1993, page 388). This consideration seems relevant for labor market studies by Goldin and Rouse (2000), Bertrand and Mullainathan (2004), and Moser (2008), who argue that minority groups may find it harder to gain employment or promotion. Our findings are also related to Bandiera et al. (2007), who find that when faced with low powered incentives, managers may give preferential treatment to compatriots. Like their study, our study suggests that profit motives may be insufficient to eliminate the effects of attitudes.

Our study is also related to the research on the role of culture in economic exchange (Greif 1993, Fershtman and Gneezy 2001). In particular, recent work finds an association between cultural attitudes and trade (Guiso et al. 2005; Disdier and Mayer 2007). Our findings are consistent with the interpretation that attitudes have a causal effect on the patterns of trade. Finally, our work is also related to Della Vigna and Kaplan (2007), who trace out the effects of media coverage. Like their study, ours suggests that coverage of current events can influence public opinion and affect real outcomes.

The rest of the paper is structured as follows. Section 2 examines the deterioration of the bilateral relations between the US and France. Section 3 investigates the impact of this deterioration on aggregate trade flows between these two countries. Section 4 examines the effects of firms, consumers, and governments on trade. Finally, Section 5 concludes.

2 Deterioration of Relations and Worsening Attitudes

This section examines the deterioration of relations between the US and France from 2002-2003, and its effect on attitudes. The crisis began in 2002, when the US tried to obtain a UN Security Council mandate to use military force against Iraq, against the strong objections of France. Other European governments were divided: some supported the US, while others

were closer to France. But France's situation differed in important ways from that of its Western European neighbors. First, it had the right to veto Security Council resolutions; the other longtime US ally with veto power, UK, supported the US. Second, it was more active in opposing the US efforts (CNN 2003). The resulting standoff affected attitudes not only among politicians, but also among the general public.

Signs of negative attitudes towards France in the US appeared as early as September 2002, when President Bush prepared to address the UN regarding Iraq. Only 33 percent of the ABC poll respondents said that France had done enough to support the U.S. campaign against terrorism, while 56 percent said that it had not.[6] In October 2002, two editorial articles in the Washington Post strongly criticized France's attempts to prevent a US sponsored Security Council resolution authorizing the use of force against Iraq (Washington Post 2002). Following the compromise of UN Security Council Resolution 1441 (November 2002), 26 percent of NBC poll respondents in early December said that they "lost respect" for France. Loss of respect increased sharply with income, reaching about 40 percent in the highest income brackets.[7] This suggests that attitudes among managers and other decision makers probably changed before those of the rest of the population, so they may have responded earlier.[8] But as we discuss below, by March 2003 people from different income groups had similar attitudes.

The evidence presented so far, although suggestive, does not allow us to systematically track the change in attitudes over time. To address this concern we use responses to a Gallup Poll question that was asked in an almost identical way since the early 1990s. US residents were asked for their "overall opinion of [country x]: very favorable, mostly favorable, mostly unfavorable, very unfavorable". Figure 1 shows the favorability rating (the fraction of respondents who had a "very favorable" or a "mostly favorable" opinion) of 5 major European countries. From January 1991 to February 2002 there was little change in attitudes towards

[6] By contrast, 75 percent said Great Britain had done enough and 39 percent said Germany had done enough.

[7] See Appendix Figure A1.

[8] See also evidence in Section 4 on self reported purchases of French products by income level.

the UK, France and Germany; all three countries had favorability ratings that fluctuated around 75-95 percent. But from February 2002 to March 2003, France's favorability rating plummeted from 83 percent to 35 percent, recovering only to 57 percent in February 2006. By contrast, the decline in attitudes towards Germany was much smaller and shorter lived. At the same time, US attitudes towards the UK were mostly unchanged. Data for Italy and Spain, although available only twice for each country, suggests that attitudes towards those countries were also largely unaffected, especially compared to the attitudes towards France.

The negative attitudes towards France in the US were both widespread and strong. In February 2002, only 4 percent of US respondents had a "very unfavorable" view of France, and 16 percent had a "somewhat unfavorable view".[9] But in March 2003, about 40 percent had a "very unfavorable" view of France, and about 26 percent had a "somewhat unfavorable" view. Since we cannot identify managers, we focus on the group of college graduates whose household income was above $75,000. Of this group, about 33 percent had a "very unfavorable" opinion of France, and about 34 reported a "somewhat unfavorable" opinion.[10]

The evidence that US relations with France worsened is not restricted to public opinion polls. Condoleezza Rice, who was then the National Security Advisor, was quoted in March 2003 as having told associates that the US should "Punish France, ignore Germany and forgive Russia" (Reuters, March 2003). There were also calls to boycott French goods: journalist Bill O'Reilly wrote that his column continues to "boycott French goods, things made in France, not things made by Americans with French labels." (Fox News 2003). And two members of the US House of Representatives, Robert Ney and Walter Jones, renamed "French Fries" as "Freedom Fries" on the House of Representatives' cafeteria menu (BBC 2006).

The change in relations and attitudes was not restricted to one side of the Atlantic: favorable opinion of the US in France fell from 63 percent in 2002 to 43 percent in 2003, and reached 39 percent in 2006. But at the same time, attitudes towards the US worsened

[9] These figures exclude those with "no opinion". See details in Appendix Table A1.

[10] See Appendix Table A2.

in Great Britain, Germany, and Spain, though not as quickly as in France (Appendix Table A1). Taken together, these figures suggest that the worsening attitudes between the US and France (compared to the rest of Western European), may have been due in larger part to changes in US attitudes than to changes in French attitudes. At the same time, the reciprocal aspect of attitudes and interactions makes it difficult to draw a clear distinction.

But even if the evidence presented here suggests that attitudes between the US and France worsened, it is not clear that trade between these two countries should have been affected. Both countries had signed trade agreements (e.g. the World Trade Organization), and both had shown commitment to reduce global trade barriers over several decades. The question we tackle in the next section is: did worsening attitudes reduce trade flows?

3 Did Attitudes Reduce Trade?

In order to investigate whether worsening attitudes may have affected US international transactions with France, be begin by examining summary statistics from BEA data in Table 1. Panel A of the table shows that total US transactions with France barely changed in nominal terms from 2001-2003. But compared to the rest of the Eurozone, this represented a considerable decline in trade of goods and services and in other income payments in both directions. But how unusual was France's performance compared to the Eurozone from 2001-2003? Panel B of Table 1 suggests that since the Eurozone's creation in 1999, the worst year for France's average share of US transactions with the Eurozone was 2003, followed by 2002.

Having found suggestive evidence for an effect of worsening attitudes, we now analyze more detailed data on trade in commodities from UN Comtrade. Figure 2 shows that growth in the nominal value of US imports from France slowed down around 2002-2003, while the growth of US imports from other Eurozone and OECD countries did not.[11] The figure also shows suggestive evidence that US exports to France may have declined. The changes in the

[11] We include Greece in the Eurozone even though its entry was delayed until 2001. But we exclude Slovenia, which joined the Eurozone in 2007.

figure are presented relative to 1999, since the exchange rates between Eurozone countries were fixed on 31 December 1998. We note that after the implementation of the Euro and before the shock to the attitudes between the US and France, US imports from France seem to have trended very similarly to US imports from other Eurozone countries.

Having examined the trends, we now estimate the following specification using a panel of US imports from OECD countries:

$$Y_{jt} = \beta France_j(Year_t > 2002) + \delta Year_t + \eta Country_j + \varepsilon_{jt}. \quad (1)$$

The dependent variable is $Y_{jt} = ln(P^U_{j,t}Q^U_{j,t})$, where $P^U_{j,t}Q^U_{j,t}$ is the value (quantity multiplied by price) of US imports from exporter country j in year t, $France_j$ is an indicator for France, $Year_t$ and $Country_j$ are vectors of year and country indicators, and ε_{jt} is an error term. The data are in nominal US dollars, using C.I.F. (Cost, Insurance and Freight) prices - the price of goods in the US port of arrival.[12]

Our specification treats 1999-2001 as "pre crisis" years, and 2003-2005 as "post crisis" years.[13] The choice of a 3 year window before and after 2002 reflects a tradeoff between different considerations. It allows the change in attitude ample time to affect trade flows, and mitigates measurement error problems that may arise when using year-to-year variation. At the same time, we avoid using a longer period where spurious changes in supply and demand could affect our estimates, and 1999 offers a convenient start date because of the implementation of the Euro.

The baseline result in Panel A of Table 2 shows that US imports from France declined by about 19 percentage points compared to imports from other OECD countries after attitudes worsened. Other columns show that this result is robust to using 1999 imports as regression weights and to using only data from 2001 and 2003. We estimate this regression using data

[12] Empirically, we use unit values as a proxy for prices.

[13] We also consider 2002 a "pre-crisis" year, assuming that the effect of relations on trade may have taken time to materialize, but our estimates are almost unchanged if we repeat the analysis excluding the data for 2002.

on US imports from OECD countries, assuming that in the short run these countries are plausible controls for France. Eurozone countries are more attractive controls because of their similarity to France, but the drawback of using only Eurozone countries is that the sample becomes smaller. In practice, the results for US imports change little when we use Eurozone countries as controls.

Panel B of Table 2 shows estimates of specification (1) using US exports instead of imports. Export data are in nominal US dollars, using F.O.B. (Free On Board) prices - the price of goods in the exporting country's port of origin.[14] The results suggest that worsening attitudes reduced trade by about 8 percentage points compared to other OECD countries. The estimate using Eurozone countries, although not precise, is similar in magnitude.[15]

While these estimates are consistent with the hypothesis that worsening attitudes reduced trade, they may also reflect a decline in French trade for reasons that are unrelated the worsening attitudes. But Figure 3 suggests that French trade with other OECD partners kept growing after 2002.[16]

Having found some evidence of a decline in trade between the US and France, we now compare the timing of this decline to the timing of the change in attitudes. Since Comtrade only provides annual trade figures, we now use monthly data on imports and exports from the US Census. To overcome the high variance of these monthly data, we calculate France's share of US imports from the Eurozone and its share of US exports to the Eurozone for each month from 1999-2005. We then regress the average of these two shares on month fixed effects (to net out seasonal effects) and plot the residuals in Figure 4. The results

[14] Wherever possible we follow the standard practice of using C.I.F. prices for imports and F.O.B. prices for exports.

[15] Since we are considering the effect on US trade with a single country, France, we may be concerned about the precision of the estimates in Table 2. We re-ran the specification in Column 1 of Table 2, replacing the indicator for France with an indicator for each of the other Eurozone countries. We then averaged the coefficients for each country from the US imports and export regressions. We found that France's average coefficient was the second most negative after that of Luxemburg (the smallest Eurozone country).

[16] As a further check of our previous results, we estimate a "triple difference" regression similar to specification **??**, where the dependent variable is log trade with the US or with the rest of the OECD (this avoids zero or near zero trade between smaller trade partners when using logs). The regressor of interest is an indicator for trade between the US and France after 2002, and we include a full set of interactions. The estimates for US imports and exports are -.101 (.042) and -.034 (.026).

suggest that France's share began to decline around the end of 2002 and the beginning of 2003. Although the monthly data are noisy, this evidence seems broadly consistent with the Gallup Poll evidence.[17]

Despite the evidence on the timing of the decline in trade, we might still be concerned that the change in trade might not have been only due to attitudes. For example, following the events of 11 September 2001, demand for air travel may have declined. This decline may have reduced demand for airplanes, which were an important export from France to the US. More generally, we would like to control for changes in the composition of US imports due to changes in demand. Similarly, we want to analyze changes in US exports to France net of supply shocks. Finally, we would like to alleviate concerns that the decline in trade was driven by secular changes in US tariff structure.[18]

In order to address these issues, we consider France's share in US trade with the Eurozone within each 4-digit Harmonized System (H0) commodity group.[19] Analyzing changes within 4-digit commodity groups also allows us to determine the role of prices and quantities in the relative decline of US trade with France. In order to analyze the changes in total trade, prices, and quantities, we estimate the following regressions:

$$Y_{it} = \beta(Year_t > 2002) + \delta Commodity_i + \varepsilon_{it}, \tag{2}$$

where $Commodity_i$ are fixed effects for France's share of each commodity. We estimate regression where the dependent variable, Y_{it}, is France's share in the value of US trade with the Eurozone, $(Q^U_{F,i,t}P^U_{F,i,t})/(Q^U_{E,i,t}P^U_{E,i,t})$, or the logarithm of this expression.[20] For

[17] Appendix Figure A2 shows similar figures for all 12 Eurozone countries. None of these countries shows a large and rapid drop similar to the one France experienced around December 2002.

[18] In practice, tariffs on commodities traded between the US and France are still very low (Gresser 2005), and the imposition of tariffs was likely to have caused a costly trade war between the US and the European Union. Even a Wall Street op-ed supporting the boycott of French commodities argues that raising tariffs is costly (Fund 2003). For a discussion of specific products targeted by US trade policies, see discussion in the next section.

[19] Here we focus on the Eurozone and not the OECD because there are more than 1,000 four digit commodity groups, so we prefer to use countries that are similar to France.

[20] The superscript (subscript) U denotes that the US is an importer (exporter). Similarly, we use F to

commodities where quantity data are available separately, we also estimate this regression for logarithms of trade value ($ln\left((Q_F^U P_F^U)/(Q_E^U P_E^U)\right)$), quantities ($ln(Q_F^U/Q_E^U)$), and relative unit values ($ln(P_F^U/P_E^U)$). The results in Table 3 show that the decline in US trade with France is due almost entirely to a change in quantities, not prices. This finding suggests that firms may have been unwilling to change their prices in a particular market in response to decreased demand from a particular market, albeit a large one. More importantly, it suggests that the decline in trade is not due to a fall in quality of goods traded, but rather in the quantity.

Having found a significant decline in France's share of trade with the US, we now evaluate its magnitude. The estimates in Tables 3 suggest that US trade with France fell by about 11-13 percent. This estimate may be biased upwards if Eurozone countries provided substitutes for the French goods. Such a bias is likely small, since a small increase in trade with all other Eurozone countries would have offset the decreased trade with France, and some substitutes may have been provided from the US or non-Eurozone countries. At the same time, the regression estimates may be slightly biased downward if commodities are bundled together for shipment to (or from) Europe, making other Eurozone destinations more costly to trade with when trade with France declines.

But even bearing these caveats (and others discussed below) in mind, our estimates of the effect of attitudes on trade are sizeable. For comparison, Helpman, Melitz, and Rubinstein (2007) estimate that the effect of WTO membership or sharing a common language on bilateral trade is approximately 10 percent. But how can attitudes have such a large effect on trade? The next section examines this question in detail, by looking at the role of governments, consumers, and especially firms in the trade reduction.

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denote France, E to denote Eurozone, and O to denote OECD (excluding the US). Also, for convenience we omit the subscripts i and t from here on.

4 Were Firms Responsible for the Decline in Trade?

In order to examine whether firms or other economic agents are responsible for the decreased flows of trade between the US and France, we would have liked to analyze individual transactions.[21] Unfortunately, the data we have do not show such transactions, so we first identify the types of goods that governments, consumers, and firms are likely to use. Using US input-output tables for 1999 from the Bureau of Economic Analysis (BEA), we calculate the fraction of total US consumption of each 2-digit commodity group due to government, firms, and consumers. We then identify 2-digit commodity groups where more than 75 percent of consumption is due to each of these three types of agents.[22]

Appendix Table A3 shows that there is a single 2-digit commodity group - ordnance - where government accounted for more than 75 percent of US consumption in 1999; ordnance itself accounted for less than 1 percent of US imports from France in 1999. There are 7 commodity groups for which personal consumption accounted for more than 75 percent of US consumption; total French imports in these categories accounted for less than 6 percent of US imports from France in 1999. Finally, there are 33 commodity groups for which firms' intermediate inputs accounted for more than 75 percent of US consumption in 1999. Total imports in these categories accounted for more than 46 percent of US imports from France in 1999.

Based on this classification of commodity groups, we re-estimate regression (1) separately for goods dominated by consumption of government, consumers, and firms.[23] The top panel of Table 4 shows that bilateral trade in government-dominated goods - ordnance - fell sharply in both directions. The second panel shows that there was little change in US imports of French commodities consumed mainly by consumers, but there is some evidence of decreased

[21] Such data would have also allowed other interesting test. For example, we could have examined whether firms in more concentrated industries responded more to the shock to attitudes. Unfortunately, it turns out to be difficult to precisely predict whether an input's destination is a concentrated industry based on the input-output matrix, since many inputs are used by numerous industries.

[22] Our results are robust to using other cutoffs.

[23] We mapped the 4-digit H0 commodity groups used in the Comtrade data into the 2-digit commodity groups used in the Input-Output tables. The mapping is available from the authors upon request.

exports of these commodities. Finally, the third panel shows a decline of about 15 percent in both imports and exports of commodities used primarily as firms' intermediate inputs between the US and France. Since firm inputs are the focus of our investigation, we re-estimate the specifications (2) using only commodities used primarily as firm' inputs. The results in Table 5 show that France's share of US imports of inputs from the Eurozone fell by about 14-15 percent, and its share in exports fell by about 12-13 percent. The decline in firms' trade was almost entirely due to reduced quantities, and not to a change in the relative price of French goods.

These results suggest that our estimates of the effect of attitudes on trade are not driven by a decline in the relative quality of goods. But we still consider the possibility that the French economy underperformed relative to the economies of other Eurozone countries for unrelated reasons. To mitigate these concerns, we note that although French unemployment increased from 2001-2003 (from 8.3 to 9 percent), average unemployment in the Eurozone increased similarly (from 6.5 to 7.3 percent). France's share in Eurozone GDP was also roughly constant at 21.3 percent.[24]

Yet even if the French economy as a whole performed as well as the rest of the Eurozone, perhaps its exports and imports did not? We address this concern by dividing France's share of Eurozone trade with the US within each commodity group by France's share of Eurozone trade with all OECD countries other than the US within that commodity group. We calculate the logarithm of this expression separately for imports, for exports, and for the sum of exports and imports. For US imports, for example, this expression is $ln\left((Q_F^U P_F^U)/(Q_E^U P_E^U)\right) - ln\left((Q_O^U P_O^U)/(Q_O^U P_O^U)\right)$. We then use this expression as a dependent variable in regressions of using specification (2). We estimate the regressions once for all commodities and once only for commodities used mainly as firm inputs. The estimates of the effect of attitudes using these regressions (Table 6) are around 5-11 percent, which is lower than the estimates in Tables 2 and 5. But even in these demanding specifications, which assume that the

[24] Unemployment and GDP data are from author's calculations using OECD data.

OECD is a plausible control for the US, the estimates are still positive and all but one are statistically significant. Moreover, a decline in French trade with the US may hinder French firm's profitability and especially the profitability of long distance trade (especially with North America). So the estimates in Table 6 may be too conservative.

Having found more evidence of a decline in French trade with the US, we now examine the role of governments, consumers and firms in bringing about this decline. Our finding of a strong government response is consistent with the hypothesis that both governments sought to punish each other. Our results are also consistent with existing models, which argue that government interventions in international markets may reflects political considerations as well as cost minimization (e.g. Grossman and Helpman 1994). Finally, our findings are consistent with recent empirical evidence that political considerations can affect trade negotiations (e.g. Goldberg and Maggi 1999) and international aid transfers (Kuziemko and Werker 2006). Yet even if the drop in ordnance was significant, it can only account for a small fraction of the aggregate decline in trade between the US and France, since trade in ordnance was limited even in 2001. So in order to further explore the role of government, we examine its possible effect on specific tariff and non-tariff barriers.

Although the World Trade Organization usually prevents governments from imposing trade barriers, there are some exceptions. We therefore document specific US trade policies that were likely targeted at France and other European countries.[25] These policy changes affected relatively few commodities and took place at different times from 1999-2005, so not all were related to the crisis we analyze in this paper. For example, US retaliation against France in the cases of the EU Banana Regime and Beef Hormones took place before the crisis we consider. But in order to test whether these policies can account for our results, we estimate the following specifications:

$$Y_{it} = \beta(Year_t > 2002) + \gamma(Year_t > 2002) \times Policy\_Change_i + \delta Commodity_i + \varepsilon_{it}, \quad (3)$$

[25] See details in Appendix Table A4. We thank Chad Bown for his help in identifying these policy changes.

where $Policy\_Change_i$ is an indicator for commodity group i being affected by one of the policy changes, and the dependent variables, Y_{it}, are measures of trade flows.

The results in Table 7 suggest that US policies significantly reduced trade in the targeted commodities. But even for commodities that were unaffected by the policies, the fall in trade flows is similar to what we estimated before. Note also that the US appears to have expended some of its most likely target commodities before 2001, so it appears to have had few options to further target French goods when relations worsened in 2002-2003.

Having examined the role of governments, we now turn our attention to consumers. Economic theory tells us that consumers' choices may reflect many considerations, so an effect of attitudes on consumer behavior should not be surprising. Poll evidence from April 2003 suggests that at least some consumers responded to the change in attitudes. Interestingly, people in high income households were more likely to report that they regularly purchase French products and that they stopped doing so, at least in the very short run (Figure 5). The differential responses by high income people may reflect a combination of factors. First, it is possible that US imports of consumer goods from France are disproportionately consumed by high income households. Second, high income individuals may be better informed about the origin of the products they consume. Finally, and perhaps most interestingly, it is possible that people in high income households purchased French products in their capacity as managers in firms.

While poll evidence suggests that consumers responded, Table 4 shows only a marginally significant drop in US exports of commodities consumed mostly by consumers, and the estimates for US imports of these commodities are imprecise. Other evidence on the effect of attitudes on US purchases of a particular consumer good - French wine - is also inconclusive. Chavis and Leslie (2006) find evidence of a boycott on French wine, which reduced sales of French wine by approximately 13 percent over about 6 months in 2003. But Ashenfelter et al. (2007) argue that this apparent response reflects a seasonal cycle, rather than an actual change in demand.

To examine the possibility of a longer term impact of attitudes on trade in consumer goods, we focus on commodities that US consumers were more likely to have identified as French. To help us identify such goods, we use a list of firms mentioned on "Boycott Watch" as French; we also apply a minimum cutoff of 50 million dollars of US imports from France for each 4-digit commodity group in 1999 (see Appendix Table A5). We then re-estimate the specifications in the first two columns of the top panel of Table 3 using only these commodities. The estimated coefficients of interest are large and negative (about 2-3 times larger than the corresponding coefficients in Table 3), although the p-value for the t-tests are only about 0.15-0.3. But as we discuss below, it appears that there may have been a decline in US tourism to France, and vice versa.

Taken together, these results suggest that the effect of attitudes on consumers' choices may have been restricted by two different forces. In many cases, consumers may not have known that a particular good was produced in France, so their attitudes did not matter; and when they did identify a good as French (e.g. due to a brand name), it may have been costly for them to find a good substitute.[26]

Despite the visibility of trade in consumer goods, trade in commodities used as firm inputs is quantitatively much more important. Analyzing the effect of attitudes on firm inputs is also more interesting from a theoretical perspective, since at least three different channels may have caused such a response. First, firms may respond because their owners are willing to sacrifice profits to accommodate their preferences. But we found no journalistic accounts that this took place. Indeed, most large and medium sized firms in the US are widely held (La Porta et al. 1999). Given the wide differences in US public attitudes towards France (Table A1) it seems unlikely that many owners could have agreed to sacrifice profits to accommodate their common preferences.

Second, attitudes of consumers and governments may distort firms' choice of inputs. For example, consumers' choice of products may depend on firms' choice of inputs (e.g. Besley

[26] Broda and Weinstein (2006) find that substitution elasticities across commodities from different countries are higher for undifferentiated goods than for differentiated goods.

and Ghatak 2006) or governments may provide incentives to choose (or avoid) particular inputs. Yet the analysis above suggests that most consumers knew little about French products; so how could they have known which firms used French inputs? An examination of "Boycott Watch" reporting policies reinforces this conclusion. This website lists firms based in France or firms that sell French items as their core business, but not US firms that use inputs produced in France. And the evidence we found for government intervention, beyond its purchases of ordnance, was very limited. At the same time, we cannot rule out that firms that relied heavily on inputs from France might have feared some response by governments or consumers. It is also possible that external attitudes made it acceptable for decision makers within firms to respond to their own attitudes.

Finally, it is also possible that managers' attitudes affected their preferences or their trust of managers from the other country. Managers may therefore have exerted less effort in maintaining good relations with French or US suppliers or more effort in identifying alternative suppliers.[27] Or overseas travel may be required for sales or purchases, and managers' private benefits from business trips may diminish when attitudes worsen.

It is difficult to test this last channel, since when attitudes worsen a decline in business travel may be the effect (as well as the cause) of decreased trade. Yet evidence of such a decline may suggest that managers were less inclined to travel for business to Paris or New York. To examine this possibility, we use data from the US Office of Travel and Tourism Industries for 1995-2005 to construct an estimate of the number of US resident travelers' visitations to France and Western Europe.[28] Our estimates are noisy because the data report total outgoing travel and a rounded percent of the total who traveled to each destination (e.g. 7% of US business travelers in 2005 went to France).[29] Despite the

[27] It is possible that some of the effect of attitudes on trade is due to a response by shipping companies or their employees. But such a response is in many ways similar to a response by input importing firms.

[28] Travelers can report multiple destinations, so the figures for Western Europe include only people who did not visit France.

[29] Data on receipts from travel from the BEA, which are more precise, also show a decline in income from travel to (and from) the US to France, compared to the Eurozone. But these data do not show the breakdown between tourism and business travel.

imprecision, Figure 6 suggests that US travel to France and western Europe followed similar trends before attitudes worsened, and that there was an overall decline in travel to Western Europe after 2001, probably because of the events of September 11. But the differential decline in travel to France (compared to Western Europe) from the 1999-2001 average to the 2003-2005 average was about 18 percentage points for business and convention travel and about 17 percentage points for other types of travel.[30]

Figure 7 shows that there was also a large decline in travel to the US from France and other Western European countries after 2001. The differential decline in travel to France (compared to Western Europe) from the 1999-2001 average to the 2003-2005 average was only 2 percent for Business travelers and about 12 percent for tourist travel. But even business travel to France showed a marked decline in 2003, when US attitudes towards France were at their worst, and a recovery (relative to Western Europe) was only attained in 2005.

This evidence on a decline in business travel, suggests that attitudes did indeed affect firms' input choices. But can we translate the decreased willingness to use inputs into an equivalent price increase? This question is related to the analysis of the willingness of consumers or firms to pay for their preferences (Becker 1957, 1993). To address it, we rely on the assumption that inputs from different countries are imperfect substitutes for each other. We use this imperfect substitutability to calculate the increase in French prices that would have generated the same decline in their use as did the change in attitudes. We assume an aggregate Constant Elasticity of Substitution (CES) production function that uses French inputs and other inputs:

$$Y = \left[\theta_F F^{(\sigma-1)/\sigma} + \theta_N N^{(\sigma-1)/\sigma}\right]^{\sigma/(\sigma-1)}, \tag{4}$$

where Y is output, F is the quantity of French inputs, N is the quantity of non-French inputs, and θ_F and θ_N reflect the differential productivity of French inputs and non-French inputs.

[30] Travel to France from countries other than the US shows no major change around 2003 (World Tourism Organization 2005 and 2006). It is therefore unlikely that the US decline was due to an exogenous shock to France's attractiveness as a tourist destination.

Assume that before the change in attitudes Firms chose inputs to minimize production costs, so the ratio of prices (French price divided by Non-French price) is:

$$\frac{p_F}{p_N} = \frac{\theta_F}{\theta_N}\left(\frac{F}{N}\right)^{-1/\sigma}. \tag{5}$$

Now assume that after the change in attitudes French inputs fell from F to $(1-\beta)F$, while the use of other inputs remained unchanged, so:[31]

$$\frac{(1+d)\,p_F}{p_N} = \frac{\theta_F}{\theta_N}\left(\frac{(1-\beta)\,F}{N}\right)^{-1/\sigma}, \tag{6}$$

where d is the price increase that would have caused the same decline in French input use as the change in attitudes. Combining the last two equations we get:

$$d = (1-\beta)^{-1/\sigma} - 1 \simeq \beta/\sigma, \tag{7}$$

where the last approximation assumes that d and β are close to zero.

Anderson and Van Wincoop (2004) report elasticities of substitution in the range of 5-12 from studies that use different datasets and methodologies. More recently, Broda and Weinstein (2006) estimate elasticities of substitution for different levels of product aggregation. Their estimates for 1990-2001 suggest average elasticities similar to that reported by Anderson and Van Wincoop, and median elasticities in the range of 2-4. If we take as our preferred estimate $\beta = 0.11$ and assume $\sigma = 5$, we get $d \simeq 0.022$. For $\sigma = 2$ we get $d \simeq 0.06$, and for $\sigma = 12$ we get $d \simeq 0.01$. This suggests that the large change in attitude meant that firms were willing to pay a little less for French commodities. Similar calculations using the decrease in US exports to France give very similar results. We should, however, note that these estimates reflect an average across commodities and decision makers. In addition, these figures may reflect sellers' decreased marketing and sales efforts as well as buyers' decreased

[31] French inputs were a small fraction of total inputs, so even if use of other inputs changed, the proportional change would likely have been small, so for simplicity we assume that it is equal to zero.

willingness to pay.

5 Conclusions

From 2002-2003, the worsening relations between the US and France worsened the public attitudes in each of these two countries towards the other. At the same time, many important determinants of trade between the two countries were largely unchanged. For example, there was little change in formal trade barriers, and the risk of bilateral conflict remained very low. Comparing US trade with France to US trade with other Eurozone countries, we examine whether the worsening attitudes affected trade between the two countries, and especially trade in firms inputs.

Using disaggregated trade data we find that during the episode of worsening attitudes France's share of Eurozone trade with the US within 4 digit commodity groups fell by about 10-12 percent. The decline was similar for both imports and exports. It was also similar when we looked at all commodities traded and only at the commodities that are used primarily as firm inputs.

In addition to the regression analysis, we presented additional evidence that suggests that worsening attitudes had a widespread effect on business transactions between the two countries. In particular, we find suggestive evidence of declines in tourism, business travel, trade in services, and other income payments in both directions. Although it is difficult to assess whether each of these declines is statistically significant, the overall picture supports our argument that attitudes affected firm behavior.

Our finding that attitudes can affect firms' choice of inputs seems relevant for discussions of firm employment decisions. It suggests that even if competition incentivizes firms to overcome group attitudes, the effect of these attitudes need not be eliminated. This consideration seems relevant for studies of labor market discrimination, where attitudes towards particular groups may be much deeper rooted.

Our study is also relevant for the debate over the role of culture in determining economic exchange between countries. Good international relations may have contributed to the process of increased globalization in recent years, over and above formal trade agreements and technological improvement. At the same time, our finding also suggests that if politicians or the media drum up the effects of crises they can create effective trade barriers even without imposing any formal trade barriers.

References

Abadie, Alberto and Javier Gardeazabal. "The Economic Costs of Conflict: A Case-Control Study for the Basque Country." *American Economic Review* 93.1 (2003): 113-132.

Anderson, James and Eric van Wincoop, "Trade Costs", *Journal of Economic Literature*, Vol. 42, No. 3. (Sep., 2004), pp. 691-751.

Bandiera, Oriana; Iwan Barankay; and Imran Rasul. "Social Connections and Incentives in the Workplace: Evidence from Personnel Data", Mimeo, September 2007.

Becker, Gary, *The Economics of Discrimination*. Chicago, University of Chicago Press, 1957.

Becker, Gary, "Nobel Lecture: The Economic Way of Looking at Behavior," *Journal of Political Economy*, Vol. 101, No. 3, (Jun., 1993), pp. 385-409

Bernard, Andrew, J. Bradford Jensen, and Peter Schott. "Trade Costs, Firms and Productivity," Journal of Monetary Economics, 2006.

Bertrand, Marianne and Sendhil Mullainathan. "Are Emily and Greg More Employable Than Lakisha and Jamal? A Field Experiment on Labor Market Discrimination," *American Economic Review*, 2004, 94(4), 991-1013.

Besley, Timothy and Maitreesh Ghatak. "Retailing Public Goods: The Economics of Corporate Social Responsibility," Mimeo, LSE, 2006.

Black, Sandra E. and Philip E. Strahan, "The Division of Spoils: Rent-Sharing and Discrimination in a Regulated Industry," *American Economic Review*, Vol. 91, No. 4. (Sep., 2001), pp. 814-831.

Bown, Chad P., "Global Antidumping Database," Current version 3.0, June 2007 [Original version 1.0 circulated as World Bank Policy Research Paper No. 3737, October 2005.]

Boycott Watch, "Boycotting the French - Part 4 in a series: Who's boycotting what, and what's not really French, or is it?"
<http://www.boycottwatch.org/misc/france-04.htm>
<http://www.boycottwatch.org/misc/france-04b.htm>

British Broadcasting Corporation, "French fries back on House menu," BBC News Online Edition, 2 August 2006.

British Broadcasting Corporation, "Cartoons row hits Danish exports," BBC News Online Edition, 9 September 2006.

Broda, Christian and David. E. Weinstein, "Globalization and the Gains from Variety," *Quarterly Journal of Economics*, May, 121(2), 2006, 541-585.

Bureau of Economic Analysis, Industry Economic Accounts: Input-Output Accounts Data, 1999.
<http://www.bea.gov/industry/io_annual.htm>

Bureau of Economic Analysis, International Economic Accounts
<http://www.bea.gov/international/bp_web/list.cfm?anon=71&registered=0>

Chavis, Larry and Phillip Leslie. "Consumer Boycotts: The Impact Of The Iraq War On French Wine Sales In The U.S." Mimeo, 2006.

DellaVigna's, Stefano and Ethan Kaplan, "The Fox News Effect: Media Bias and Voting," *Quarterly Journal of Economics*, August 2007, Vol. 122, pp. 1187-1234.

Disdier, Anne-Célia, Mayer, Thierry. "Je t'aime, moi non plus: Bilateral opinions and international trade." *European Journal of Political Economy*, forthcoming, 2007.

Editorial, "Call Their Bluff", Washington Post, October 18, 2003.

Editorial, "Let the U.N. Vote", Washington Post, October 23, 2003.

Fund, John. "Hit the Road, Jacques," Wall Street Journal Op-Ed, March 20, 2003

Fershtman, Chaim and Uri Gneezy, "Discrimination in a Segmented Society: An Experimental Approach," *Quarterly Journal of Economics*, Vol. 116, No. 1, (Feb., 2001), pp. 351-377

Goldberg, Pinelopi and Giovanni Maggi. "Protection for Sale: An Empirical Investigation," *American Economic Review*, Vol. 89, No. 5. (Dec., 1999), pp. 1135-1155.

Goldin, Claudia and Cecilia Rouse. "Orchestrating Impartiality: The Impact Of 'Blind' Auditions On Female Musicians," American Economic Review, volume 90, no. 4, Sep 2000,

p. 715-741.

Gresser, Edward. "Hoover's Last Legacy: Time to Fix America's Tariff System," Progressive Policy Institute Website, 13 January 2005.
<http://www.ppionline.org/documents/hoovertariff_0113.pdf>

Greif, Avner, "Contract Enforceability and Economic Institutions in Early Trade: The Maghribi Traders' Coalition," *American Economic Review*, Vol. 83, No. 3, (Jun., 1993), pp. 525-548

Grossman, Gene and Elhanan Helpman. "Protection for Sale," *American Economic Review*, Vol. 84, No. 4. (Sep., 1994), pp. 833-850.

Guiso, Luigi; Paola Sapienza; and Luigi Zingales, "Cultural Biases in Economic Exchange," Mimeo, May 2005.

Helpman, Elhanan; Marc Melitz; and Yona Rubinstein. "Estimating Trade Flows: Trading Partners and Trading Volumes," Mimeo, 2007.

Irwin, Douglas. "Long-run trends in world trade and income," *World Trade Review* 2002, 1:1, 89–100.

Kuziemko, Ilyana and Eric Werker. "How Much Is a Seat on the Security Council Worth? Foreign Aid and Bribery at the United Nations," *Journal of Political Economy*, 2006, vol. 114, no. 5.

La Porta Rafael; Florencio Lopez-de-Silanes; and Andrei Shleifer, "Corporate Ownership around the World," *Journal of Finance*, Vol. 54, No. 2. (Apr., 1999), pp. 471-517.

Martin, Philippe; Thierry Mayer; and Mathias Thoenig. "Make Trade not War?" *Review of Economic Studies*, forthcoming, 2008.

Matsuyama, Kiminori. "Beyond Icebergs: Towards a Theory of Biased Globalization," *Review of Economic Studies* 2007, 74, 237–253.

Moser, Petra. "An Empirical Test of Taste-based Discrimination: Changes in Ethnic Preferences and their Effects on Admissions to the NYSE during World War I", Mimeo, 2008.

Office of the United States Trade Representative Executive, "USTR Announces Final Product List in Bananas Dispute," Washington, D.C.: Office of the President, April 9, 1999 (1999a)

Office of the United States Trade Representative, "USTR Announces Final Product List In Beef Hormones Dispute," Washington, D.C.: Executive Office of the President, July 19, 1999 (1999b)

Office of Travel and Tourism Industries, "Profile of U.S. Resident Travelers Visiting Overseas Destinations - Outbound," Office of Travel and Tourism Industries Website, 1995-2005.

Organisation for Economic Co-operation and Development (OECD), OECD.Stat extraction system.
<http://webnet.oecd.org/wbos/Index.aspx>.

O'Reilly, Bill, "Wishing Ill for Your Country," Fox News Online Edition, 11 June, 2003.

Pew Global Attitudes Project, *Pew Global Attitudes Survey*, Washington, DC: Pew Research Center, June 2006.

Reuters, "Rice Quoted Saying U.S. to Ignore Schroeder," Reuters Online Edition, 25 May 2003.

Survey by ABC News, September 5-September 8, 2002. Retrieved November 29, 2007 from the iPOLL Databank, The Roper Center for Public Opinion Research, University of Connecticut.
<http://www.ropercenter.uconn.edu/ipoll.html>.

Surveys by Gallup Organization (some joint with other organizations), Various dates. Retrieved November 29, 2007 from the iPOLL Databank, The Roper Center for Public Opinion Research, University of Connecticut.
<http://www.ropercenter.uconn.edu/ipoll.html>.

Survey by NBC News, Wall Street Journal and Hart and Teeter Research Companies, December 7-December 9, 2002. Retrieved November 29, 2007 from the iPOLL Databank,

The Roper Center for Public Opinion Research, University of Connecticut.
<http://www.ropercenter.uconn.edu/ipoll.html>.

Survey by Newsweek and Princeton Survey Research Associates, March 13-March 14, 2003. Retrieved November 29, 2007 from the iPOLL Databank, The Roper Center for Public Opinion Research, University of Connecticut.
<http://www.ropercenter.uconn.edu/ipoll.html>.

United Nations Statistics Division, Commodity Trade Statistics Database (COMTRADE).
<http://comtrade.un.org/>

United States Census Bureau, U.S. Trade in Goods (Imports, Exports and Balance) by Country, 2007
<http://www.census.gov/foreign-trade/balance/>

World Integrated Trade Solution (WITS) Database
<http://wits.worldbank.org/witsweb/>

World Tourism Organization, *Yearbook of Tourism Statistics*, London : World Tourist Organisation, 2005 and 2006.

Table 1. Summary Statistics: US International Transactions with France and Eurozone

A. US International Transactions with France and Eurozone

	France		Eurozone		$\Delta_{2003\text{-}2001}$ ln(France)	$\Delta_{2003\text{-}2001}$ ln(France) - $\Delta_{2003\text{-}2001}$ ln(Eurozone)
	2001	2003	2001	2003		
Imports of goods and services and income payments	49.6	49.3	263.0	310.5	-0.01	-0.17
Imports of goods, balance of payments basis	30.4	29.2	166.5	187.9	-0.04	-0.16
Imports of services	10.3	10.4	52.6	58.8	0.01	-0.10
Income payments (see notes)	8.9	9.7	43.9	63.7	0.08	-0.29
Exports of goods and services and income receipts	38.7	38.5	233.7	257.2	-0.01	-0.10
Exports of goods, balance of payments basis	19.7	16.8	111.0	109.9	-0.16	-0.15
Exports of services	10.4	11.3	56.0	64.5	0.09	-0.06
Income payments (see notes)	8.6	10.3	66.7	82.8	0.18	-0.04

B. France's share of US International Transactions with Eurozone

	1999	2000	2001	2002	2003	2004	2005	2006	2007
Imports of goods and services and income payments (2)	0.173	0.179	0.189	0.169	0.159	0.154	0.155	0.153	0.149
Imports of goods, balance of payments basis	0.178	0.182	0.183	0.164	0.156	0.151	0.148	0.150	0.155
Imports of services	0.190	0.211	0.195	0.188	0.177	0.180	0.179	0.190	0.174
Income payments (see notes)	0.148	0.142	0.203	0.167	0.152	0.143	0.154	0.137	0.126
Exports of goods and services and income receipts (1)	0.158	0.163	0.166	0.168	0.150	0.152	0.146	0.151	0.147
Exports of goods, balance of payments basis	0.177	0.175	0.177	0.182	0.153	0.169	0.164	0.156	0.152
Exports of services	0.178	0.182	0.185	0.186	0.175	0.176	0.165	0.162	0.151
Income payments (see notes)	0.110	0.127	0.130	0.132	0.125	0.115	0.116	0.140	0.141
Average of (1) and (2)	0.166	0.171	0.177	0.169	0.154	0.153	0.150	0.152	0.148

NOTES. This table reports summary statistics for US international transactions from the International Economic Accounts of the US Bureau of Economic Analysis. Income payments include income receipts on assets owned abroad and compensation of employees. Data in Panel A is in billions of nominal US$. The two right hand side columns of Panel A show the change in log French transactions with US and this same change net of the change in US transactions with the Eurozone

Table 2. Changes in Trade Between US and France When Attitudes Worsened

	Baseline Sample	As Baseline, Except:		
		Weighted	Only 2001 and 2003	Eurozone Only
		A. Dependent Variable: Log US Imports		
France*(Year>2002)	-0.190	-0.181	-0.188	-0.173
	(0.060)	(0.053)	(0.076)	(0.047)
Observations	203	203	58	84
		B. Dependent Variable: Log US Exports		
France*(Year>2002)	-0.087	-0.083	-0.109	-0.064
	(0.031)	(0.030)	(0.060)	(0.047)
Observations	203	203	58	84

NOTES. The regression coefficients reported in this table use data for a panel of OECD (or Eurozone) countries, excluding the US, from 1999-2005 (unless otherwise specified). The table reports estimates of regressions of log value of trade on an indicator for France interacted with an indicator for the period after 2002, when French relations with US deteriorated deteriorated. All the regressions control for exporting (importing) country fixed effects and year effects. The baseline specification uses CIF (FOB) prices in nominal US dollars for import (export) regressions for OECD trading partners from 1999-2005. The weighted specification uses 1999 exports (imports) as weights. Robust standard errors are in parentheses; standard errors are clustered by exporting (importing) country in all regressions except those that only use 2001 and 2003 data.

Table 3. Changes in France's Share of US Trade with Eurozone (Within Commodity Groups) When Attitudes Worsened

US Imports

	(1)	(2)	(3)	(4)	(5)	(6)
	All Years (1999-2005)		All Years, But Only Commodities with Price Data			Only 2001 and 2003
Dependent Variable	$\ln((Q^{U}_{F}P^{U}_{F})/(Q^{U}_{E}P^{U}_{E}))$	$(Q^{U}_{F}P^{U}_{F})/(Q^{U}_{E}P^{U}_{E})$	$\ln((Q^{U}_{F}P^{U}_{F})/(Q^{U}_{E}P^{U}_{E}))$	$\ln((Q^{U}_{F})/(Q^{U}_{E}))$	$\ln(P^{U}_{F}/P^{U}_{E})$	$\ln((Q^{U}_{F}P^{U}_{F})/(Q^{U}_{E}P^{U}_{E}))$
Year>2002	-0.131	-0.0152	-0.138	-0.130	-0.008	-0.114
	(0.026)	(0.0037)	(0.029)	(0.042)	(0.026)	(0.030)
Observations	7,527	8,246	6,316	6,316	6,316	2,155

US Exports

	(1)	(2)	(3)	(4)	(5)	(6)
	All Years (1999-2005)		All Years, But Only Commodities with Price Data			Only 2001 and 2003
Dependent Variable	$\ln((Q^{F}_{U}P^{F}_{U})/(Q^{E}_{U}P^{E}_{U}))$	$(Q^{F}_{U}P^{F}_{U})/(Q^{E}_{U}P^{E}_{U})$	$\ln((Q^{F}_{U}P^{F}_{U})/(Q^{E}_{U}P^{E}_{U}))$	$\ln((Q^{F}_{U})/(Q^{E}_{U}))$	$\ln(P^{F}_{U}/P^{E}_{U})$	$\ln((Q^{F}_{U}P^{F}_{U})/(Q^{E}_{U}P^{E}_{U}))$
Year>2002	-0.128	-0.0142	-0.117	-0.146	0.030	-0.119
	(0.029)	(0.0038)	(0.034)	(0.042)	(0.025)	(0.035)
Observations	7,717	8,519	6,309	6,309	6,309	2,194

NOTES. The regression coefficients reported in this table come from a panel of 4 digit Harmonized System commodity groups. The dependent variables are measures of France's share of US trade with Eurozone within each product category. The dependent variable in column (1), (3), and (6) is the logarithm of France's share of the value of US trade with the Eurozone; the dependent variable in column (2) is France's share of the value of US trade with the Eurozone; the dependent variable in column (4) is the logarithm of France's share of the quantity of US trade with the Eurozone; and the dependent variable in column (5) is the logarithm of the average price of French commodities divided by the average price of Eurozone commodities. All regressions include commodity group fixed effects and an indicator for post 2002. The data use CIF (FOB) prices for US imports (exports). Robust standard errors are in parentheses; standard errors are clustered by 4-digit commodities in specifications (1)-(5).

Table 4. Changes in France's Share of US Trade with Eurozone When Attitudes Worsened, by Commodity Group Type

	US Imports				US Exports			
		As Baseline, Except:				As Baseline, Except:		
	Baseline	Weighted	Only 2001 and 2003	Eurozone Only	Baseline	Weighted	Only 2001 and 2003	Eurozone Only
	A. Commodity groups where government share of total US consumption in 1999 was at least 0.75							
France*(Year>2002)	-0.429	-0.454	-1.003	-0.348	-1.002	-0.968	-1.494	-0.647
	(0.117)	(0.107)	(0.170)	(0.183)	(0.133)	(0.122)	(0.184)	(0.114)
Observations	185	180	53	77	203	203	58	84
	B. Commodity groups where consumers' share of total US consumption in 1999 was at least 0.75							
France*(Year>2002)	0.008	0.026	0.053	0.173	-0.194	-0.191	-0.128	-0.152
	(0.135)	(0.120)	(0.165)	(0.155)	(0.098)	(0.093)	(0.128)	(0.214)
Observations	203	203	58	84	203	203	58	84
	C. Commodity groups where firm inputs' share of total US consumption in 1999 was at least 0.75							
France*(Year>2002)	-0.147	-0.143	-0.113	-0.168	-0.162	-0.151	-0.162	-0.083
	(0.038)	(0.037)	(0.033)	(0.040)	(0.045)	(0.042)	(0.066)	(0.068)
Observations	203	203	58	84	203	203	58	84

NOTES. The regression coefficients reported in this table use data for a panel of OECD (or Eurozone) countries, excluding the US, from 1999-2005 (unless otherwise specified). The dependent variable is log value of trade in commodity groups where governments, firms, or consumers dominated US consumption in 1999 (see Table 3). The regressor of interest is an interaction of an indicator for France with an indicator for the period after 2002, when French relations with US deteriorated. All the regressions control for exporting (importing) country fixed effects and year effects. The baseline specification uses CIF (FOB) prices in nominal US dollars for import (export) regressions for OECD trading partners from 1999-2005. The weighted specification uses 1999 exports (imports) as weights. Robust standard errors are in parentheses; standard errors are clustered by exporting (importing) country in all regressions except those that only use 2001 and 2003 data.

Table 5. Changes in France's Share of US Trade in Firm Inputs with Eurozone (Within Commodity Groups) When Attitudes Worsened

US Imports of Commodities Used Mostly as Firms' Inputs

	(1)	(2)	(3)	(4)	(5)	(6)
	All Years (1999-2005)		All Years, But Only Commodities with Price Data			Only 2001 and 2003
Dependent Variable	$\ln((Q^F_U P^F_U)/(Q^F_E P^F_E))$	$(Q^F_U P^F_U)/(Q^F_E P^F_E)$	$\ln((Q^F_U P^F_U)/(Q^F_E P^F_E))$	$\ln((Q^F_U)/(Q^F_E))$	$\ln(P^F_U/P^F_E)$	$\ln((Q^F_U P^F_U)/(Q^F_E P^F_E))$
Year>2002	-0.143	-0.0141	-0.150	-0.144	-0.006	-0.109
	(0.036)	(0.0043)	(0.039)	(0.058)	(0.036)	(0.041)
Observations	4,206	4,606	3,686	3,686	3,686	1,200

US Exports of Commodities Used Mostly as Firms' Inputs

	(1)	(2)	(3)	(4)	(5)	(6)
	All Years (1999-2005)		All Years, But Only Commodities with Price Data			Only 2001 and 2003
Dependent Variable	$\ln((Q^F_U P^F_U)/(Q^E_U P^E_U))$	$(Q^F_U P^F_U)/(Q^E_U P^E_U)$	$\ln((Q^F_U P^F_U)/(Q^E_U P^E_U))$	$\ln((Q^F_U)/(Q^E_U))$	$\ln(P^F_U/P^E_U)$	$\ln((Q^F_U P^F_U)/(Q^E_U P^E_U))$
Year>2002	-0.122	-0.0104	-0.126	-0.127	0.001	-0.120
	(0.039)	(0.0051)	(0.044)	(0.056)	(0.034)	(0.046)
Observations	4,367	4,725	3,691	3,691	3,691	1,245

NOTES. The regression coefficients reported in this table come from a panel of 4-digit H0 commodity groups. The data are only for commodity groups where at least 75% of US consumption in 1999 was due to firms. The dependent variables are measures of France's share of US trade with Eurozone within each product category. The dependent variable in column (1), (3), and (6) is the logarithm of France's share of the value of US trade with the Eurozone; the dependent variable in column (2) is France's share of the value of US trade with the Eurozone; the dependent variable in column (4) is the logarithm of France's share of the quantity of US trade with the Eurozone; and the dependent variable in column (5) is the logarithm of the average price of French commodities divided by the average price of Eurozone commodities. All regressions include commodity group fixed effects and an indicator for post 2002. The data use CIF (FOB) prices for US imports (exports). Robust standard errors are in parentheses; standard errors are clustered by 4-digit commodity groups in specifications (1)-(5).

Table 6. Changes in France's Share of US Trade with Eurozone, Net of Changes in France's Share of Non-US OECD Trade with Eurozone (Within Commodity Groups), When Attitudes Worsened

	ln(France's share of US imports from Eurozone) - ln(France's share of US imports from OECD countries other than US)		ln(France's share of US exports from Eurozone) - ln(France's share of US exports from OECD countries other than US)		ln(France's share of US imports and exports from Eurozone) - ln(France's share of US imports and exports from OECD countries other than US)	
	All Commodities	Commodities Used Mostly as Firms' Inputs	All Commodities	Commodities Used Mostly as Firms' Inputs	All Commodities	Commodities Used Mostly as Firms' Inputs
Year>2002	-0.069 (0.027)	-0.054 (0.038)	-0.108 (0.031)	-0.089 (0.041)	-0.105 (0.024)	-0.074 (0.033)
Observations	7,526	4,205	7,700	4,352	8,216	4,592

NOTES. The regression coefficients reported in this table come from a panel of 4 digit Harmonized System commodity groups from 1999-2005 (unless otherwise stated). The dependent variable is the (logarithm France's share of the value of US trade with Eurozone) minus (logarithm France's share of the value of non-US OECD trade with Eurozone) within each product category. All regressions include commodity group fixed effects and an indicator for post 2002. "Commodities Used Mostly as Firms' Inputs" are only for commodity groups where at least 75% of US consumption in 1999 was due to firms. The data use CIF (FOB) prices for US imports (exports). Robust standard errors are in parentheses.

Table 7. US Policy Changes and France's Share of US Trade with Eurozone (Within Commodity Groups)

	US Imports							
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Entire Sample (1999-2005)				Only 2001 and 2003			
	All Commodities		Commodities Used Mostly as Firms' Inputs		All Commodities		Commodities Used Mostly as Firms' Inputs	
Year>2002	-0.131	-0.124	-0.143	-0.132	-0.114	-0.112	-0.109	-0.100
	(0.026)	(0.026)	(0.036)	(0.036)	(0.030)	(0.030)	(0.041)	(0.042)
(Policy Change) * (Year>2002)		-0.185		-0.372		-0.062		-0.308
		(0.111)		(0.184)		(0.123)		(0.245)
Observations	7,527	7,527	4,206	4,206	2,155	2,155	1,200	1,200

	US Exports							
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Entire Sample (1999-2005)				Only 2001 and 2003			
	All Commodities		Commodities Used Mostly as Firms' Inputs		All Commodities		Commodities Used Mostly as Firms' Inputs	
Year>2002	-0.128	-0.132	-0.122	-0.122	-0.119	-0.110	-0.120	-0.102
	(0.029)	(0.029)	(0.039)	(0.039)	(0.035)	(0.036)	(0.046)	(0.046)
(Policy Change) * (Year>2002)		0.088		0.017		-0.216		-0.628
		(0.145)		(0.234)		(0.227)		(0.343)
Observations	7,717	7,717	4,367	4,367	2,194	2,194	1,245	1,245

NOTES. The regression coefficients reported in this table come from a panel of 4-digit H0 commodity groups from 1999-2005 (unless otherwise stated). The dependent variable is the logarithm France's share of the value of US trade with Eurozone within each product category. All regressions include commodity group fixed effects and an indicator for post 2002. Specifications (2), (4), (6), and (8) also include interactions for post 2002 with an indicator for 4 digit commodity groups that were affected by changes in US trade policies with France from 1999-2005 (see Appendix Table A3). "Commodities Used Mostly as Firms' Inputs" are only for commodities where at least 75% of US consumption in 1999 was due to firms. The data use CIF (FOB) prices for US imports (exports). Robust standard errors are in parentheses; standard errors are clustered by 4-digit commodity groups in specifications (1)-(4).

Appendix Table A1. Bilateral Attitudes: US and Western European Countries [Not for Publication]

A. Opinion Expressed about Major Western European Countries in US Gallup Polls

	France					Great Britain					Germany				
Date	Very favorable	Mostly favorable	Mostly unfavorable	Very unfavorable	No Opinion	Very favorable	Mostly favorable	Mostly unfavorable	Very unfavorable	No Opinion	Very favorable	Mostly favorable	Mostly unfavorable	Very unfavorable	No Opinion
Feb 2006	12	42	28	12	7	46	42	5	3	4	17	62	11	4	6
Feb 2005	12	39	30	13	6	48	43	3	1	5	17	56	18	4	5
Feb 2004	10	37	31	18	4	40	47	7	3	3	13	56	19	7	5
Mar 2003	6	28	25	39	2	43	43	6	3	5	8	41	30	14	7
Feb 2003	13	46	23	10	8	45	44	4	2	5	12	59	16	5	8
Feb 2002	23	56	13	3	5	48	42	5	2	3	22	61	8	3	6
Feb 2001	22	55	12	5	6	41	44	6	3	6	20	55	9	7	9
Feb 1999	17	54	14	4	11	34	50	4	3	9	18	61	11	5	7
Mar 1996	15	55	16	4	11	30	51	8	2	9	17	58	13	3	9
Mar 1991	18	61	9	3	9	49	40	4	1	8	16	62	11	3	9
Jan 1991	17	57	11	4	11	45	45	3	1	6	15	60	13	3	9

B. Percent Viewing US Favorably in Major Western European Countries (Pew Global Attitudes Project)

Year	France	Great Britain	Germany
2002	63	75	61
2003	43	70	45
2004	37	58	38
2005	43	55	41
2006	39	56	37

NOTES: Panel A. reports US opinion of Western European counties from several Gallup polls held from 1991-2006. Panel B. reports opinion of the US in Western European countries in various polls held from 2002-2006 (Pew Global Attitudes Project).

Appendix Table A2. Opinion About France in US Gallup Polls, By Education and Household Income, March 2003 [Not for Publication]

	High School or Less	Some College	College Graduate	All
Household Income less than $10k				
Very Favorable or Mostly Favorable	0.31	0.66	0.00	0.37
Somewhat Unfavorable	0.20	0.00	1.00	0.18
Very Unfavorable	0.49	0.34	0.00	0.45
	(15)	(4)	(1)	(20)
$10k≤Household Income<$15k				
Very Favorable or Mostly Favorable	0.30	0.49	0.00	0.34
Somewhat Unfavorable	0.36	0.42	0.00	0.36
Very Unfavorable	0.34	0.09	1.00	0.30
	(24)	(7)	(1)	(31)
$15k≤Household Income<$20k				
Very Favorable or Mostly Favorable	0.41	0.60	1.00	0.51
Somewhat Unfavorable	0.35	0.26	0.00	0.30
Very Unfavorable	0.24	0.14	0.00	0.19
	(18)	(12)	(1)	(32)
$20k≤Household Income<$30k				
Very Favorable or Mostly Favorable	0.42	0.14	0.52	0.34
Somewhat Unfavorable	0.15	0.23	0.24	0.20
Very Unfavorable	0.43	0.63	0.24	0.47
	(24)	(20)	(10)	(54)
$30k≤Household Income<$50k				
Very Favorable or Mostly Favorable	0.23	0.37	0.44	0.33
Somewhat Unfavorable	0.29	0.21	0.20	0.24
Very Unfavorable	0.48	0.42	0.35	0.43
	(34)	(35)	(17)	(86)
$50k≤Household Income<$75k				
Very Favorable or Mostly Favorable	0.41	0.29	0.45	0.38
Somewhat Unfavorable	0.07	0.17	0.26	0.18
Very Unfavorable	0.52	0.55	0.29	0.44
	(20)	(39)	(39)	(99)
Household Income at least $75k				
Very Favorable or Mostly Favorable	0.35	0.20	0.32	0.30
Somewhat Unfavorable	0.17	0.29	0.34	0.30
Very Unfavorable	0.47	0.51	0.33	0.40
	(24)	(25)	(72)	(121)
Refused to Tell or Didn't Know Household Income				
Very Favorable or Mostly Favorable	0.26	0.51	0.30	0.32
Somewhat Unfavorable	0.50	0.27	0.17	0.39
Very Unfavorable	0.24	0.22	0.53	0.29
	(14)	(5)	(4)	(22)
All Levels of Household Income				
Very Favorable or Mostly Favorable	0.33	0.32	0.39	0.35
Somewhat Unfavorable	0.25	0.23	0.29	0.26
Very Unfavorable	0.41	0.45	0.32	0.40
	(172)	(148)	(145)	(466)

NOTES: This table reports results from a gallup poll held on 14-15 March 2003. US respondents were asked: "Next, I'd like your overall opinion of some foreign countries. First, is your overall opinion of [Country] very favorable, mostly favorable, mostly unfavorable, or very unfavorable? How about -- [Country]?" Countries were rotated. The opinion of France is reported, weighted by sampling weights. Non-responses are excluded from this table. Numbers in parentheses denote (weighted) number of respondents in each category.

Appendix Table A3. Commodities Used Mainly by US Government, Consumers or Firms [Not Necessarily for Publication]

Commodity group name	Imports from France ($1,000,000s)	Total Consumption ($1,000,000s)	Government or Consumers or Intermediates Share of Total Consumption
Government share of total consumption ≥ 0.75			
Ordnance and accessories	6	10,287	0.80
Consumers' share of total consumption ≥ 0.75			
Cleaning and toilet preparations	793	48,225	0.78
Apparel	240	121,089	0.86
Footwear, leather, and leather products	238	25,120	0.82
Other transportation equipment	94	28,423	0.76
Household appliances	79	22,417	0.80
Motor vehicles (passenger cars and trucks)	64	167,651	0.99
Tobacco products	1	45,465	0.94
Firm inputs' share of total consumption ≥ 0.75			
Engines and turbines	2,823	19,113	0.97
Industrial and other chemicals	1,926	131,943	0.91
Truck and bus bodies, trailers, and motor vehicles parts	1,075	143,519	0.93
Primary iron and steel manufacturing	686	107,567	0.99
Electronic components and accessories	638	149,520	0.99
Special industry machinery and equipment	627	6,410	0.95
Farm, construction, and mining machinery	617	8,184	0.92
Electrical industrial equipment and apparatus	562	33,538	0.96
General industrial machinery and equipment	448	24,740	0.99
Rubber and miscellaneous plastics products	402	178,831	0.86
Glass and glass products	342	25,095	0.89
Other fabricated metal products	269	84,884	0.91
Plastics and synthetic materials	258	62,136	1.00
Primary nonferrous metals manufacturing	200	96,128	1.00
Heating, plumbing, and fabricated structural metal products	191	74,369	0.98
Stone and clay products	190	79,506	0.95
Paper and allied products, except containers	186	122,553	0.81
Metalworking machinery and equipment	155	15,338	0.89
Lumber and wood products	135	128,172	0.97
Broad and narrow fabrics, yarn and thread mills	123	43,845	0.94
Electric lighting and wiring equipment	108	30,101	0.88
Materials handling machinery and equipment	81	5,799	1.00
Screw machine products and stampings	54	56,142	0.96
Agricultural fertilizers and chemicals	48	20,615	0.84
Metal containers	34	12,886	1.00
Service industry machinery	27	25,894	0.92
Livestock and livestock products	26	101,763	0.96
Forestry and fishery products	23	22,259	0.82
Paints and allied products	16	18,223	0.89
Miscellaneous machinery, except electrical	12	37,781	0.97
Paperboard containers and boxes	12	41,590	0.98
Non-metallic minerals mining	6	16,608	1.00
Metallic ores mining	1	7,183	1.04

NOTES: This table lists 4-digit H0 commodity groups where share of government, consumers, or firms' intermediate inputs exceeds 75 percent of total US consumption in 1999. These commodity groups were identified by matching the 4-digit H0 codes into the 2-digit commodity codes used in the US National Annual Product Account Tables for 1999 from the Bureau of Economic Analysis.

Appendix Table A4. Changes in US Trade Policies Towards France [Not Necessarily for Publication]

Policy Description	Years Enacted or Changed	4 Digit Harmonized System Commodity Groups That Include Affected Commodities	Source
US retaliation (with WTO authorization) following the EU Banana Regime. The US targeted France and other EU countries by imposing 100 percent ad valorem duties.	1999	H0-3307, H0-4202, H0-4805, H0-4819, H0-4911, H0-6302, H0-8507, H0-8516	USTR (1999a)
US retaliation (with WTO authorization) following the EU Beef Hormones dispute. The US targeted France and other EU countries by imposing 100 percent ad valorem duties.	1999	H0-0201, H0-0202, H0-0203, H0-0206, H0-0406, H0-0703, H0-0709, H0-0712, H0-1602, H0-1905, H0-2009, H0-2101, H0-2103, H0-2002, H0-0504, H0-2104, H0-5510, H0-1505, H0-1806, H0-2007, H0-0210, H0-3506	USTR (1999b)
US used new antidumping and countervailing duty policies on steel products.	1999 - 2005	H0-7209, H0-7210, H0-7211, H0-7212, H0-7213, H0-7214, H0-7215, H0-7219, H0-7220, H0-7221, H0-7222, H0-7227, H0-7228, H0-7301	Bown (2007)
Free Trade Agreement between US and Chile and Australia may have had an indirect impact on US imports of wine from France	2004, 2005	H0-2204	WITS Database

NOTES: Some of the policies described in this table targeted only small subgroups of the listed 4-digit commodity groups.

Appendix Table A5. Commodities Identifiable as Originating in France [Not Necessarily for Publication]

Commodity Code	Commodity Description	Value of US Imports from France in 1999
H0-0406	Cheese and curd	78,183,168
H0-2204	Grape wines (including fortified), alcoholic grape must	1,086,000,000
H0-2208	Liqueur, spirits and undenatured ethyl alcohol <80%	581,600,000
H0-3303	Perfumes and toilet waters	528,000,000
H0-3304	Beauty, make-up and skin care preparations	151,000,000
H0-4011	New pneumatic tyres, of rubber	146,300,000
H0-4202	Trunks, suit-cases, camera cases, handbags, etc.	136,300,000
H0-6204	Women's, girl's suits, jacket, dress, skirt, etc.	88,680,159
H0-6403	Footwear with uppers of leather	56,578,197
H0-7013	Glassware for table, kitchen, toilet, decoration	170,200,000
H0-7113	Jewellery and parts, containing precious metal	63,337,494
H0-7615	Aluminium ware for table, kitchen, sanitary use	62,205,445
H0-8704	Motor vehicles for the transport of goods	53,754,587
H0-9403	Other furniture and parts thereof	89,086,955
H0-9701	Paintings, drawings, pastels, collages etc., hand made	1,458,000,000
H0-9703	Original sculptures and statuary, in any material	57,057,828
H0-9706	Antiques older than one hundred years	289,600,000

NOTES. This table report 4-digit H0 commodity groups for which, we assume, US consumers would be relatively more likely to identify a commodity as French. These commodity groups were chosen such that the US imported at least $50 million dollars of goods from France in 1999 in each of them.

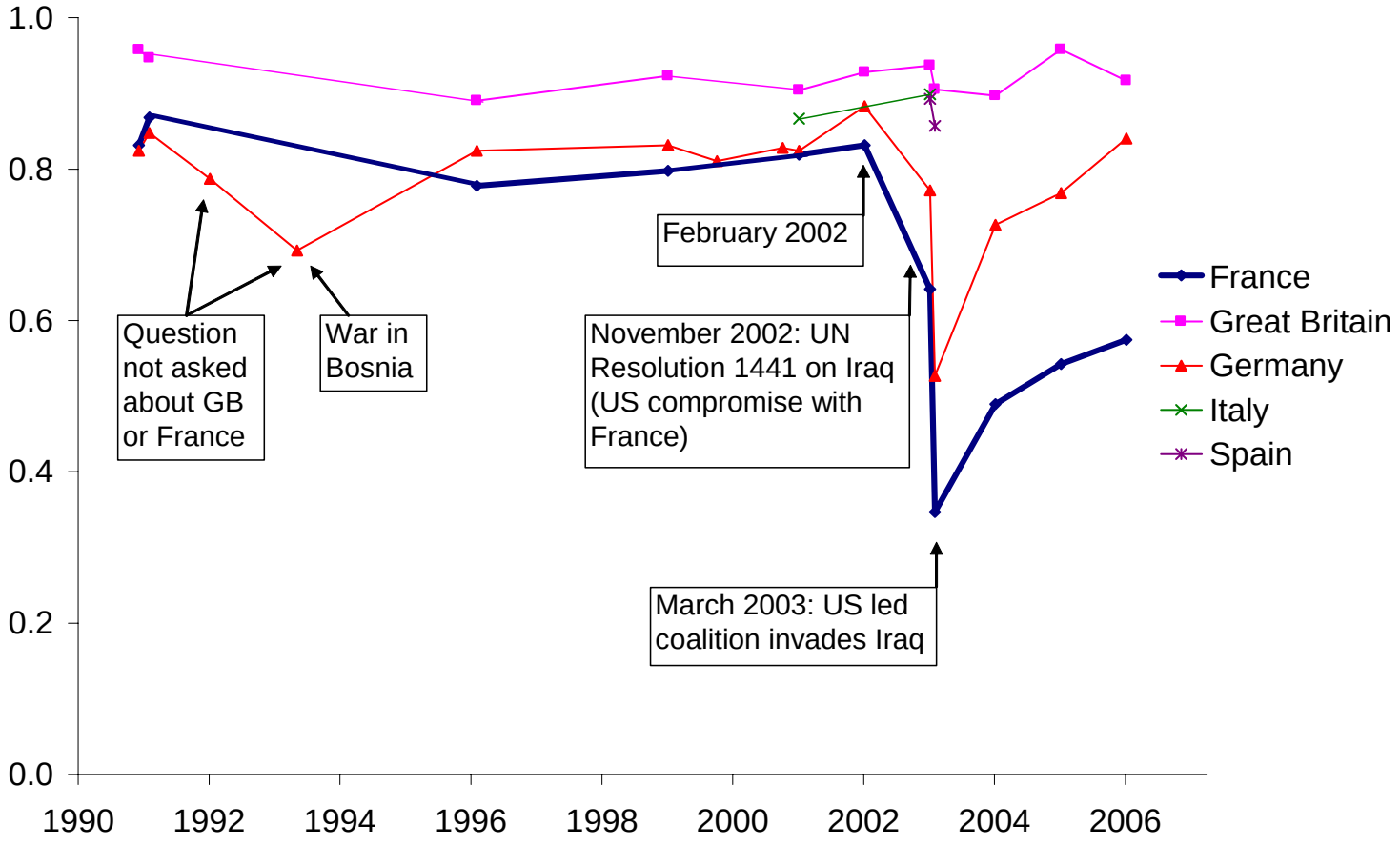


Figure 1. Fraction of US Respondents With a Favorable View of France and other European Countries (Gallup Polls for Various Dates; "Don't Know" Responses Excluded)

Notes: The question asked in all polls was very similar to the following: "(Next, I'd like your overall opinion of some foreign countries.) Is your overall opinion of...(Country name) - very favorable, mostly favorable, mostly unfavorable, or very unfavorable?" The figure reports the fraction of respondents with a "very favorable" or "mostly favorable" opinion.

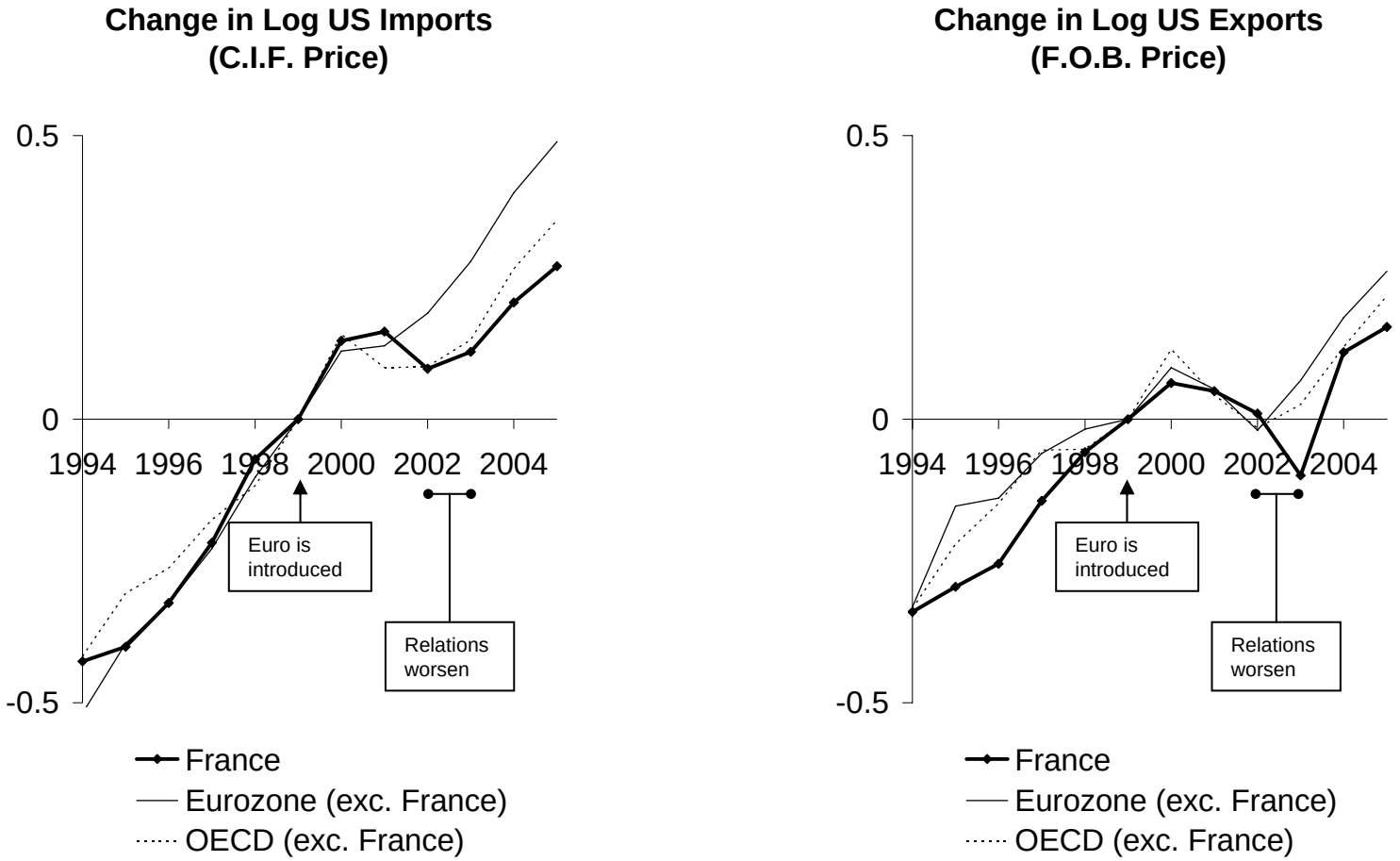


Figure 2. Change in Log Value of US Trade with France, Eurozone and OECD (Nominal US$, Changes Relative to 1999)

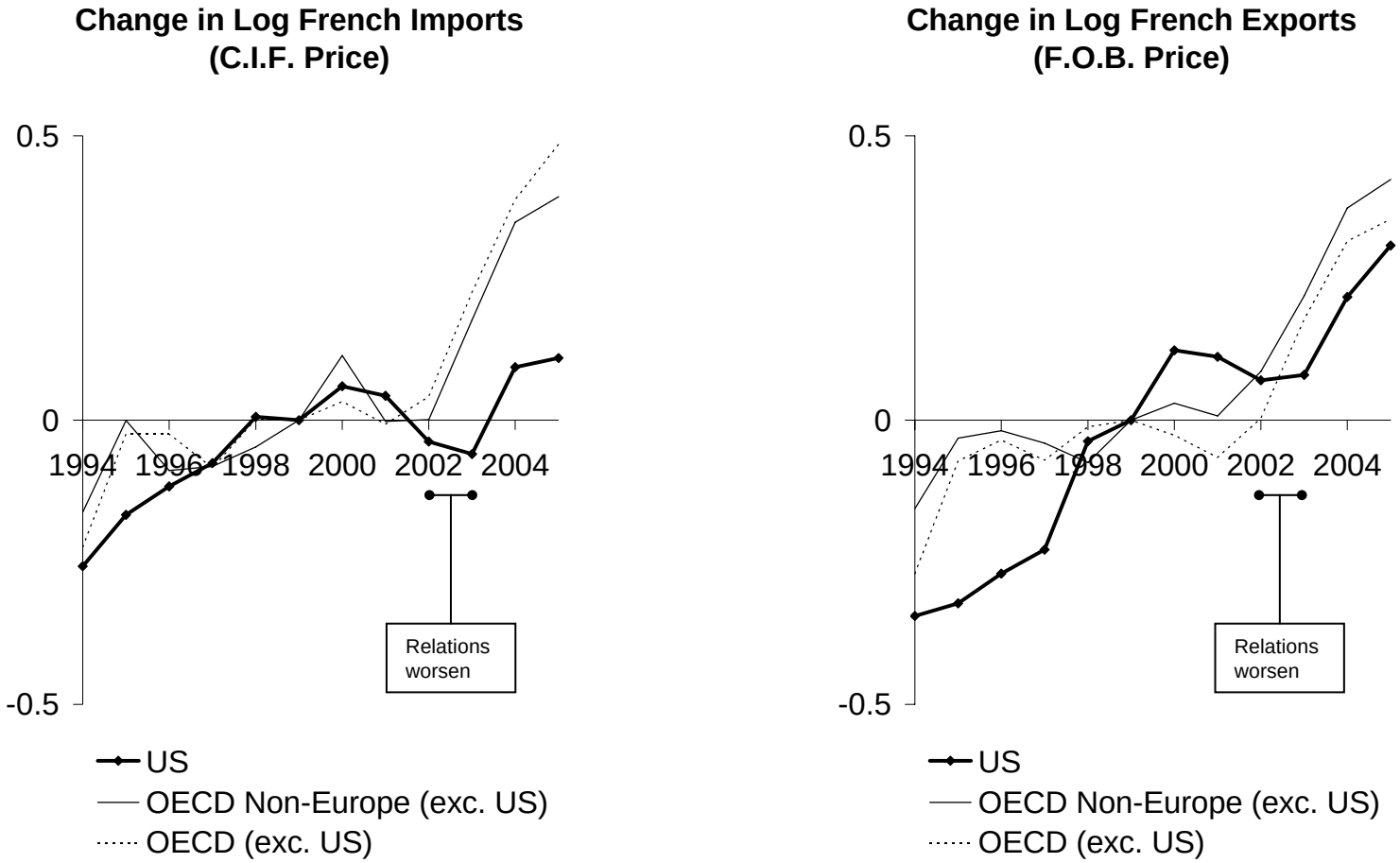


Figure 3. Change in Log Value of French Trade with US and OECD (Nominal US$, Changes Relative to 1999)

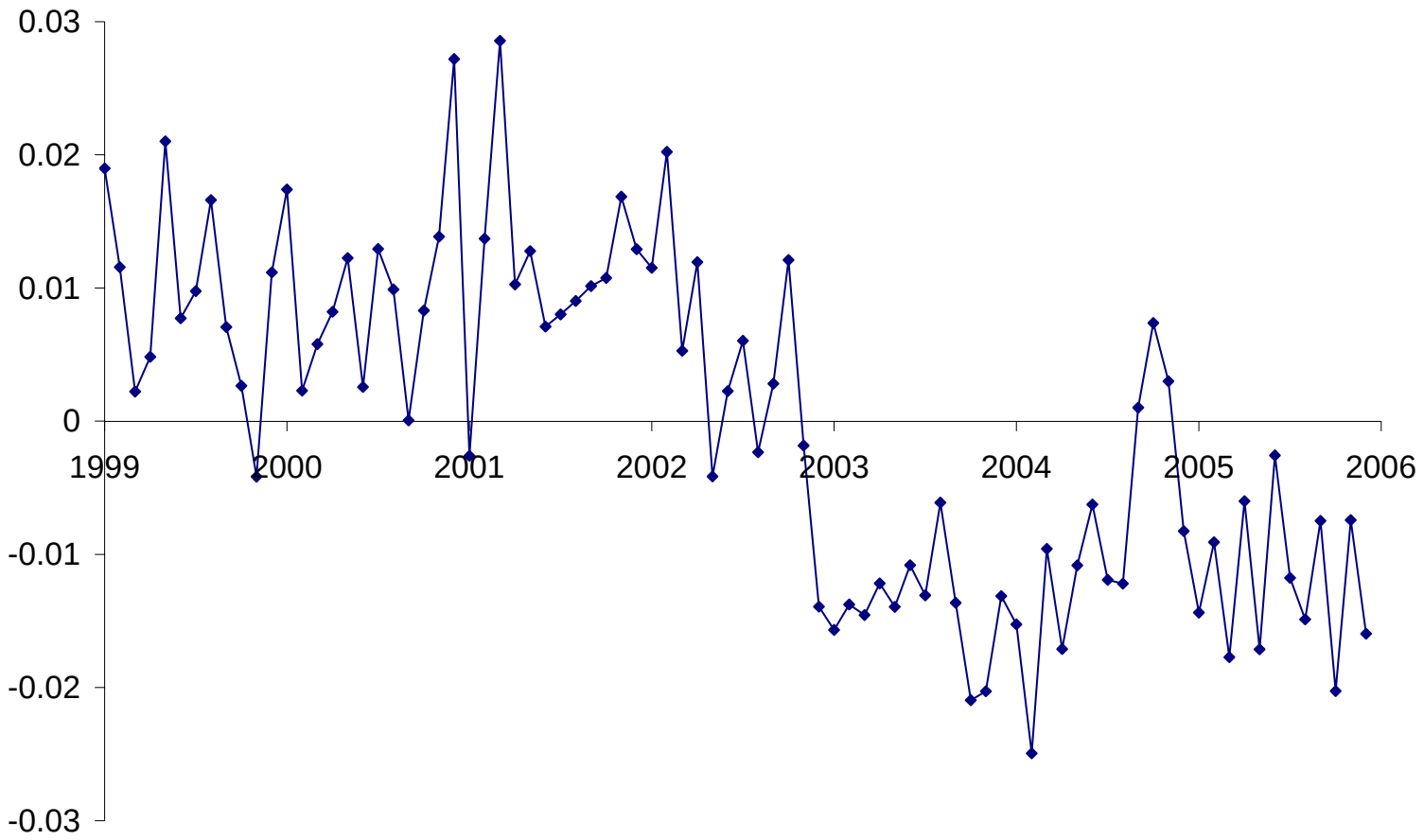


Figure 4. Average of France's Shares of US Imports from Eurozone and Exports to Eurozone (Residual After Netting Out of Month Fixed Effects)

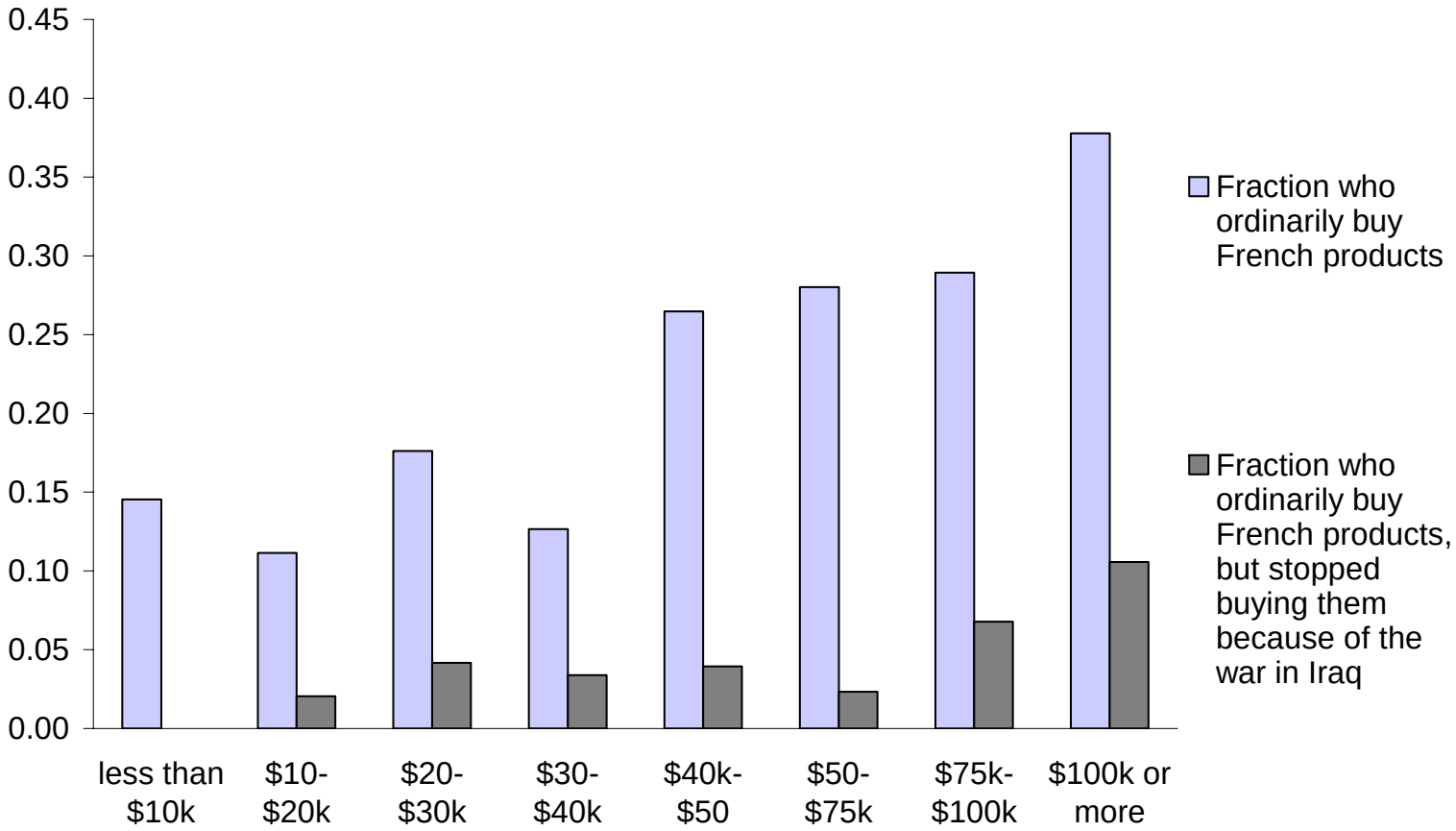


Figure 5. Self Reported Purchase of French Products, by Annual Household Income (Gallup Poll, 22-23 April 2003)

Note: People were asked: “Thinking now about your buying habits, do you ordinarily buy any products made in France, or not?” Those who responded “Yes” were asked: Have you stopped buying these products as a result of France’s opposition to the war with Iraq, or not?”

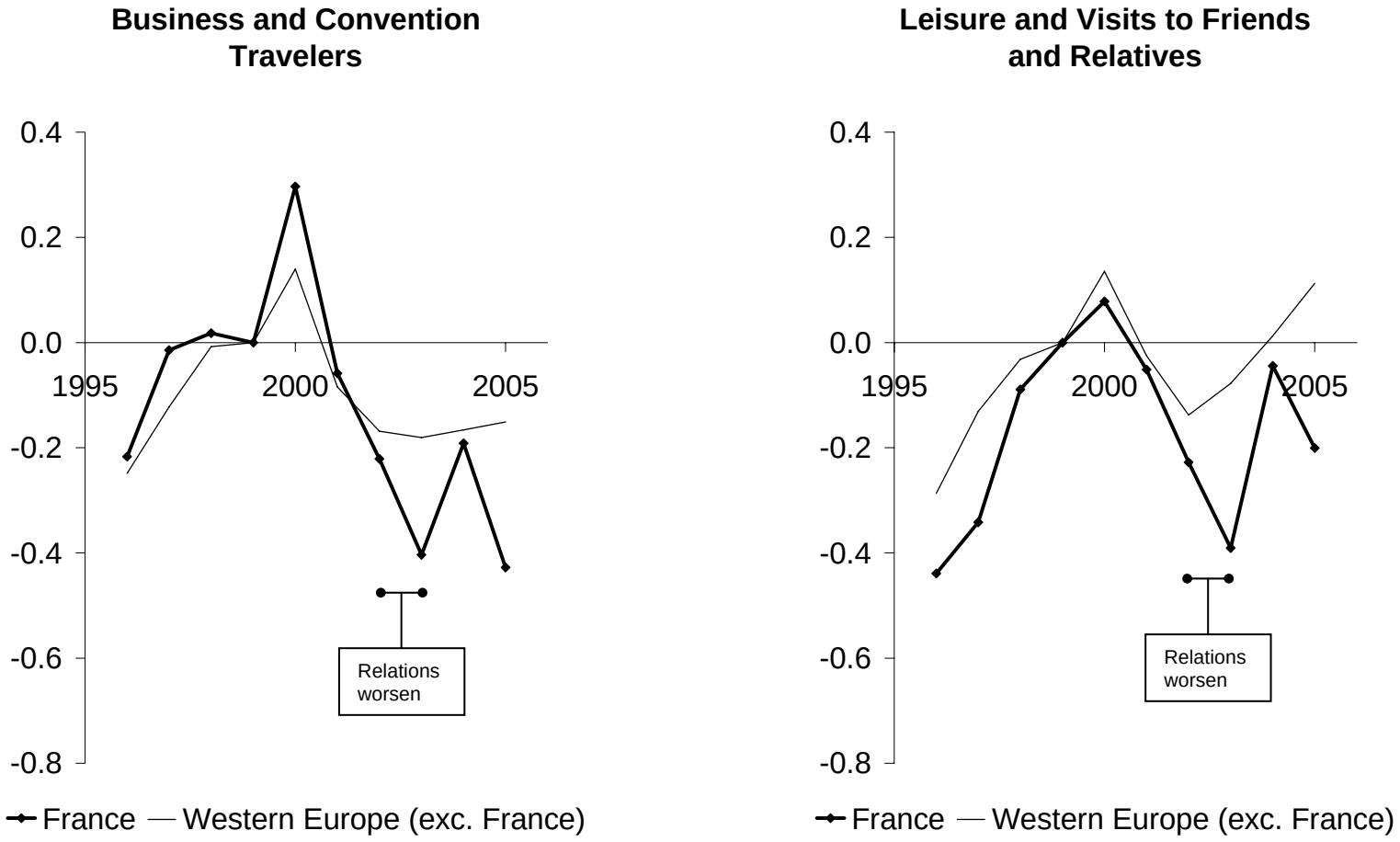


Figure 6. Changes in Log US Resident Travelers to France and Western Europe (Source: Office of Travel and Tourism Industries)

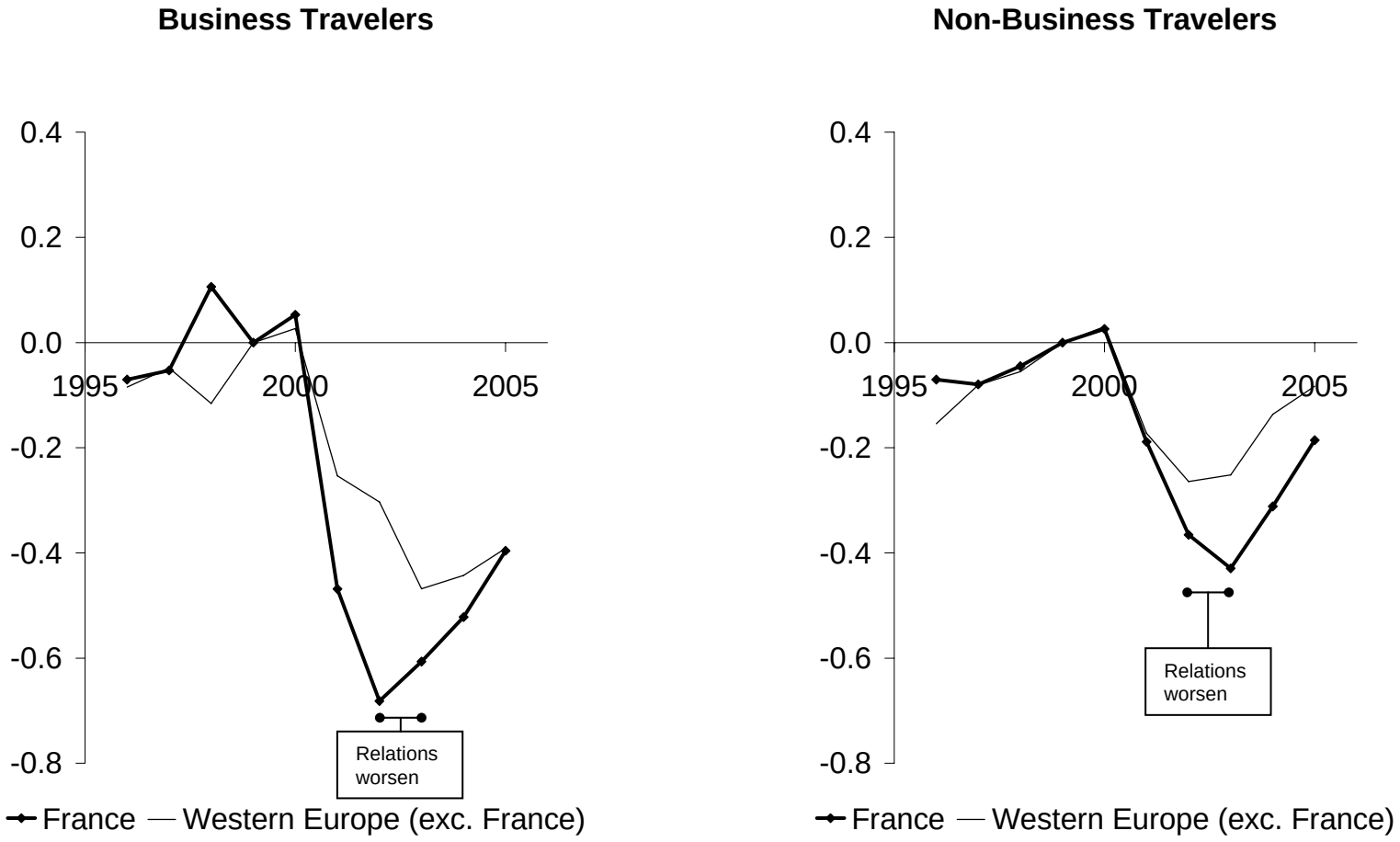
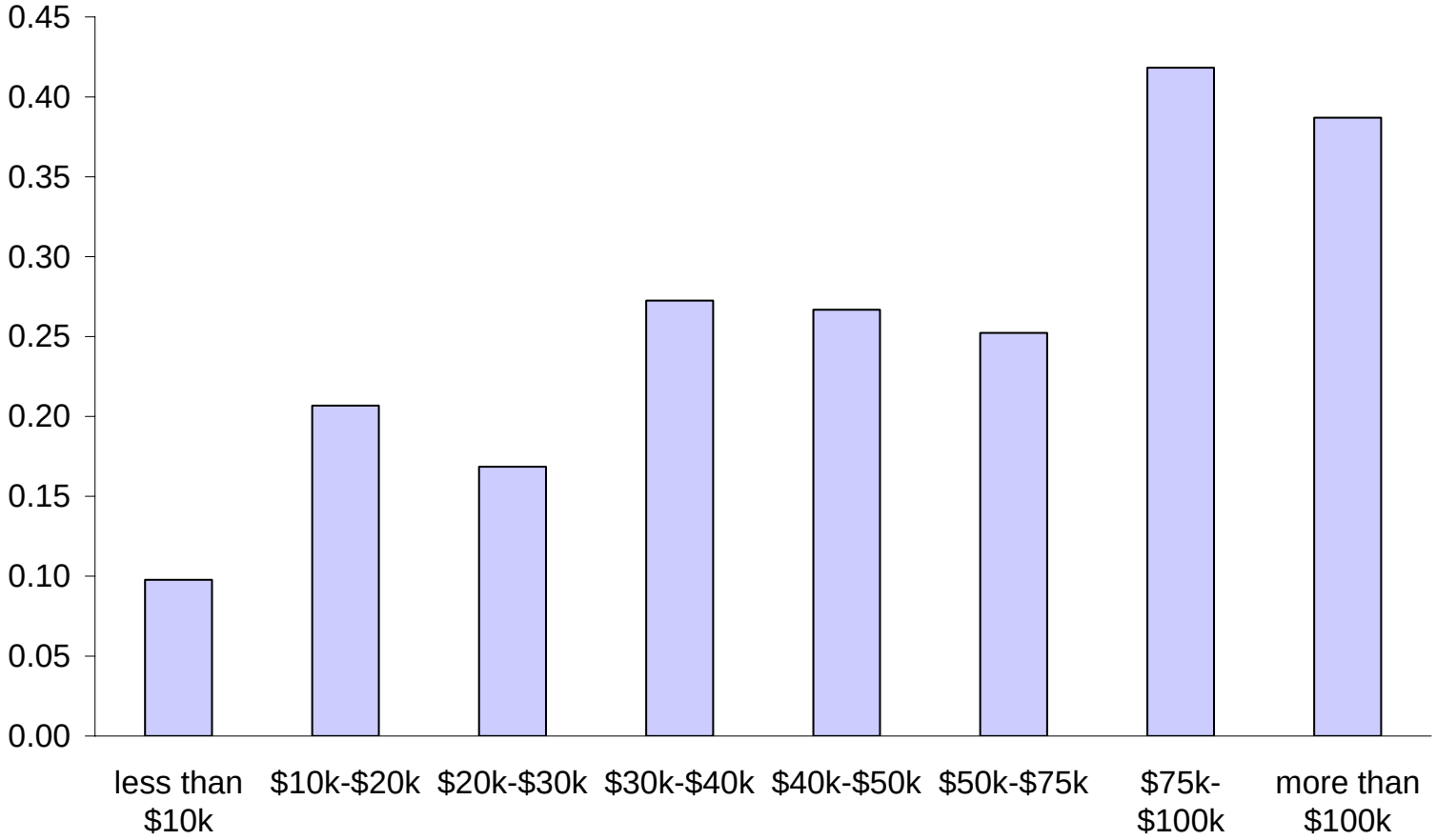
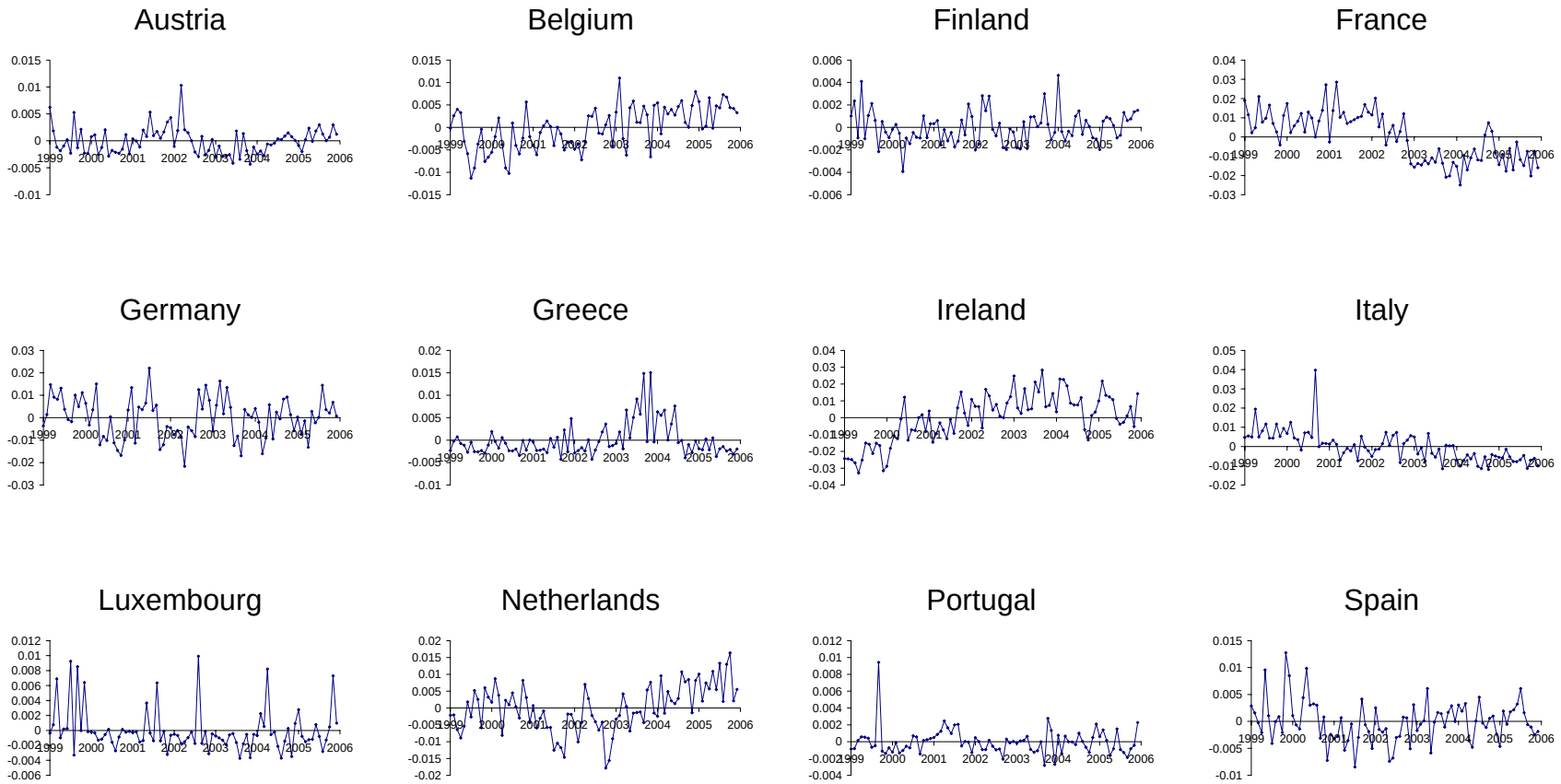


Figure 7. Changes in Log Travelers to US from France and Western Europe (Source: Office of Travel and Tourism Industries)



Appendix [Not for Publication] Figure A1. Fraction Who "Lost Respect" for France for its role in the Situation in Iraq, by Family Income (NBC/Wall Street Journal Poll, 7-9 December 2002)

Note: The question asked was: “Now let me read you a list of nations that are playing a role in the situation with Iraq. For each one, please tell me whether you have gained respect for that nation, lost respect for it, or whether your opinion of it is unchanged. If you do not know enough to answer, please just say so.” The question was asked about Israel, Germany, Great Britain, France, Russia, and Saudi Arabia.



Appendix [Not for Publication] Figure A2. Average of Countries' Shares of US Imports from Eurozone and Exports to Eurozone (Residual After Netting Out of Month Fixed Effects)