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Abstract

The issue of low-wage competition in services trade involving posted workers is controversial in the EU. Using Swedish survey data, people's attitudes are found to be more negative to such trade than to goods trade. The differences depend on both a preference for favouring social groups to which individuals belong (here the domestic population) and altruistic justice concerns for foreign workers. In small-group experiments we find a tendency for people to adjust their evaluations of various aspects of trade to their general attitude. This tendency is stronger for those opposed to than those in favour of low-wage trade competition. This may indicate that the former group forms its attitudes in a less rational way than the latter group.

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Keywords: services trade, posted workers, wage regulations, attitude formation.

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1 Introduction

Some types of trade in services require temporary mobility of labour that has to be posted in the importing country to provide the service in question. The issue of to what extent low-wage trade competition with posted workers should be allowed has been hotly debated in the EU in recent years. The debate was triggered by the enlargement of the EU, which has enabled low-wage service providers in the new EU member states to compete in the markets of the old member states.

A key issue is to what extent service providers from other EU countries with temporarily posted workers should be bound by wage regulations or collective wage agreements in host countries. The debate has concerned *inter alia* building workers in Sweden and the UK, plumbers in France and butchers in Germany.[1] At the EU level, there was a heated discussion before the new Service Directive was finally adopted in 2006. In the elections to the European Parliament in 2009, the aim of fighting 'wage dumping' through a revision of the Posted Workers Directive featured prominently in the campaigns of socialist candidates in many countries. Rulings by the European Court of Justice have been criticised by trade unions for imposing restrictions on the right to strike in order to "protect workers' rights in cross-border situations".[2] The debate has recently led the European Commission (2012) to propose the adoption of a new Council Regulation trying to balance "the rights on the free movement of goods, persons, services and capital" against "the right of collective bargaining and the right to industrial action" by requiring that principles of proportionality (i.e. that the damages imposed by industrial action in cross-border cases should be proportional to the desired objectives) are respected by trade unions.

Over the last ten years, a research literature on trade in services has emerged. It points to remarkable similarities between trade in goods and trade in services (Breinlich and Crisuolo 2010). The normative conclusions on the aggregate welfare gains from trade seem to apply to trade in services as well (Francois and Hoekman 2009). Still, the public debate in many countries suggests that attitudes in general are much more hostile to trade in services involving the use of posted workers than to traditional trade in goods.

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[1] See, for example, Courier International (2005), Le Soir (2005), Knabe and Schöb (2008) and BBC (2009).

[2] See Report on the joint work of the European social partners on the ECJ rulings in the Viking, Laval, Rüffert and Luxembourg cases (2010) and European Commission (2012). See also the ECJ rulings Judgement 11.12.2007 and Judgement 18.12.2007.

Our aim is to examine whether, and if so, to what extent, the attitudes to trade in services using posted workers differ from the attitudes to other types of trade and how these attitudes are formed. We build on research insights from both economics and psychology.

We focus on the following questions:

1. Are the *general* attitudes indeed less favourable to trade in services with posted workers than to other types of trade?
2. Which *attitude dimensions* are most important for the differences in general attitudes between trade in services and other types of trade? We distinguish between two fundamental sets of human motives described in psychology. The first set of motives is related to *in-group favouritism,* i.e. a tendency to be more concerned with effects on social groups to which individuals belong (in-groups, in this case the domestic population) than to other groups (out-groups, in this case foreigners) (Hewstone et al. 2002). The second set of motives is related to *altruistic justice concerns:* observing situations that go against individuals' understanding of a just world order prompts psychological discomfort (Tyler et al. 1997, Lerner 2003). An example of the first type of motives is fear of "social dumping", i.e. of "unfair wage competition". An example of the second type is a desire to prevent "unjust exploitation" of foreign workers.
3. How rational is the formation of attitudes to trade in services? Is the general attitude to such trade rationally formed from underlying attitude dimensions in a similar way as when economists assume that individuals have well-defined preference functions with a number of arguments? Or do individuals adjust their various attitude dimensions to their general attitude in a process of *coherence seeking (*which serves to justify the general attitude) as has been shown by psychologists to be the case in other areas (Holoyoak and Simon 1999, Simon et al. 2008). Are there systematic differences in how attitudes are formed between people who are more favourable to trade and those who are more negative?

These issues were studied with the help of two sets of data from Sweden. First, we performed two broad telephone surveys of representative samples of the population, where respondents were asked about both their general attitudes and various attitude

dimensions regarding different types of trade. Second, we did experiments with small groups of participants to study the process through which attitudes are formed.

The issues we study have not been examined before. Previous research has focused on trade in general. In public opinion polls from several countries, it has been found that there is greater support for free trade in principle than "in practice" when more concrete questions on whether imports should be restricted are asked (see Calmfors et al. 2009). A few studies have found that attitudes reflect economic self-interest, as defined by the Heckscher-Ohlin theory. For example, Mayda and Rodrick (2005), using data from the 1995 International Social Survey Program (ISSP) and the 2000 World Values Survey (WVS), found that skilled workers had a favourable attitude to trade in high-income countries (where they are likely to gain from it), but a negative attitude in low-income countries (where they are likely to lose). The results in Scheve and Slaughter (1998) and O'Rourke and Sinnott (2002) were similar. In contrast, Beaulieu et al. (2001) found that high-skilled workers in both high-income and low-income countries are more positive to trade than low-skilled workers.

Using ISSP and WVS data, Mayda (2005) found that higher skills go hand in hand with more pro-immigration attitudes in countries where natives have a high skill level relative to immigrants. This is consistent with economic self-interest since immigration then reduces the relative supply of skilled to unskilled labour with the consequence that the relative wage of skilled labour increases. Mayda (2007) found that working in a non-traded goods sector increased the likelihood of being pro-trade, while this did not affect attitudes to immigration. Also this is in line with economic self-interest, as employees in non-traded goods sectors gain from more goods trade (which implies cheaper imports but does not threaten jobs in that sector), whereas they tend to lose from immigration (which implies more competition for jobs in that as well as in other sectors).

2 General attitudes to trade

We first examine whether it really is the case that general attitudes are less favourable to trade in services with posted workers than to trade in goods as suggested by the public debate.

Standard trade theory views exports of goods as a way of indirectly exporting labour services (Caves and Jones 2006, Krugman et al. 2011). Although the export of labour services is more direct in the case of trade in services with posted workers,

there is no reason to expect the economic effects to be different in principle. There are overall gains from trade for all involved countries because aggregate income is raised when they specialise in production according to their comparative advantages or exploit economies of scale. There are, however, both winners and losers in each country.

According to the Heckscher–Ohlin model, trade takes place between countries with different relative factor endowments. Countries relatively abundant in (physical and human) capital specialise in the production of capital-intensive goods. Countries relatively abundant in labour instead specialise in labour-intensive goods. A long-run consequence of the opening up of trade between capital-abundant and labour-abundant countries is that the relative factor return to labour falls in the former countries: the wage for (unskilled) labour falls relative to the return to capital (physical and human). The reverse development occurs in the labour-abundant economies.

In the short run, immobile production factors (for example, labour with specific skills) suffer real income losses in import-competing sectors but obtain income gains in export sectors. For mobile production factors (such as labour with general skills which can be used in any sector) the direction of the real income changes are ambiguous, although most likely minor. There may also be substantial adjustment costs for labour that is re-allocated: displaced workers often have to accept substantial wage cuts to be re-employed elsewhere (Kletzer 2004, OECD 2005).

Although the economic effects are similar, psychological research suggests several reasons why attitudes are likely to be less favourable to trade in services with posted workers than to conventional trade in goods. It has been shown that *visibility* of information and direct experience of an attitude object has strong effects on people's attitudes (Krosnick et al. 1993, Fabrigar et al. 2005). When a plant is closed down because of import competition, the competitors may appear rather abstract. They are much more visible with trade in services that requires presence of foreign workers 'on the spot'. A similar issue arises with respect to altruistic justice concerns. Lower wages for foreign than for domestic workers might be perceived much more negatively when the foreign workers are posted in the domestic economy and hence are more visible than when they perform their work abroad.

In addition, a large body of research shows that people are *loss aversive* (Tversky and Kahneman 1981). Loss aversion means that in people's perception

losses loom larger than equal gains. Loss aversion could contribute to a *status-quo bias* that implies a more negative attitude to trade in services than to trade in goods. The reason is that the opening-up of trade in services, based on low-wage competition, is perceived to cause losses for the employees exposed to the increased competition that are more important than the corresponding gains for consumers. In contrast, attitudes to existing trade in goods may to a larger extent be based on the losses that consumers would suffer if such trade was restricted (rather than on the gains for employees being exposed to less foreign competition).

Yet another possible explanation of more negative attitudes to low-wage competition in services trade, requiring the posting of foreign labour, than to such competition in goods trade is negative attitudes towards immigration in general (Verkuyten and Nekuee 1999, Steele et al. 2002).

It is not obvious how one should study the impact of these psychological factors. Negative attitudes towards immigration are often implicit, i.e. they influence people's judgments on subconscious levels and may therefore be difficult to measure. Nor is it obvious how one should evaluate the importance of visibility and loss-aversion effects. One - indirect - method is to examine also attitudes to *offshoring* of final production. If visibility effects, loss-aversion concerns and anti-immigration sentiments are unimportant, one should expect more negative attitudes to offshoring than to import competition in the service sector based on the use of posted workers, as relocation of final production, which is often for export markets, can be expected to give domestic consumers smaller benefits in terms of lower import prices.

2.1 Survey questions – general attitudes

Data on the attitudes to different types of trade were collected in two surveys. The first survey was carried out in January 2007, the second one in December 2010. In both surveys a random sample of 1000 individuals aged 18–75 years were interviewed on telephone. If contact was unsuccessful after six follow-up telephone calls, a new respondent was randomly selected until the target of 1000 responses was reached. The response rate was around 50 per cent. The respondents were asked about their attitudes to ordinary trade in goods, trade in services involving posted workers and offshoring of final production.

To measure attitudes to low-wage competition, the respondents were asked to rank their answers to the following questions along a five-point scale from ‘very good’ to ‘very bad’:

1. *Do you think it is good or bad that firms that produce goods in the new EU countries, and that pay lower wages than firms in Sweden, can compete freely in the Swedish market?*
2. *Do you think it is good or bad that firms from the new EU countries that produce services, for example in construction, and that pay lower wages to workers posted in Sweden than Swedish firms, can compete freely in the Swedish market?*
3. *Do you think it is good or bad that Swedish firms can move production freely to the new EU countries where wages are lower than in Sweden?*

2.2 Survey responses – general attitude

Table 1 shows the means of the responses for the various types of trade in the two surveys. 1 corresponds to "very bad", 2 to "bad", 3 to "neither good nor bad", 4 to "good" and 5 to "very good".

Table 1 General attitudes to different types of trade

	Goods	Services		Offshoring		Average
Survey 1	2.89	2.34	(-0.55)	2.49	(-0.40)	2.57
Survey 2	2.66	2.09	(-0.57)	2.40	(-0.26)	2.39

Note: Means are calculated across individuals in the sample, excluding ‘don’t know’ and missing values. Only data from individuals who answered all questions are included in the calculations. In each survey, the averages for the different types of trade differ significantly from each other ($p > 0.05$). Entities within parenthesis show the difference in score to trade in goods.

Since the mid-point of the scale used is 3 and all the means are below this value, the results indicate a negative attitude in general towards low-wage trade competition. The average general view lies between ‘neither good nor bad’ and ‘bad’.

Our hypothesis that attitudes are more adverse to trade in services with posted workers than to trade in goods is confirmed. The result holds in both surveys. The attitude difference between the two types of trade is almost the same. The general attitude is more negative to offshoring than to goods trade,

but not so negative as it is to services trade with posted workers. This is consistent with visibility effects, loss-aversion concerns or anti-immigration sentiments being important.

All the trade attitudes are more negative in Survey 2 from 2010 than in Survey 1 from 2007. The differences are significant (at the one-percent level) for both goods and services. One could speculate that the economic crisis starting in the autumn of 2008 has something to do with this. However, this conjecture is not really supported by the responses to the questions regarding the various attitude dimensions (see Section 3.2).

3 Attitude dimensions

Next we examine along which dimensions the attitudes to the various types of trade differ. We take as our starting point the arguments that have been put forward in the debate on regulating the wages of posted workers. Two dimensions have dominated. The first dimension is to prevent 'social dumping', i.e. to protect the jobs of domestic workers from what is regarded as unfair low-wage competition. The second dimension is to prevent 'unjust exploitation' of foreign workers when they are paid less than domestic workers. As discussed in Section 1, these arguments correspond to two fundamental human motives described in psychology: (1) in-group favouritism, a preference for in-groups at the expense of out-groups in various contexts, including allocation of resources and defending the interests of group members and (2) altruistic justice concerns, which may lead to behaviour aimed at fostering justice even at the cost of overlooking self-interest. These two motives have been shown to operate in parallel in intergroup decision contexts (Diekmann et al. 1997).

There are also other attitude dimensions to consider. An obvious advantage with imports of both goods and services from foreign low-wage providers is lower prices for the in-group of domestic consumers. To the extent that domestic citizens are driven by altruistic justice concerns they should value the jobs for workers in low-wage economies created by trade.

3.1 Survey questions – attitude dimensions

Respondents in the two surveys were asked about the attitude dimensions discussed above. In the first survey we also examined whether fears of domestic job losses were mainly associated with short-run adjustment problems.

More precisely, the respondents were asked to what extent they agree or disagree with a number of statements which were repeated for the three types of low-wage competition. Giving trade in services as an example, the questions in the first survey were:

> *Sweden can import services, for example in the construction sector, from the new EU countries, by purchasing services from firms with temporary activities in Sweden using their own posted staff. If the foreign firms pay lower wages than Swedish firms...*
>
> *a. ...it is unfair competition for Swedish workers, threatening wages and jobs here.*
>
> *b. ...it is unfair to the staff employed in the firms from the new EU countries since they receive less pay than the staff in Swedish firms.*
>
> *c. ...it is good since this implies low prices for Swedish consumers.*
>
> *d. ...it must not lead to fast changes in the Swedish labour market.*
>
> *e. ...it is good since it makes it possible for firms from the new EU countries to export services to Sweden and thereby to create more jobs for the citizens in those countries.*

In the second survey, question (*d*) was excluded, but the other questions were the same. We refer subsequently to the above attitude dimensions as ‘unfair competition’, ‘unfair wages’, ‘low prices’, ‘not fast changes’ and ‘foreign jobs’, respectively. To examine the importance of attitudes to immigration, we also included the following question (which we shall refer to as ‘depletion of Swedish culture’) in Survey 2:

Would you say that culture in Sweden is enriched or depleted by the fact that many people come here from other countries?

The respondents indicated their responses to all the questions on a five-point Likert-type scale ranging from 1 for ‘strongly disagree’ to 5 for ‘strongly agree’.

3.2 Survey responses – attitude dimensions

Tables 2a and 2b give the means of the responses regarding the various attitude dimensions in the two surveys. In the tables the scale has been reversed (so that it is 6 minus the actual response) for 'unfair competition', 'unfair wages', and 'not fast changes'. Doing this we get an indicator where a higher rating always corresponds to a more positive attitude to trade on the same 1-to-5 scale. The entries in paranthesis give the mean differences to goods for services and offshoring respectively.

Table 2a Attitude dimensions in Survey 1

	Goods	Services		Offshoring		Average
Unfair competition	$2.89_{a,1}$	$2.48_{b,2}$	(-0.41)	$2.60_{b,3}$	(-0.29)	2.66_{a}
Unfair wages	$3.15_{b,1}$	$2.89_{d,2}$	(-0.26)	$3.20_{c,1}$	(0.05)	3.08_{d}
Low prices	$3.35_{c,1}$	$2.85_{d,2}$	(-0.50)	$2.95_{d,2}$	(-0.40)	3.05_{d}
Not fast changes	$2.57_{d,1}$	$2.54_{b,1}$	(-0.03)	$2.58_{ab,1}$	(0.01)	2.57_{f}
Foreign jobs	$3.46_{e,1}$	$2.81_{d,2}$	(-0.65)	$2.92_{d,2}$	(-0.54)	3.07_{d}
Average	3.08_{1}	2.72_{2}	(-0.36)	2.85_{3}	(-0.23)	
Average excluding fast changes	3.21_{1}	2.76_{2}	(-0.45)	2.92_{3}	(-0.29)	

Table 2b Attitude dimensions in Survey 2

	Goods	Services		Offshoring		Average
Unfair competition	$2.88_{d,1}$	$2.46_{d,2}$	(-0.42)	$2.64_{d,3}$	(-0.24)	2.66_{b}
Unfair wages	$3.18_{c,1}$	$2.70_{c,2}$	(-0.48)	$3.17_{f,1}$	(-0.01)	3.01_{c}
Low prices	$3.04_{b,1}$	$2.49_{d,2}$	(-0.55)	$2.72_{cd,3}$	(-0.26)	2.75_{d}
Foreign jobs	$3.31_{c,1}$	$2.54_{d,2}$	(-0.77)	$2.86_{ce,3}$	(-0.45)	2.91_{c}
Average	3.10_{1}	2.55_{2}	(-0.55)	2.85_{3}	(-0.25)	

Note: Means are calculated across individuals in the samples, excluding 'don't know' and missing values. Means for 'unfair competition', 'unfair wages' and 'not fast changes' have been calculated after reverse-scoring the responses to make all responses comparable. Means in the same column that share a common subscript letter are not significantly different ($p > 0.05$). Means in the same row that share a common subscript number are not significantly different ($p > 0.05$). Figures in paranthesis show mean differences to goods.

The attitude dimensions in Tables 2a and 2b give the same picture as the general attitudes in Table 1: the averages over the various dimensions are significantly lower for services trade than goods trade. The averages are also lower for offshoring than for goods trade but not as low as for services trade. Comparing the averages (excluding 'not fast changes') in Table 2a with the averages in Table 2b, there are again less positive trade attitudes in the later survey.

Attitudes are less favourable to trade in services than to trade in goods along all dimensions except "not fast changes" in the first survey. In both surveys, the differences are the largest for "foreign jobs" and "low prices". Differences are smaller, though still significant, along the two dimensions stressed the most in the public debate: "unfair competition" and "unfair wages".

The last column in the two tables shows how positive attitudes are to trade in general along the different dimensions. It is no surprise that trade attitudes are more positive along the dimensions "low prices" and "foreign jobs" (since these are benefits of trade) than along the dimension "unfair competition" (which is a negative effect). It is more unexpected that the highest pro-trade score is obtained for the dimension "unfair wages": it reflects that respondents tend to disagree with the statement that it is unfair with lower wages for foreign than domestic employees (reflected in an *unreversed* average below 3 which represents "neither agree nor disagree"); there is a tendency to agree (an unreversed average above 3) only for services trade. For all types of trade there is significantly less agreement with the statement on "unfair wages" than with the statement that lower wages for foreign than domestic employees is "unfair competition". This does not, however, reflect any general tendency to agree more strongly with statements pointing to in-group effects on nationals than with statements about the effects on foreigners, as there is significantly more agreement in Survey 2 with the statement that low-wage competition is good because it creates foreign jobs than with the statement that it is good because it implies low domestic prices.

Comparing the responses to the two surveys, the attitude dimensions “low prices” and “foreign jobs” are less favourable to trade in Survey 2 than in Survey 1. It is hard to relate this to the effects of the economic crisis: it is true that the crisis could weaken concerns about “foreign jobs”, but on the other hand it could be expected to make respondents evaluate “low prices” more. Another observation is that the differences in attitude dimensions between services trade and goods trade are significantly larger in the second survey for the altruistic dimensions "unfair wages" and "foreign jobs".

3.3 The relationship between general attitudes and attitude dimensions

Next we examine how the attitude dimensions are correlated with the general attitudes to the different types of trade. To study this, we regressed the general attitude on the

attitude dimensions. In each survey we pooled all our observations across the types of trade. To test whether there are systematic differences in the general attitudes to the different forms of trade that are unrelated to differences in attitude dimensions, we included dummy variables for the type of trade among the explanatory variables: the variable *Ds* for trade in services and the variable *Do* for offshoring. Significance for these variables means that the general attitudes to these forms of trade differ from the general attitude to trade in goods even if the included attitude dimensions are the same. This could indicate the importance of some omitted dimension. We also allowed for the possibility that the attitude dimensions could have differential effects on the general attitude for the different types of trade by including interaction terms between the type of trade and the attitude dimensions.

We ran both ordinary least squares (OLS) and ordered logit regressions regressions.[3] The results were very similar. Table 3 shows the OLS regressions. Columns 1-4 apply to Survey 1 and columns 5-8 to Survey 2. Column 1 includes the two dummy variables and all the attitude dimensions asked about in Survey 1. Column 2 is the same equation but without the attitude dimension "not fast changes" (to facilitate comparison with Survey 2). Columns 3 and 4 are estimations for Survey 1 that include also interaction variables; stepwise backward regressions, keeping only variables that are significant at the five per cent level, have been used.

Column 5 is a regression for Survey 2 including only the two dummy variables and the attitude dimensions asked about in this survey (since the dimension "not fast changes" is excluded, the column 5 regression is directly comparable to the column 2 regression). Column 6 is a similar regression but with the "depletion of Swedish culture" variable added. Columns 7 and 8 are the corresponding estimations including also interaction variables with only significant variables kept (after stepwise backward regressions). The column 7 regression based on Survey 2 is directly comparable to the column 4 regression based on Survey 1.

[3] We also created a binary variable to measure the general attitude to trade which we used in logit regressions. The results were not qualitatively different from those based on ordered logits. Since the observations are pooled across types of trade and each individual recurs three times in the data, the residuals can be correlated. To handle this, we used clustered robust standard errors in the analysis.

Table 3 The relationship between the general attitude and attitude dimensions

	Survey 1				Survey 2			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Ds	-0.072	-0.075			-0.120	-0.133		
	(0.120)	(0.099)*			(0.007)**	(0.003)***		
Do	-0.086	-0.099		-0.107	-0.028	-0.037		-0.237
	(0.087)*	(0.046)**		(0.026)**	(0.515)	(0.391)		(0.010)**
Unfair competition	0.186	0.196	0.163	0.196	0.119	0.119	0.120	0.139
	(0.000)***	(0.000)***	(0.000)***	(0.000)***	(0.000)***	(0.000)***	(0.000)***	(0.000)***
Ds x Unfair competition								-0.059
								(0.000)***
Do x Unfair competition			0.072					
			(0.035)**					
Unfair wages	0.112	0.113	0.114	0.123	0.094	0.098	0.127	0.078
	(0.000)***	(0.000)***	(0.000)***	(0.000)***	(0.000)***	(0.000)***	(0.000)***	(0.000)***
Ds x Unfair wages				-0.031			-0.094	
				(0.018)**			(0.000)***	
Do x Unfair wages								0.063
								(0.026)**
Not fast changes	0.023		0.054					
	(0.255)		(0.024)**					
Do x Not fast changes			-0.089					
			(0.012)**					
Low prices	0.282	0.282	0.285	0.282	0.281	0.285	0.261	
	(0.000)***	(0.000)***	(0.000)***	(0.000)***	(0.000)***	(0.000)***	(0.000)***	
Ds x Low prices							0.062	0.285
							(0.021)**	(0.000)***
Foreign jobs	0.328	0.316	0.333	0.314	0.274	0.256	0.272	0.255
	(0.000)***	(0.000)***	(0.000)***	(0.000)***	(0.000)***	(0.000)***	(0.000)***	(0.000)***
Depletion of Swedish culture						-0.080		-0.080
						(0.000)***		(0.000)***
Constant	-0.133	-0.056	-0.216	-0.077	0.263	0.471	0.204	0.485
	(0.129)	(0.496)	(0.004)***	(0.292)	(0.001)***	(0.000)***	(0.003)***	(0.000)***
Number of observations	2565	2703	2565	2703	2860	2836	2860	2836
R2	0.383	0.378	0.384	0.379	0.342	0.350	0.345	0.352

The most striking result is the strong relationship between the general attitude and the four attitude dimensions “unfair competition”, “unfair wages”, “low prices” and “foreign jobs” in all the regressions. In Survey 1, “not fast changes” is significant in equation (3) but not in equation (1). Regression coefficients are much larger for “foreign jobs” and “low prices” than for “unfair competition” and “unfair wages”. If we make a causal interpretation, the implication is that differences in the valuation of the foreign jobs created and of low domestic consumer prices have the largest impact

on interpersonal differences in the general attitude to trade, although differences in the valuation of "unfair competition" and "unfair jobs" also matter. The results suggest that both considerations regarding the in-group of domestic citizens and altruistic justice concerns with respect to foreign workers are important for trade attitudes.

Comparing regressions (2) and (4) for Survey 1 with the corresponding regressions (5) and (7) for Survey 2, it is clear that the regression coefficients for the various attitude dimensions are of a similar magnitude in the two surveys, although in most cases the coefficients are somewhat lower in the Survey 2 estimations.

The intercept dummies for trade in services and offshoring are sometimes significantly negative and sometimes insignificant. Hence, there is some evidence in favour of an extra negative valuation of services trade and offshoring relative to goods trade over and above that explained by differences in the attitude dimensions (see Tables 2a and 2b), but it is rather weak.

When interaction terms between the type of trade and the attitude dimensions are added (columns 3-4 and 7-8), they are in most cases insignificant. This implies that the attitude dimensions are usually related to the general attitude in the same way for the different types of trade. There are only a few exceptions. Focusing on the interactions with services trade, the results provide some, but not overwhelming, support for the hypotheses that the dimensions “unfair competition” and “unfair wages” influence the general attitude to services trade more negatively than the general attitude to other types of trade, which is what we expected à priori (equations 4, 7 and 8). More unexpectedly, the results also provide some evidence that the dimension “low prices” has a more *positive* effect on the general attitude to trade in services than to the other types of trade (equations 4 and 7).

When the “depletion of Swedish culture” variable was added to the regressions (equations 6 and 8), it entered as significantly negative. Interactions between this variable and the types of trade were, however, insignificant. It thus appears that anti-immigration attitudes are associated with a generally more negative attitude to *all* types of trade, but there is no support for the hypothesis that anti-immigration attitudes could explain why general attitudes are more negative to services trade involving posted workers than to the other types of trade.

We also examine which contributions the various attitude dimensions make to the differences in the general attitude between, on one hand, goods trade and, on the other

hand, services trade and offshoring described in Table 1. To do this, we first regressed the pooled general attitudes on the dummy variables *Ds* and *Do* only, so that these dummy variables are made to account for the mean differences in the general attitudes between the different forms of trade (Tables 4a and 4b). Then we added sequentially the various attitude dimensions to the regressions and examined how the regression coefficients for the dummy variables change. These changes measure the contributions to the mean differences between the general attitudes to the various types of trade from the differences in the various attitude dimensions. These contributions reflect differences in both the various attitude dimensions between the different forms of trade and in the impacts (regression coefficients) on the general attitude. When all attitude dimensions have been added, the regression equations obtained are equations 2 and 5 in Table 3. As can be seen, "unfair competition", "low prices" and "foreign jobs" all make large contributions to the mean general attitude difference between services trade and goods trade, whereas there is no contribution from "unfair wages".

Table 4a Unexplained difference to general attitude to goods trade in Survey 1

Model		Services	Δ	Offshoring	Δ
(1)		-0.542		-0.431	
		(0.000)***		(0.000)***	
(2)	'Unfair competition' + (1)	-0.396	+0.146	-0.332	+0.099
		(0.000)***		(0.000)***	
(3)	'Unfair wages' + (2)	-0.379	-0.003	-0.351	-0.019
		(0.000)***		(0.000)***	
(4)	'Low prices' + (3)	-0.202	+0.199	-0.203	+0.148
		(0.000)***		(0.000)***	
(5)	'Foreign jobs' + (4)	-0.075	+0.127	-0.099	+0.104
		(0.099)*		(0.046)**	

Table 4b Unexplained difference to general attitude to goods trade in Survey 2

Model		Services	Δ	Offshoring	Δ
(1)		-0.604		-0.275	
		(0.000)***		(0.000)***	
(2)	'Unfair competition' + (1)	-0.492	+0.112	-0.215	+0.060
		(0.000)***		(0.000)***	
(3)	'Unfair wages' + (2)	-0.444	-0.048	-0.229	-0.015
		(0.000)***		(0.000)***	
(4)	'Low prices' + (3)	-0.253	+0.191	-0.099	+0.130

		(0.000)***		(0.023)**	
(5)	'Foreign jobs' + (4)	-0.120	+0.133	-0.028	+0.071
		(0.007)***		(0.515)	

Note: Estimated specification General attitude = const + δ_1×Ds + δ_2×Do + δ_j×attitude dimension$_j$ where j = 3…7, and Ds and Do are dummy variables for services trade and offshoring. Robust p-values in parantheses. * significant at 10%: ** significant at 5%; *** significant at 1%. All variables add significantly to the explanatory power of the regression.

4 Experiments

For economists a natural assumption is that an individual's general attitude to a particular type of trade is determined by various attitude dimensions in much the same way as an individual's utility in economic theory is given by a well-defined utility function with a number of arguments. Such 'rational' formulation of general attitudes has also been analysed in psychology (see Eagly and Chaiken 1993 for a review). However, an individual who has formed an overall view on an issue may also try to justify this view by adjusting various specific considerations to fit in with this overall evaluation. This raises the possibility of *reverse causality* in the regressions in Section 3.3: the attitude dimensions may not be exogenous to the general attitude but may instead be influenced by it because individuals want to rationalise their attitudes.

Research in psychology has shown that people adjust their attitudes and behaviour in search for consistency in order to reduce cognitive dissonance (Festinger 1957, Abelson 1959, Rosenberg 1960). Holyoak and Simon (1999) and Simon et al. (2008) have conducted experiments to examine how people change or maintain their arguments in favour of or against certain alternatives before and after they have reached a decision. They find that people seek maximum consistency among the underlying inferences when making decisions based on complex, but ambiguous, information. This tendency has been labelled *coherence-seeking*.

To study the importance of coherence-seeking for the attitudes to low-wage trade competition in the service sector, we devised an experiment. In a first stage (*pre-test*), the participants were asked about their views concerning different dimensions of the issue without being informed that they were later to be asked to take an overall stand. To conceal the overall issue at this stage, the questions on low-wage trade competition were mixed with questions about other labour market issues. In a second stage, the participants were asked to indicate their general attitude to low-

wage trade competition for services. In the third and final stage, the respondents were again asked to state their views regarding various dimensions of the issue (*post-test*).

The purpose of the experiment was to examine to what extent the respondents adjusted their attitude dimensions after they expressed their general attitude. This can be seen as a study of how rational individuals are when forming their general attitudes. We also wanted to examine which attitudes are the most stable and the least prone to be adjusted once the general attitude has been formed. The aim was to further highlight what fundamental considerations determine the overall views on low-wage trade competition for services.

4.1 The design of the experiment

For the two questionnaires we chose six specific attitude dimensions. Each one was measured by two arguments from opposite perspectives: one in favour of free low-wage competition (denoted 'free competition'), the other opposed to such competition (denoted 'wage regulation'). In the questionnaire, the arguments for each side were parallel in form so as to encourage participants to align and compare the conflicting arguments for each attitude dimension. The dimensions and arguments were:

1. *Competition*
    - Wage regulation: low-wage competition is unfair;
    - Free competition: low-wage competition is fair.
2. *Long-term consequences for exporting country*
    - Wage regulation: exporting country will remain in a trap with low-wage production;
    - Free competition: low-wage exports will create job opportunities and stimulate economic growth.
3. *Long-term consequences for importing country*
    - Wage regulation: low-wage competition will cause business closings as well as long-term stagnation and unemployment;
    - Free competition: some firms will disappear but other more efficient ones will replace them.
4. *Low import prices*
    - Wage regulation: cheap low-wage imports are bad because they build on the exploitation of foreign employees;

- Free competition: low-wage imports are good because they imply low prices.

5. *Low-wage work abroad*
    - Wage regulation: low-wage work abroad represents exploitation of workers;
    - Free competition: low-wage work abroad provides the individual with an opportunity to develop and learn from other countries.
6. *Historical development*
    - Wage regulation: stable employer–employee relations are the prime cause of growth;
    - Free competition: international competition and free trade are the prime causes of growth.

Although grouped somewhat differently, the attitude dimensions in the experiment "nest" the ones in the two surveys and thus include both in-group considerations and altruistic justice concerns. In addition, we have added explicit considerations about future growth consequences in both the import and the export country as well as considerations about what has explained domestic growth in the past.

Although constructed to measure the same dimensions, the questions were not formulated identically in the pre-test and the post-test. In the pre-test we used a local perspective (also helping to disguise the purpose of the experiment), whereas the questions were formulated in terms of general principles in the post-test.

All attitude dimensions were measured on an 11-point scale (from −5 to 5 , 0 indicating neutrality), with the endpoints labelled ‘Do not agree at all’ and ‘Agree fully’.

The set-up of the experiment

After completion of the pre-test, the participants were distracted by having to work on a cognitively demanding filler task in order to reduce memory effects. In the next step, the respondents were asked to take a general stand regarding low-wage competition from foreign service providers with posted workers. The participants were presented with two constructed ‘debate articles’: one arguing in favour of such low-wage competition and one arguing against. This design ensured that, before stating their general attitudes, all participants were provided with balanced

information representing the opinions of both sides. Participants were instructed to assess which article best corresponded to their attitudes. After the respondents had taken a general stand, they were presented with the post-test questionnaire. It contained questions regarding the same attitude dimensions as in the pre-test questionnaire.

Participants

There were 140 participants in the experiment. They consisted of three different groups:

1. 42 Passport applicants waiting at the Passport Office in Stockholm.
2. 37 Undergraduate students at the Department of Economics, Stockholm University.
3. 61 Undergraduate students at the Department of Psychology, Stockholm University.

4.2 Results

We distinguished between two attitude groups based on the participants' general attitudes (captured by which debate article was preferred). The group preferring the article in favour of low-wage trade competition is henceforth labelled the 'free competition group'. The group preferring the article arguing against such trade is labelled the 'wage regulation group'.

For each attitude dimension and respondent, we computed an index of how positive the respondent was to low-wage trade competition. The ratings for the questions asked from the wage regulation perspective were reversed and the score for each attitude dimension was calculated as the mean of the ratings for the two arguments that measured it.

Distribution of attitudes

84 participants (56 per cent) preferred the wage regulation debate article, whereas 56 participants (44 per cent) favoured the free competition article. The close to 50 per cent split between the articles implies that they were approximately similar in terms of the persuasiveness. The economics students were – not very surprisingly as this is in line with what they are taught – most positive to low-wage trade competition and the students at the Department of Psychology the least positive. This is illustrated in

Table 5, which also shows the average scores over all the attitudes for the three subgroups in both the pre-test and the post-test.

Table 5 Mean scores in the free competition and wage regulation groups by sub-sample

	Pre-test	Post-test	Average	Per cent in favour
Psychology students				
Wage regulation	0.23	-1.13	-0.45	64
Free competition	1.19	1.98	1.59	36
Economics students				
Wage regulation	0.99	-0.35	0.32	40.5
Free competition	2.54	2.87	2.70	59.5
Passport Office				
Wage regulation	0.30	-0.67	-0.19	57
Free competition	2.33	2.67	2.50	43
Average				
Wage regulation	0.39	-0.84	-0.22	56
Free competition	1.96	2.44	2.20	44

Note: The scores in the table show the averaged scores over all specific attitudes for the various groups. A higher rating indicates a more positive attitude to low-wage competition in services trade. The last column shows the percentage of respondents in the sub-sample favouring each position.

Change in averaged attitude from pre-test to post-test

Figure 1 presents the mean scores over all the attitude dimensions in the pre-test and the post-test, respectively, plotted separately for the free competition and the wage regulation groups. The free competition group was clearly positive to low-wage trade competition in the pre-test (mean score = 1.96). The wage regulation group, too, was positive in the pre-test, but only weakly so (mean score = 0.39). In line with our hypothesis of coherence-seeking, there was polarisation between the two groups between the tests: the average difference in attitude dimensions between the two groups widened after the respondents had expressed their general attitudes. In the post-test, the free competition group was even more positive (mean score = 2.44), whereas the wage regulation group became negative (mean score = −0.84). Thus, both groups adjusted their attitude dimensions to fit in with their general evaluation. However, a t-test showed that the change between pre-test and post-test ratings was significantly larger in the wage regulation group than in the free competition group.[4] This suggests that there are 'non-rational' elements in the formation of attitudes to

[4] $t(138) = 3.8$, $p = 0.001$.

low-wage trade competition in services with posted workers both among those in favour and among those against, but that the degree of rationality is smaller in the latter group.

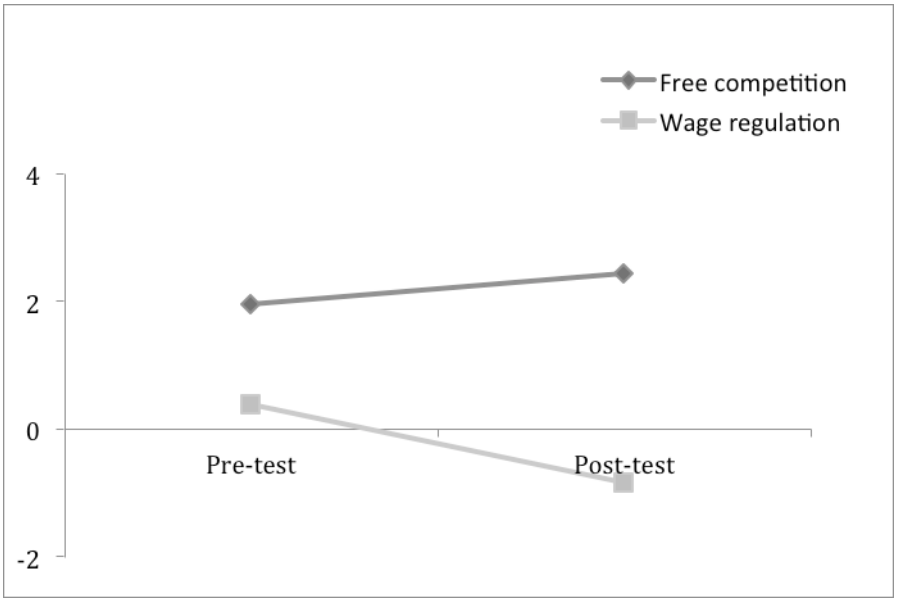

Figure 1: Change in mean score for all attitude dimensions between pre-test and post-test

Note: A higher score indicates a more positive attitude to low-wage trade competition in service provision. A 2 x 2 mixed model ANOVA with phase (pre-test and post-test) as a within-subject factor and attitude group (free competition and wage regulation) as a between-subject factor yielded a significant interaction effect: $F(1,138) = 77.9$, $p < 0.001$, $\eta 2 = 0.36$.

Change in the various attitude dimensions

Figure 2 show how each attitude dimension changed. All dimensions except 'long-term consequences for the importing country' differed significantly between the two groups already in the pre-test.[5] The differences were the largest for "competition", "low import prices" and "historical development". This suggests that these dimensions could be more fundamental than the other ones, possibly 'determining' the general attitude.

[5] Competition $F(1,137) = 10.7$, $p < 0.001$, $\eta 2 = 0.07$; exporting country $F(1,138) = 26.6$, $p < 0.001$, $\eta 2 = 0.17$; importing country $F(1,138) = 46.0$, $p < 0.001$, $\eta 2 = 0.25$; low prices $F(1,138) = 13.9$, $p < 0.001$, $\eta 2 = 0.09$; low wage abroad $F(1,137) = 62.5$, $p = 0.001$, $\eta 2 = 0.10$; historical development ns. Test statistics from one-way ANOVA.

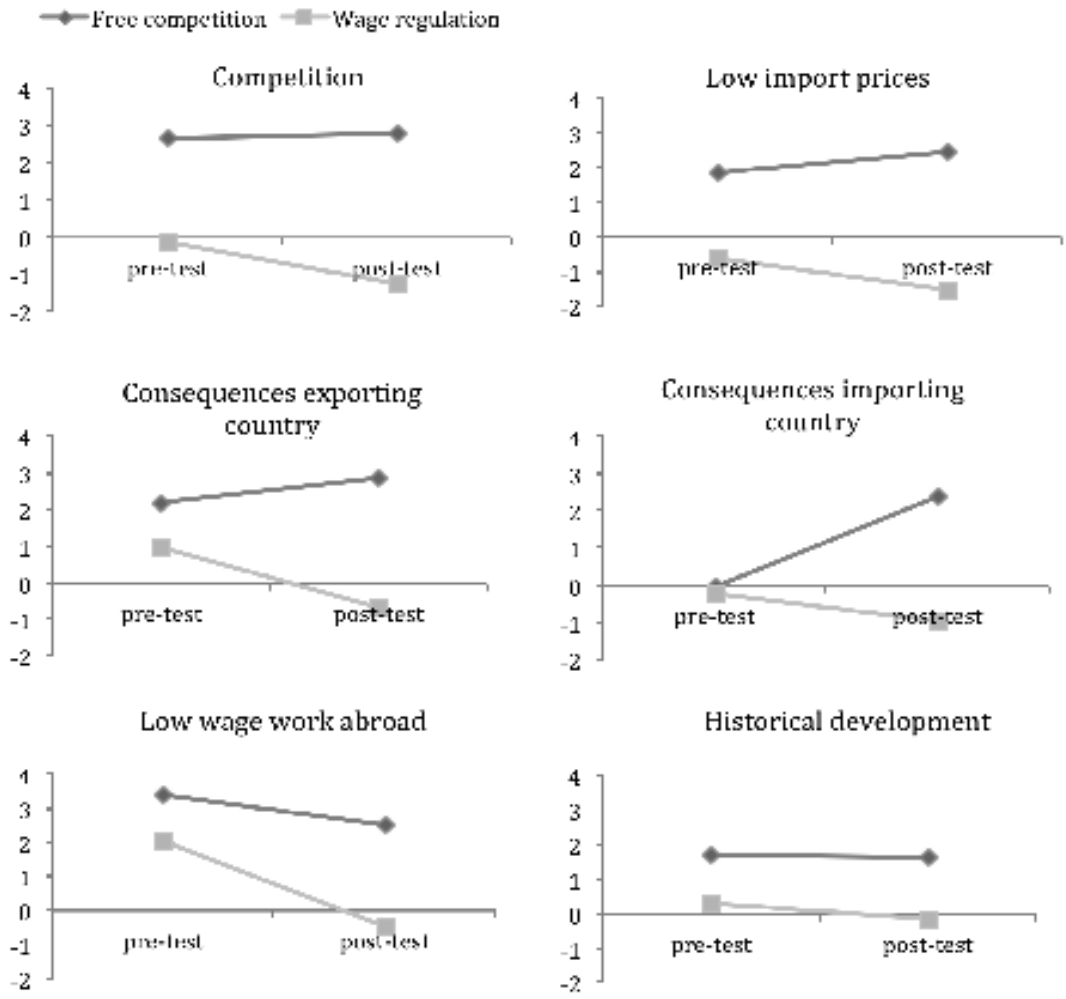

Figure 2: Change in mean score for the various attitude dimensions between pre-test and post-test

All attitude dimensions except "historical development" changed significantly between the pre-test and the post-test. In all the cases the difference between the two groups increased significantly. The changes were always larger for the wage regulation group than for the free competition group except for "long-run consequences for the importing country". The most stable dimension for both groups was "historical development". The least stable dimensions were those that concerned long-run, future consequences for the importing or the exporting country.

To further illustrate which attitudes were ‘most basic’ for determining the general attitude, we also distinguished between the perspectives (free competition or wage regulation) in the questions (see Section 4.1). This gave us twelve attitude scores for each participant. We then ran a logistic regression with the general attitude

as the dependent variable (the stand on the debate article was treated as a binary variable; 1 = free competition attitude and 0 = wage regulation attitude) and the pre-test scores for the attitude dimensions distinguished by perspective as explanatory variables (Table 6). The variables that turned out significant were: 'competition' (wage regulation perspective), 'historical development' (both the free competition and the wage regulation perspective), 'low import prices' (wage regulation perspective) and 'low-wage work abroad' (free competition perspective). The first three variables (the wage regulation 'competition' argument and the two 'historical development' arguments) concern the well-being of the in-group of Swedes. The last two arguments, on the other hand, reflect altruistic considerations with regard to foreign workers (the 'low import prices' argument from the wage regulation perspective concerned the attitude that 'cheap low-wage imports are bad because they build on exploitation of foreign employees').[6]

Table 6

Variable	Coefficient
Wage regulation: competition	-0.214
	(0.007)**
Wage regulation: import prices	-0.180
	(0.009)**
Free competition: low-wage work abroad	0.193
	(0.053)**
Free competition: historical development	0.271
	(0.038)**
Wage regulation: historical development	-0.182
	(0.042)**
Constant	-1.632

Note: * significant at 5%; ** significant at 1%, *p*-values in parentheses. A stepwise backward-elimination logit model was used with attitude group membership as the dependent variable and responses to the twelve pre-test questions as explanatory variables. The regression model classified 77.5 percent of the participants correctly (compared to 55.8 percent with no regression model). A pro-free-competition general attitude was coded as one and a pro-wage regulation general attitude as zero in the outcome variable. In the regression, the unreversed scores for the questions from the wage regulation perspective were used. Hence, negative coefficients for the wage regulation items imply that a higher degree of agreement with these items reduces the odds that a respondent has a general pro-free-trade attitude.

Correlation analysis

Another way of testing the hypothesis of coherence-seeking is to study whether the covariation among the attitude dimensions increases after the general attitude is

[6] See Section 4.1.

expressed. Point-biserial correlations between the general attitude and all the specific attitudes in the pre-test and in the post-test were computed in Table 7. All correlations were positive, but the correlation coefficients were generally much higher in the post-test than in the pre-test. In the pre-test, 13 out of 21 correlations were significant and the mean correlation was 0.24. In the post-test, all correlations were significant and the mean correlation was as high as 0.64. This provides strong evidence of coherence-seeking.

Table 7 Correlations

Pre-test		1	2	3	4	5	6	7
1	Competition		0.514***	0.437***	-0.045***	0.227***	0.362***	0.495**
2	Low import prices			0.530**	0.102	0.149	0.229**	0.428**
3	Consequences exporting country				0.023	0.203*	0.327**	0.278**
4	Consequences importing country					0.108	-0.043	0.043
5	Low wage work abroad						0.076	0.274**
6	Historical development							0.384**
7	General attitude							

Post-test		1	2	3	4	5	6	7
1	Competition		0.824**	0.652**	0.706**	0.694**	0.529**	0.736**
2	Low import prices			0.652**	0.719**	0.693**	0.544**	0.737**
3	Consequences exporting country				0.567**	0.619**	0.559**	0.628**
4	Consequences importing country					0.696**	0.619**	0.616**
5	Low wage work abroad						0.524**	0.619**
6	Historical development							0.500**
7	General attitude							

Note: Pre test: mean correlation = 0.24. Chronbachs alpha = 0.63; Post test: mean correlation = 0.64. Chronbachs alpha = 0.91. * significant at 5%; ** significant at 1%

4.3 Robustness tests

In our experiment, attitude dimensions clearly became more coherent after a participant had read the debate articles and expressed an opinion. Attitude dimensions also became more polarised between those in favour of free trade and those in favour of regulation. It could, however, be the case that the results are affected by differences in the formulations of pre-test and post-test questions or by the fact that there are repeated measurement of the attitude dimensions. Nor is it clear from the experiment whether coherence seeking is the consequence of expressing an opinion or of reading the debate articles or whether both factors are needed. To highlight these issues we

made four supplementary experiments, all involving students at Stockholm University's Department of Psychology.

Experiment 2 examined whether the different perspectives in the pre-test and the post-test could have influenced the results. For half the experiment group the order of the pre-test and the post-test was reversed.

Experiment 3 examined whether the polarisation between the free-trade and the wage-regulation group was a by-product of repeated measurement. The experiment included the pre-test and the post-test, but participants read no debate articles and were not asked about their general attitude.

In experiment 4, participants expressed their general attitudes, but they were not presented with the debate articles, whereas they in experiment 5 read the debate articles but did not express their general attitudes.

Figure 3 shows the average means for the free-trade and wage-regulation groups in the pre-test and the post-test in the five experiments. Again more extreme values in the post-test than in the pre-test indicate polarisation between the two tests. There was polarisation independently of the order in which questions were asked (experiments 1 and 2). There was no polarisation from only answering the questions twice (experiment 3). For the wage-regulation group only expressing the general attitude or only reading the debate articles were enough to give attitude polarisation, whereas this was not the case for the free-trade group. This can be interpreted as another indication of less stable attitude dimensions for the wage-regulation than the free-trade group.

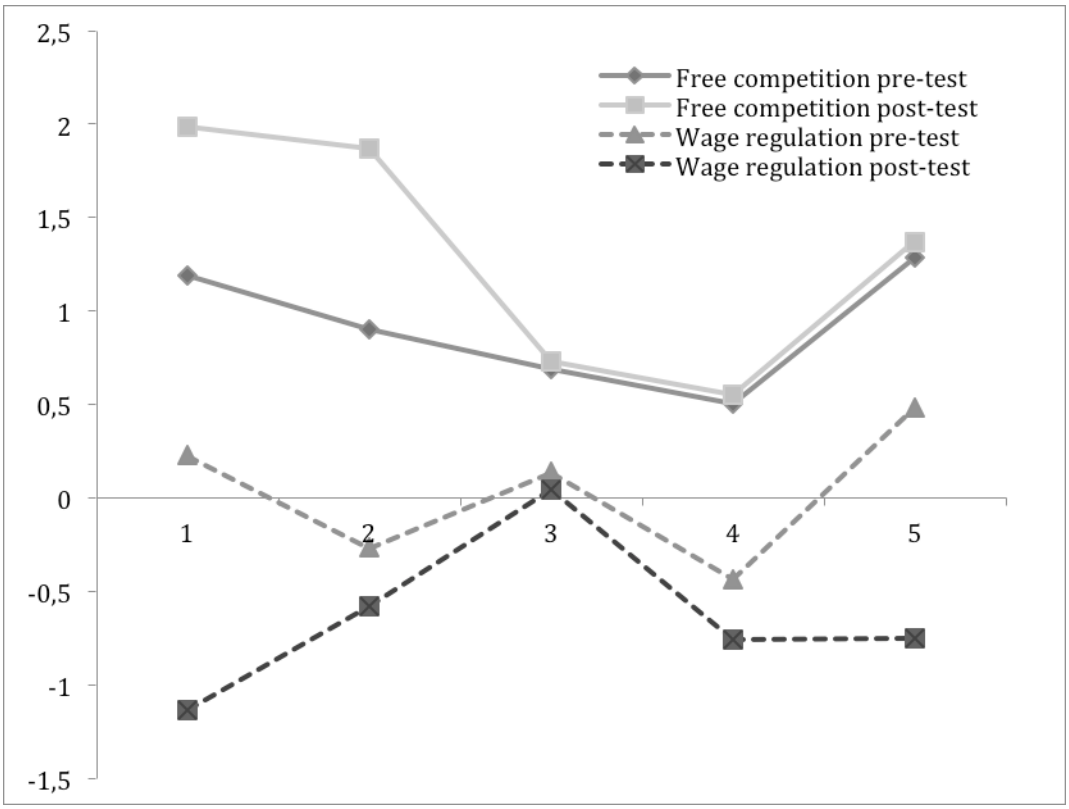

Figure 3

Note: In Experiment 2 the diagram shows only the scores for those for whom the order of questions was reversed.

5 Conclusions

The extent to which low-wage trade competition in the service sector with posted workers should be allowed in the EU is a highly controversial issue. The heated political debate suggests that people's attitudes are less positive to this type of trade in services than to traditional trade in goods. Possible explanations are a higher degree of visibility of the competitors in this case, that such trade is new and therefore implies losses for groups threatened by the competition (which count for more than the gains for consumers) or that the posting of foreign workers may trigger anti-immigration sentiments.

We have performed two survey studies on random samples of Swedish citizens (in 2007 and 2010) of the attitudes to three forms of trade: imports of goods, imports of services requiring the presence of posted workers, and offshoring of domestic final production. The results confirm that people's general attitudes are more negative to such trade in services than to trade in goods. Attitudes are also more negative to trade in services involving posted workers than to offshoring despite the

fact that the latter activity implies less benefit to domestic consumers in the form of lower import prices. This offers some - weak - support for the hypotheses that visibility effects, loss-aversion concerns and anti-immigration sentiments could be important for the attitudes to low-wage competition involving posted workers.

In the survey studies, we also examined differences in various attitude dimensions between the different forms of low-wage trade competition. Somewhat surprisingly, differences between services imports involving posted workers and goods imports in the evaluation of negative consequences in the form of "unfair competition" for domestic workers and "unfair wages" for foreign workers, the arguments which have dominated the debate, were not the largest. The largest differences in attitude dimensions instead concerned respondents' judgements of the positive consequences of low prices for domestic consumers and the creation of jobs for foreigners, which were much more positive for goods trade than for services trade involving posted workers. The results indicate that both *in-group favouritism*, a tendency to be more concerned with effects on social groups to which an individual belongs (in this case the domestic population) and *altruistic justice concerns* (in this case for foreign workers), which may lead to behaviour fostering justice even at the cost of overlooking self-interest, matter for trade attitudes. The dimensions "low prices for domestic consumers" and “unfair competition” belong to the first category of motives, "unfair wages" and “creation of foreign jobs” to the second.

We regressed the general attitude to the different forms of trade on the various attitude dimensions. The strongest relationships were found between the general attitude and the dimensions "low prices" and "foreign jobs", whereas the dimensions "unfair competition" and in particular "unfair wages" mattered less. Anti-immigration sentiments were found to influence the general attitude to *all* types of trade negatively. In contrast to what we had hypothesised, we did not find a stronger effect of anti-immigration sentiments on trade in services involving posted workers than on the other types of trade.

A problem that must be taken seriously concerns the direction of *causality* between the general attitude and attitude dimensions. It may not be that an individual simply forms an overall view (the general attitude) from a number of specific considerations (attitude dimensions), but an individual might also rationalise her overall view by adjusting her evaluations of different dimensions to it. Such *coherence-seeking* has been suggested by research in psychology on other issues.

To study this, we designed experiments with small groups in which participants first had to state their views (attitude dimensions) regarding various aspects of low-wage trade competition in a local context in which they were not aware of the general issue (*pre-test*). The aspects concerned both pure value judgements (whether or not trade competition is fair, whether or not low-wage work abroad is fair and whether or not low wages for foreign workers resulting in low import prices are fair) and judgements of economic effects (historical reasons for growth as well as future, long-run consequences for growth and jobs in the importing and the exporting country). In a second stage, participants were asked about their general attitude to service provision from foreign low-wage firms using posted workers. In a third stage, participants were again asked about their views regarding the various aspects (attitude dimensions) of services trade (*post-test*).

We found strong evidence of coherence-seeking. The differences in attitude dimensions between those in favour of low-wage trade competition and those against increased significantly between the pre-test and the post-test. The correlations between the attitude dimensions were also much higher in the post-test than in the pre-test. Coherence-seeking was stronger for those opposed to low-wage trade competition than for those in favour.

The most stable attitude dimension, i.e. the dimension that changed the least between the pre-test and the post-test, concerned the role played by international trade versus good union-employer relationships for economic growth in the past (‘historical development’). This is logical, since the issue of ‘historical development’ was probably the most tangible of the issues participants were asked to evaluate. The least stable dimensions were those that concerned judgements of future long-run effects for the importing or the exporting country. When running a regression to explain the general attitude to service provision by foreign low-wage firms with the specific attitude dimensions in the pre-test, the attitudes to ‘historical development’, but also attitudes regarding ‘unfair competition’, ‘unfair wages’ and ‘consequences for foreign jobs’ turned out to be significant.

To sum up, both in-group favouritism (concerns about the well-being of the domestic population) and altruistic justice considerations (concerns about foreign workers) appear to explain attitudes to low-wage trade in general, as well as why attitudes to such trade are more negative for services requiring the posting of workers than for goods. Attitude formation seems to have both ‘rational’ and ‘irrational’

components. This holds for both those in favour of low-wage competition in services trade and for those against. A possible interpretation is that the degree of 'rationality' is larger for the former group, as this group was less prone to adjust its attitude dimensions to the general attitude than the other group. This conclusion, however, merits further research, as an alternative explanation could be that those in favour of low-wage competition in services trade with posted workers regard themselves as "challengers" of the "existing order", which according to other psychological research could make them more reluctant to absorb new information and adjust their views accordingly than those who see themselves as "defenders" of the current situation (Calmfors et al. 2011).

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