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Gender Differences in Optimism

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December 30, 2016

Abstract. Swedish survey data reveal that women are less optimistic than men regarding the future economic situation. In addition, men are more likely to make forecast errors compared to women. However, in sharp economic downturns, both men and women quickly lower their expectations, and the gender differences in optimism disappear. We show that this convergence in beliefs can be explained by the amount of available information on the economy. In times of economic growth, the relative scarcity of information encourages optimism in men compared to women. When feedback about the economy is abundant, as in times of economic crises, men are not more optimistic than women.

JEL: J16, D83

Keywords: Gender, optimism, survey data

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We are grateful for useful comments and suggestions from Niclas Berggren, Charlotta Stern, Karl Wennberg, and seminar participants at University of Missouri – St. Louis, and the Ratio Institute in Stockholm. We are especially grateful to Daniel Ekeblom for giving us access to the data, originally used in the study "The Bright but Right View? A New Type of Evidence on Entrepreneurial Optimism", IFN Working Paper No. 1008, 2014. Financial support from the Jan Wallander and Tom Hedelius Research Foundation is gratefully acknowledged.

1 Introduction

Optimism about the economy is a double-edged sword: at its most beneficial, it may serve to encourage valuable investments, and, as a consequence, economic growth. However, excessive optimism may result in herd behavior, with the potential to encourage larger economic fluctuations and the creation of economic bubbles. Furthermore, men appear to be more optimistic than women in a variety of settings, relating, for example, to the risks of nuclear war (Gwartney-Gibbs and Lach 1991), the state of the economy during elections (Chaney et al. 1998), online purchases (Garbarino and Strahilevitz 2004), strain in spouses of people suffering from Parkinson's disease (Lyons et al. 2009), and marriage and relationship survival (Lin and Raghubir 2005; Srivastava et al. 2006; Assad et al. 2007). These gender differences in optimism may explain why men make more risky investment choices compared to women (Felton et al. 2003; Jacobsen et al. 2014). To our knowledge, however, no study to date has attempted to check these differences against reality; that is, whether men are correct in their more optimistic beliefs, and furthermore, whether and to what extent they adjust their beliefs to new information.

The purpose of this paper is to measure gender differences in optimism regarding the Swedish economy, to assess whether men are correct in their more optimistic beliefs, and to examine whether the gender differences persist in response to more information on the economy, as measured by newspaper articles.

In doing so, we employ survey data from the National Institute of Economic Research (NIER), a Swedish government agency that performs monthly surveys asking respondents to state their beliefs about their present and future economic situation, and about Sweden's economy, unemployment and inflation, today and one year from now. The survey dataset covers 236,864 respondents, over the period 1996-2011. Our measure of optimism is based on respondents' beliefs about the future economy, and is therefore removed from the economic situation of the individual, which we can control for. This obviates some of the methodological problems in separating the individual's economic situation from his/her perception of the future. In addition, the data enable us to examine whether optimists are correct or not, since we can observe how the

Swedish economy actually performed. The dataset furthermore allows us to control for background variables such as income, education, occupation, age, and household status.

In line with what we had expected, the data reveal that overall, women are less optimistic than men regarding the Swedish economy. This can possibly be explained by the finding that men seem more prone to make forecast errors than women. However, the gender differences in optimism disappear in times of economic crises, when the beliefs of men and women converge to a similar level. We hypothesize that this convergence in beliefs can be explained by an increase in information about the state of the economy during crises. Unless respondents are making random guesses about the future, information is likely critical for making economic forecasts. News coverage of the economy is found to be more frequent during recessions (Doms and Morin 2004; Shah et al. 1999; Soroka et al. 2015) and optimism has been shown to shift in response to feedback about undesired outcomes (Sweeny et al. 2006). Indeed, in a regression framework, we find that information – as measured by the number of newspaper articles about the economy – is negatively associated with the difference between men's and women's beliefs.

While on average, men have about 1.4 higher odds of providing an optimistic response about the future economic situation relative to women, the beliefs converge when there is more news coverage on the economy. One hundred additional articles about the Swedish economy in a single month (the average is 56 articles per month) is associated with a 33 percent decrease in the mean gender difference in optimism. While the structure of the data impedes us to make any definite claims to causality, the results support the hypothesis presented above.

2 Gender, optimism and information

Our measure of optimism is based on the NIER survey respondents' beliefs about the overall state of the Swedish economy one year into the future, and whether it will improve or worsen relative to today. It is hence the relative expectation about the future at a given point in time. Certainly, this is not the only way to define and measure optimism.

The literature that discusses *optimism bias* defines optimism as the difference between a person's expectation in regards to a specific event and the outcome that follows (Armor and Taylor 2002). Unlike the type of optimism we study, the outcome in question typically pertains to the individual, making this type of optimism difficult to distinguish from overconfidence, a term with which it is sometimes used synonymously (see Barber and Odean 2001), and it appears to be related to success in the professional domain (Johnson and Fowler 2011; Puri and Robinson 2007).[1] Also heavily researched is *dispositional optimism*, which can be described as generalized positive outcome expectancy (Carver et al. 2010), and is usually assessed through statements such as "I'm a believer in the idea that 'every cloud has a silver lining'" (Scheier et al. 1994; cf. Lerner and Keltner 2001).

Our own measure is distinct from both these strands of optimism. Unlike the optimism bias, it focuses on a non-individual outcome. Unlike dispositional optimism, it focuses on a concrete situation rather than a general outlook on life. In our view, the advantages of our measure is that it (i) avoids confounding people's beliefs with their individual situations, and that it (ii) can be checked against reality, since we can determine whether the Swedish economy did worsen or improve relative to today.

As mentioned, previous studies examining gender differences in optimism have found that men appear to be more optimistic than women. For example, using consumer confidence and Gallup data, Jacobsen et al. (2014) demonstrate that men tend to be significantly more optimistic than women "about current, future, personal, and general economic conditions. If anything, the differences tend to be larger when we consider general economic circumstances over which respondents have no direct influence" (p. 634). However, we are aware of no study to date that has attempted to check whether men are correct or incorrect in their more optimistic beliefs, and furthermore, whether and to what extent they adjust their beliefs to new information.

A well-known phenomenon in psychology is that bad information has a greater impact on an individual than good information (Baumeister et al. 2001). It holds as a general

[1] That said, excessive optimism of this type can lead to risky choices (e.g. Janz and Becker 1984; Tennen and Affleck 1987; Gibson and Sanbonmatsu 2004) and a failure to recognize what cannot be accomplished (Wrosch et al. 2003).

result in the field of impression formation (how people perceive one another), but also appears to be an important phenomenon when individuals react to events: for example, the distress of losing money is greater than the happiness associated with gaining the same amount (Tversky and Kahneman 1981, 1991).

Sweeny et al. (2006) find that individuals shelve their optimism when they are exposed to information that indicates that their expectations are inaccurate or when an undesired outcome seems possible. These shifts in optimism might allow for individuals to avoid disappointment, and could prompt precautionary actions to soften the blow and facilitate recovery. Similarly, Carroll et al. (2006) suggest that people are more likely to change their predictions for outcomes that could have severe negative consequences, and the optimism bias was found to disappear when the event of disclosure of relevant feedback drew near. However, people were less likely to shelve their optimism when they believed that they could control the outcome. This is of relevance for our paper since while an economic downturn is likely to have negative consequences for individuals, they are unlikely to have much control over the outcome. Based on this, we would expect optimism to be forsaken in the wake of an economic crisis.

Furthermore, models suggest that optimism bias should increase in situations of uncertainty, where information is scarce (Johnson and Fowler 2011). It should be noted that although the optimism bias is found to change with information, dispositional optimists have been found to suffer from an attentional bias toward positive over negative stimuli (Isaacowitz 2005; Segerstrom 2001). Hence, the more general dispositional optimists tend to see only what they want to see and ignore threats. Sharot et al. (2011) found that optimists update their beliefs selectively, only in response to positive information. This suggests that different types of optimism respond differently to negative outcomes such as economic downturns. We will discuss this further in the results section.

How does this relate to gender? Previous research has shown that men are more confident than women only when information is absent or ambiguous, but that the confidence difference disappears when information is unambiguous and available

(Lenney 1977; Barber and Odean 2001). This may relate to gender differences in optimism as well.

3 Data and empirical estimation

3.1 A first look at the data

As mentioned, the optimism we refer to is different from overconfidence about skills or estimates (e.g., Barber and Odean 2001), since we will restrict our attention to expectations about outcomes beyond the control of individuals. This obviates some of the methodological problems in separating the individual's economic situation from his/her perception of the future, in line with Jacobsen et al. (2014) in their study of stock holdings, as well as Bengtsson and Ekeblom (2014) in their study of entrepreneurs. We follow them and measure optimism based on survey questions about general macroeconomic indicators.

More specifically, we employ data from the National Institute of Economic Research (NIER), a Swedish government agency operating under the Ministry of Finance.[2] As such, it performs analyses and makes forecasts of the Swedish and international economy and conducts related research. As part of the Swedish consumer confidence survey *Konjunkturbarometern* (Economic Tendency Survey), the NIER performs a monthly survey asking respondents about their own situation now and in the future, and about their beliefs about the economic situation of Sweden now and in the future, as regards general economic conditions, unemployment and inflation.

The answers are gathered in a database that spans several years and is updated on a monthly basis. In fact, the NIER uses the underlying time-series in *Konjunkturbarometern* to forecast the state of the economy. A recent study from the NIER shows that models that use the time series in *Konjunkturbarometern* for nowcasting Swedish consumption outperform models that do not (Assarson and Österholm 2015).[3]

[2] The data set was originally used in Bengtsson and Ekeblom (2014).

[3] American studies also suggest that series of consumer confidence (the University of Michigan's Consumer Sentiment index and the Conference Board's Consumer Confidence Index) are useful in

Table 1 provides descriptive statistics for the background variables in the database, distinguished by gender. As can be seen, we have access to a number of potentially relevant covariates.

The survey questions related to economic beliefs all have a similar structure and are therefore easily comparable. In questions about the future, the respondent is asked to compare the situation 12 months from now to that of today. Answers are given on a five-stage rating scale (1 "much worse", 2 "worse", 3 "same", 4 "better", 5 "much better"). Answers to the question about future unemployment have a similar five-stage rating scale (1 "large increase", 2 "small increase", 3 "same", 4 "small decrease", 5 "large decrease"). Although the wording is different, the ranking is equivalent where 1 is the least favorable and 5 is the most favorable alternative. In addition, the respondents are also asked to compare the current economic situation to the situation 12 months ago.

The individual's own situation and her beliefs about the overall economic situation are not unrelated. Table 2 shows the correlation between beliefs about different types of economic situations. The correlation between beliefs about the individual's own current situation and the current Swedish economy is 0.185 and the correlation between beliefs about an individual's own future situation and the future Swedish economy is 0.223. In comparison, the correlation in beliefs about the overall economy today and in the future is as high as 0.425. This last number indicates that predictions about the future are, to some degree, based on the perception of the present.

predicting future movements in consumer spending (Bram and Ludvigson 1998; Ludvigson 2004; Wilcox 2007).

Table 1. Descriptive statistics over gender

Variables (categorical)	Women	Men
Income		
<180	0.193	0.127
180-285	0.250	0.225
285-440	0.279	0.299
440+	0.279	0.348
Education		
Primary school	0.175	0.197
Secondary school	0.408	0.448
Higher than secondary school	0.417	0.355
Age		
16-29	0.124	0.132
30-49	0.455	0.455
50-64	0.274	0.270
64+	0.148	0.144
Household		
Single	0.268	0.270
Single with children	0.059	0.028
Married	0.330	0.355
Married with children	0.249	0.251
Other	0.094	0.097
Occupation		
Self-employed and professional	0.096	0.166
Self-employed farmers	0.004	0.0138
Clerical and public employees	0.305	0.240
Skilled manual workers	0.148	0.175
Other manual workers	0.123	0.128
Other occupations	0.288	0.241
Unemployed	0.036	0.035
Number of observations	117,160	118,178
Percent of total number of observations	49.8	50.2

Note: Cell entries for variables refer to means. The total number of observations is 236,864. Income is measured in thousands of Swedish krona (SEK). SEK 1000 is approximately USD 108, using the exchange rate on December 27, 2016. Data on occupations are not available for 2002, and the years for which occupations are available have a total of 108,349 observations for women and 109,581observations for men.

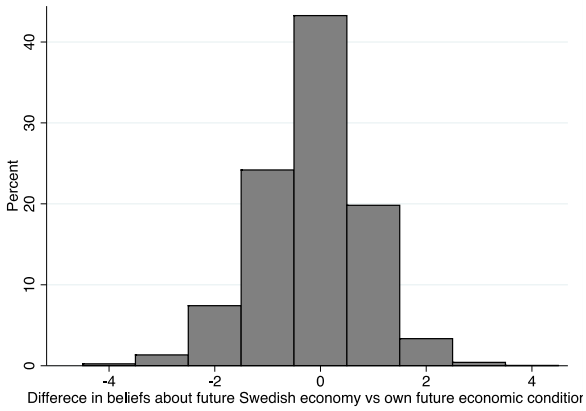
Table 2. Correlation in beliefs about different types of economic situations

	Household today	Household next year	Economy today	Economy next year	Unemployment next year
Household today	1				
Household next year	0.177	1			
Economy today	0.185	0.147	1		
Economy next year	0.115	0.223	0.425	1	
Unemployment next year	0.093	0.124	0.393	0.370	1

Note: The first four questions on the household and the economy have ordered categories running from 1 (much worse) to 5 (much better). "Unemployment next year" has ordered categories running from 1 (large increase) to 5 (large decrease)

Figure 1 reveals the distribution of differences in beliefs between an individual's own future situation and the future Swedish economy. The distribution is slightly skewed to the left, suggesting that on average the respondents are more optimistic about their own economic situation than they are about the Swedish economy. The important point is that we can control for the effect of a person's own situation.

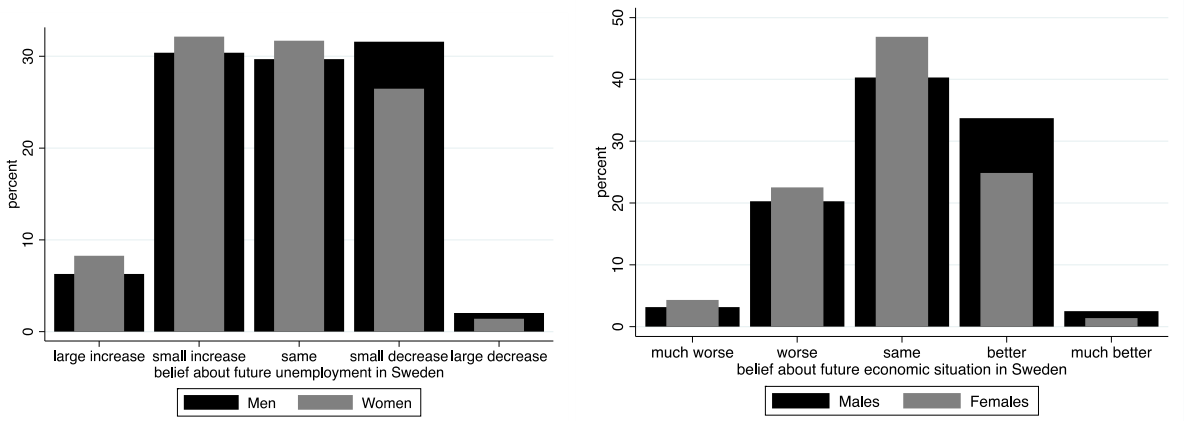
Figure 1. Differences in beliefs about the Swedish economy and the individual's own economic condition



Note: The figure shows the difference between beliefs about the Swedish economic situation and beliefs about the respondent's own situation. The variables are ordered from 1 (much worse) to 5 (much better), and the differences are calculated by subtracting the respondents answer about her own economic situation from the respondents answer about the Swedish economic situation.

Figure 2 shows the distribution of beliefs about future unemployment and the future economic situation in Sweden, taking gender into account. According to both measures, women have less optimistic beliefs regarding the future than men.

Figure 2. Distribution of beliefs about future unemployment and economic situation in Sweden by gender



Note: On the left, the variable is beliefs about future unemployment in Sweden in 12 months compared to today. On the right, the variable is beliefs about the future economic situation in Sweden in 12 months compared to today.

3.2. Is it really about gender?

It may be the case that the gender differences in beliefs that we observed in section 3.1 are in fact driven by something other than gender. To test whether the gender differences are statistically significant while controlling for confounding factors, we use the survey question about the future unemployment rate and economic situation in Sweden as an outcome variable in ordered logistic regressions. We estimate the following equation:

$$\ln\left(\frac{F_{ij}}{1-F_{ij}}\right) = \alpha_j - (\beta \times Gender_i + \boldsymbol{X_{it}}\gamma) \qquad (1)$$

where $F_{ij} = P(Y_i \leq j)$ is the probability of the response Y being less than or equal to category j, for each individual i and each category j, ordered from 1 (much worse/large increase) to 5 (much better/large decrease). Gender is a dummy variable taking the value 1 if the respondent is a male, and $\boldsymbol{X}$ is a vector of covariates.

As mentioned above, studies on behavioral gender differences have often failed to control for confounding factors such as knowledge, wealth, marital status and other demographic variables (Eckel and Grossman 2007). In the vector $\boldsymbol{X}$, we therefore include dummy variables for all income categories, educational levels, age categories, civil status, occupational categories, as well as beliefs about the individual's own economic situation. In addition to these covariates, we also use the survey data to

investigate whether optimism about the future economy is affected by how well informed respondents are about the economy.

We construct an information measure that assesses how correct respondents are about the rate of inflation. This is based on a survey question which, unlike the others, requires respondents to give a numerical answer: They are asked to state the exact percentage increase in prices today compared with 12 months ago. We use this information to create a variable that measures the absolute deviation from the inflation rate, defined as the annual percent change in consumer price index by Statistics Sweden. Hence, the further away from zero, the larger is the individual's error in guessing the current inflation rate. We use this variable as an outcome in an OLS regression the results confirm the existence of gender differences as regards information. Men appear to have a more accurate perception about the current inflation rate.[4]

The results of estimating equation (1) are displayed in Table 3, with the first three columns having beliefs about the future economy as the dependent variable, and the last three having beliefs about future unemployment as the dependent variable. In columns (I) and (IV) the dependent variables are regressed only on the gender-dummy. In (II) and (V) we add the respondents' beliefs about their own situation together with the variables presented in Table 1. Finally, in (III) and (VI), we also include the recently computed information measure on inflation forecast errors. To conserve space, we refer the reader to an extended version in Table A2 in the appendix to see the coefficients for the additional covariates.

Coefficients take the form of proportional odds ratios, which express the odds of answering a higher level of optimism. For example, it is the odds of the highest optimism (answer 5, i.e., that the respondent answers "much better") versus the combination of all the other categories (answers 1, 2, 3 and 4, i.e., that the respondent answers "much worse", "worse", "same", or "better"), given that the other variables

[4] The OLS regression has the exact same covariates as described in equation (1). The results are presented in Table A1 in the Appendix. Men appear to have a more accurate perception about the current inflation rate, even when the sample is reduced to include only individuals that were within a range of 2 percent of the correct answer (columns III and IV).

are held constant in the model. The estimated coefficients for being male do not change much when control variables are included. The estimated odds ratios indicate that men have 1.3–1.4 higher odds than women of giving an optimistic response about the future economic situation. For future unemployment, the odds ratios are somewhat lower, indicating that men have around 1.25 higher odds than women of giving an optimistic response. Furthermore, we observe that including the information error scarcely affects the result.

Table 3. Beliefs about future unemployment and economic situation in Sweden

	Beliefs about the future economy			Beliefs about future unemployment		
Variables	(I)	(II)	(III)	(IV)	(V)	(VI)
Male	1.423***	1.350***	1.345***	1.267***	1.255***	1.244***
	(0.0264)	(0.0260)	(0.0263)	(0.0237)	(0.0248)	(0.0236)
Beliefs about one's own situation						
worse		2.102***	1.922***		1.616***	1.537***
		(0.0950)	(0.0914)		(0.0598)	(0.0578)
same		4.090***	3.714***		2.380***	2.259***
		(0.190)	(0.183)		(0.0841)	(0.0800)
better		7.064***	6.389***		2.952***	2.803***
		(0.335)	(0.323)		(0.108)	(0.103)
much better		7.862***	7.088***		3.018***	2.839***
		(0.406)	(0.388)		(0.120)	(0.114)
Inflation error			0.996***			0.997***
			(0.000237)			(0.000279)
Additional covariates		Yes	Yes		Yes	Yes
Observations	235,338	217,930	200,400	235,338	217,930	200,400

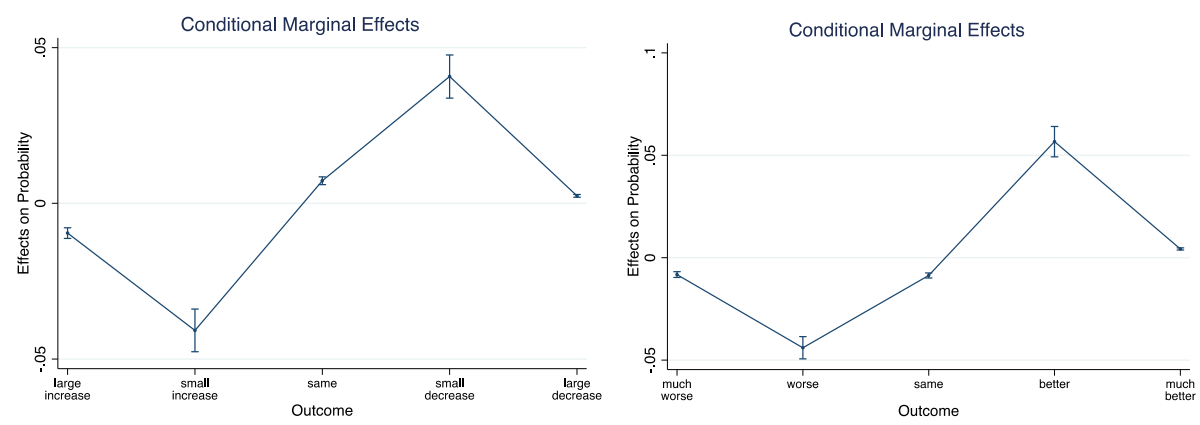
Note: Odds ratios from ordered logistic regressions. In columns (I)-(III), the dependent variable is belief about the economic situation in Sweden 12 months from now compared to today economic situation in Sweden today compared to 12 months ago, whereas in (IV)-(VI) it is belief about the unemployment rate in Sweden 12 months from now compared to today. In both cases, the dependent variable is ordered from 1 (much worse/large increase) to 5 (much better/large decrease). All estimations include year-month fixed effects. Estimated coefficients for additional covariates can be found in Table A2. Robust standard errors clustered by months in parentheses.

*** p<0.01, ** p<0.05, * p<0.1

A crucial assumption for the ordered logistic regression is that of proportional odds, that is, that the relationship between each pair of outcome categories is the same. To make sure that our results do not depend on this assumption, all results are replicated using both a multinomial logit model and OLS. These results confirm those in Table 3 and can be found in Tables A3-A4 in the Appendix.

In other words, it appears that the gender differences in optimism persist when other explanatory variables are taken into account. We proceed by using the most saturated model in columns (III) and (VI) of Table 3 to estimate the marginal effects of being male versus being female, where all covariates are held constant at their means. The conditional marginal effects for each of the outcome categories are plotted in Figure 3, and are statistically significant in all cases.

Figure 4. The marginal effect of being a man on beliefs about future unemployment and economic situation



Note: On the left, the outcome variable is beliefs about future unemployment in 12 months compared to today. On the right, the outcome variable is beliefs about the future economic situation in 12 months compared to today. All covariates are held constant at their means. Vertical lines refer to a 95% confidence interval.

For example, when asked about the state of the economy 12 months from now, men are about 4 percentage points less likely to answer that it will get "worse", and 5.5 percentage points more likely to answer that it will get "better". Similarly, when asked about future unemployment 12 months from now, men are about 4 percentage points less likely to answer that it will be a "small increase", and 4 percentage points more likely to answer that it will be a "small decrease". Furthermore, the predicted probabilities for men and women are not equally distributed across the possible

outcomes. The probabilities for both men and women are higher towards the center and the answer "same". It is therefore useful to relate the marginal effects to the size of the predicted probabilities.

Being a man increases the probability of answering that the future economy will be "much better" with 30 percent, and lowers the probability of answering "much worse" with a similar level. Similarly, being a man increases the probability of answering that we will see a "large decrease" in unemployment with 20 percent, and lowers the lowers the probability of answering "large increase" with a similar level. This semi-elasticity, i.e., proportional difference in probability between men and women for each outcome category, is presented in Figure A1 in Appendix. In addition, we present the predicted probabilities (adjusted predictions) for each outcome variable by gender in Figure A2 and Table A5 in Appendix.

Could the gender differences observed in the previous section be a result of systematic differences in income and education between men and women? To investigate this, we ran separate ordered logistic regressions for each income and educational group. Here, only the most saturated model with all covariates is used and the results are presented in Table 4.

Table 4. Effect of being male on beliefs about the future unemployment and economic situation in Sweden, by education and income

		Yearly income (SEK)			
Education	Beliefs about	≤180,000	180,001-285,000	285,001-440,000	440 001+
Primary school	Economic situation	1.140***	1.390***	1.360***	1.638***
		(0.0557)	(0.0535)	(0.0607)	(0.0949)
	Unemployment	1.133***	1.252***	1.250***	1.328***
		(0.0490)	(0.0485)	(0.0500)	(0.0736)
	Observations	8,843	10,715	10,736	6,330
Secondary school	Economic situation	1.355***	1.329***	1.443***	1.390***
		(0.0517)	(0.0425)	(0.0484)	(0.0491)
	Unemployment	1.165***	1.304***	1.328***	1.238***
		(0.0419)	(0.0409)	(0.0419)	(0.0421)
	Observations	12,604	22,064	27,841	23,596
Further education	Economic situation	1.281***	1.210***	1.301***	1.314***
		(0.0598)	(0.0512)	(0.0472)	(0.0375)
	Unemployment	1.329***	1.185***	1.198***	1.225***
		(0.0615)	(0.0464)	(0.0415)	(0.0354)
	Observations	8,357	13,585	20,319	35,410

Note: Odds ratios for being male from ordered logistic regressions. The dependent variable is belief about unemployment or the economic situation in Sweden 12 months from now compared to today, and is ordered from 1 (large increase/much worse) to 5 (large decrease/much better). Each row-column entry represents a separate estimation. Estimations include all covariates, corresponding to column III and VI in Table 3. Robust standard errors clustered by months in parentheses. SEK 1,000 is approximately USD 108, using the exchange rate on December 27, 2016.

*** p<0.01, ** p<0.05, * p<0.1

The gender differences are present for all combinations of educational and income categories. The impact of income on the size of the odds ratios are higher for the respondents in the lowest educational category (i.e., people who only finished primary school). For these respondents, being in the highest income category produces an odds ratio of 1.64 (beliefs about the economy) and 1.33 (beliefs about unemployment), compared to 1.14 (beliefs about the economy) and 1.13 (beliefs about unemployment) for the lowest income category. By contrast, for individuals with higher levels of education, income seems to play less of a role for optimism.

3.3. Optimism bias or forecasting skills?

We have now seen that, according to our definition of optimism, men remain more optimistic than women even when controlling for a number of relevant covariates. One possible reason could be that men are consistently making positive assessments about the future economy that are erroneous. Not all signs point in the direction of this explanation, however. We have already seen that men are more informed than women about the current rate of inflation. If greater knowledge about the now translates into better predictions about the future, then it could be that men are simply better than women at forecasting the economy.

To gauge whether our results convey differences in forecasting skills rather than differences in optimism, we create a measure of how correct respondents are about the present economic situation compared to 12 months ago. To construct this measure, we begin by measuring deviations in the future GDP growth rate, defined as the average over the following four quarters, from the past GDP growth rate, defined as the average over the preceding four quarters. We then define a difference between future and past GDP growth that lies within plus minus one standard deviation as corresponding to the answer "same", whereas if the difference is above the bound set by the standard deviation it is defined as better or worse, respectively. Next, we enable comparison between these outcomes and the respondents' answers, by re-coding their answers so that the answers "much worse" and "worse" combine into a single "worse", and "much better" and "better" combine into a single "better". We then create a binary variable where any deviation in the respondents' beliefs from the actual difference in present GDP growth is coded as one, zero otherwise. Obviously, we are making some potentially contestable assumptions when constructing the first measure.[5] An identical measure is then created to investigate forecast errors in the unemployment rate.

[5] Such assumptions are necessary since there is no intuitive way of linking the answers (much worse, worse, same, better, and much better) to the observed outcome. Notably, a crucial challenge is to define what "same" means. Since GDP growth has increased for most time periods in Sweden and most other countries (OECD Economic Outlook, 2016), we assume that respondents view an expanding economy as normal and equate a present GDP growth that is equal to the preceding GDP growth rate as corresponding to the answer "same". The same assumptions were made for the unemployment rate. Once this issue has been resolved, we face the problem of determining what qualifies as a sufficiently large deviation to merit the labels "worse", "better", and so forth. The distribution of the difference in the present and past unemployment rate and GDP-growth is presented in Figure A.3 in the Appendix, where

We use this binary indicator of the forecast error as the outcome variable in a linear probability model and a logistic regression model, including the same covariates as before. The results are presented in Table 5.

Table 5. Linear probability and logistic regression on forecast errors

	Linear probability (OLS)			Logistic regression		
Variables	(I)	(II)	(III)	(IV)	(V)	(VI)
Beliefs about the economy						
Male	0.0485***	0.0389***	0.0422***	1.245***	1.195***	1.212***
	(0.00453)	(0.00431)	(0.00423)	(0.0246)	(0.0232)	(0.0227)
Observations	235,338	217,930	200,400	222,304	204,896	189,625
Beliefs about unemployment						
Male	0.0177***	0.0168***	0.0149***	1.095***	1.091***	1.080***
	(0.00285)	(0.00290)	(0.00297)	(0.0161)	(0.0166)	(0.0166)
Observations	235,338	217,930	200,400	222,304	204,896	189,625
Additional covariates		Yes	Yes		Yes	Yes
Inflation errors			Yes			Yes

Note: Dependent variable is forecast errors. Columns (I)-(III), display results from OLS, and (IV)-(VI) results from logistic regressions. Odds ratios are presented from ordered logistic regressions. All estimations include year-month fixed effects. Robust standard errors clustered by months in parentheses.

*** p<0.01, ** p<0.05, * p<0.1

When looking at the beliefs about the future economy, men are found to have more forecast errors than women with a positive coefficient of about 0.04-0.05 for the OLS, indicating that men are about 5 percentage points more likely to make forecast errors than women. Similarly, when looking at beliefs about future unemployment, men are 1.5 to 2 percentage points more likely to make forecast errors than women. To make sure that the results do not depend on the exact way we defined changes in GDP growth and the unemployment rate, we re-ran the estimations using alternative definitions in Table A.6 in the Appendix, and the results are similar. We conclude that the result that men are making more forecast errors than women seem to hold, but the effect is smaller when we narrow the definition of what is to be defined as "same", and thus define more

a positive number indicates that the future rate is higher that the preceding rate. Figure A.4-5 in the Appendix plot the resulting 3 categories against unemployment rate and GDP-growth over time.

of the respondents' predictions as errors. The number and percentage of errors for the three alternative definitions are presented in Table A7 in Appendix.[6]

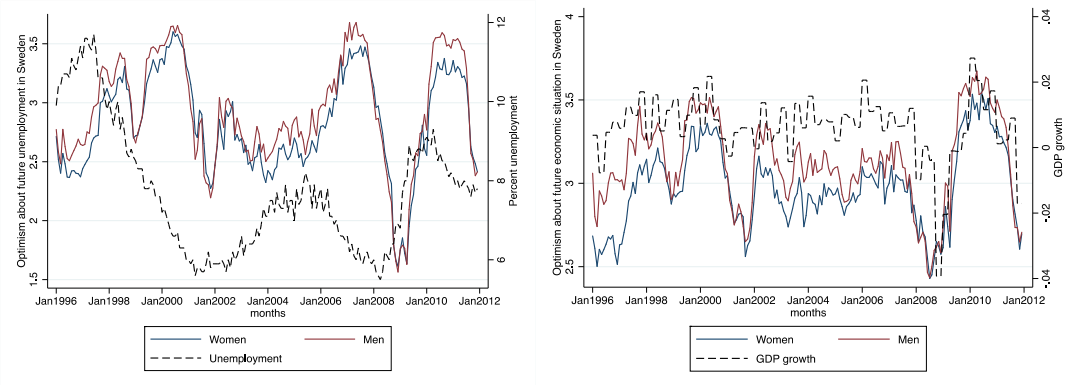
4 Convergence in gender differences

4.1 Understanding belief differences and convergence

Thus far, we have been discussing gender differences in optimism for the entire time period. Yet it remains to be seen whether these gender differences are always there, that is, are they persistent over time? To answer this, we plot the average beliefs of men and women over time about future unemployment and the economic situation in Figure 4, which also includes series for the unemployment rate and GDP growth. As can be seen, the gender belief series occasionally converge. This gender convergence always occurs at a dip, that is, when beliefs about the future state of the economy are at their lowest – and rightfully so: We see that optimism moves in the opposite direction with respect to the unemployment rate, and the levels of optimism also seem to follow the GDP growth trend closely, with the exception of the period 2000-2002. This is around the time of the bursting of the dot-com bubble, a financial phenomenon that affected specific industries. Optimism at the time appears to have been negatively affected whereas GPD growth was merely stagnant. Overall, it hence seems that during sharp economic downturns, when the overall view of the economy worsens, the gender difference disappears.

[6] The results for forecast errors in the unemployment rate are identical when using 1 and 1.5 standard deviations to create the 3 categories. In fact, using 1 and 1.5 standard deviations results in only one category, "same", for the entire time period.

Figure 4. Beliefs about future unemployment and economic situation in Sweden by gender, unemployment rate, and GPD growth



Note: GDP growth is defined as the quarterly change in the natural logarithm of real GDP (seasonally adjusted). The left y-axis measures levels of optimism, and the right y-axis measures GDP growth.

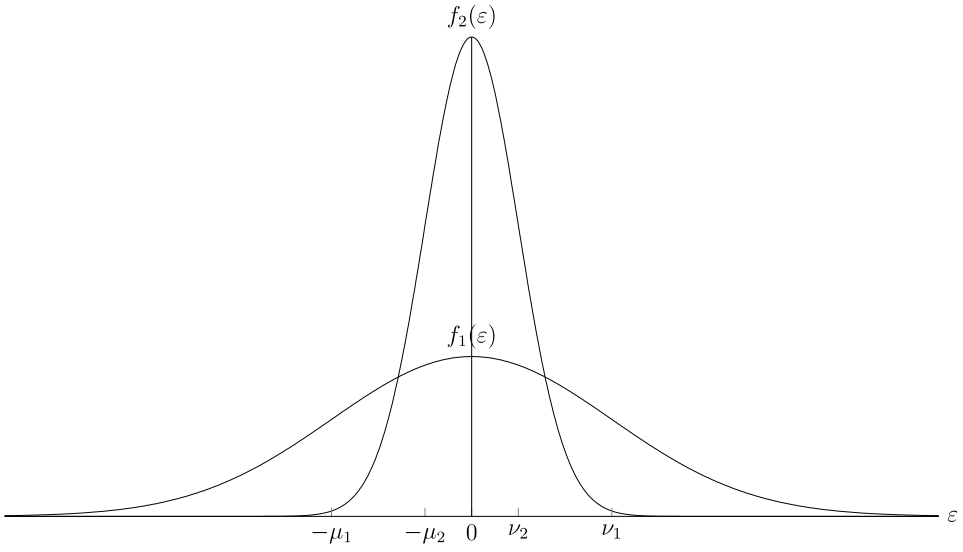
Why do we observe gender convergence when the view of the economy worsens? We argue that the issue can be explained, at least in part, by information and how it is processed. In an early contribution, Lenney (1977) showed that men are more confident when information is absent or ambiguous, but when information is unambiguous and available, there is no difference in confidence between men and women. Barber and Odean (2001), build on the same idea when they show that men trade more in stock markets where information is ambiguous.

Furthermore, previous studies have shown that news coverage of the economy is more frequent during recessions (Doms and Morin 2004; Shah et al. 1999; Soroka et al. 2015). In addition, individuals tend to process bad information more thoroughly than good (Baumeister et al. 2001). This suggests that information on economic issues is scarcer during good times, and that the information received will be processed with less effort. The lack of access to precise information in good times might encourage overconfidence in men compared to women. Being overconfident in times of economic upturn will lead to an optimistic prediction about the future economy.

It hence becomes possible to trace a tentative link between gender, optimism and the level of available information. If we assume that the amount of information available is proportional to the accuracy of an individual's prediction of the future economy, we can illustrate the link between information and beliefs about the future using Figure 5.

Here, we let ε_i, denote the measurement error in a prediction of the future, and the spread of ε_i is determined by the amount of information that individuals are receiving about the economy. For a given density function $f_1(\varepsilon_i)$ with variance σ_1^2, we have that an increase in information introduces a mean-preserving spread of the distribution so that $f_2(\varepsilon_i)$ is the new density function with variance σ_2^2, and $\sigma_2^2 < \sigma_1^2$. As a result, predictions are more accurate when information is abundant and ε_i is more centered around the mean.

Figure 5. Assumed relationship between information and spread of the distribution of ε_i



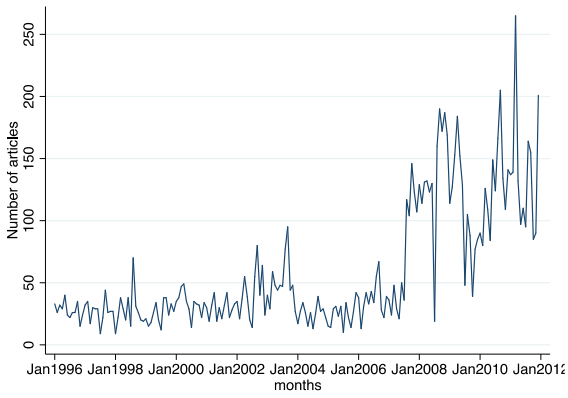
If we further assume that there are systematic differences in optimism between men and women, such that men's measurement errors are skewed and larger than women's, then one can imagine a scenario in which the shortage of information make men more optimistic that women. Conversely, when information increases, measurement errors approach zero and both men and women will have similar predictions of the future.

4.2. Convergence in beliefs

To investigate whether the amount of information affects the gender differences in beliefs, and also explain the convergence in beliefs, we need a measure of information. As a first step, we counted the number of articles in all printed newspapers in Sweden

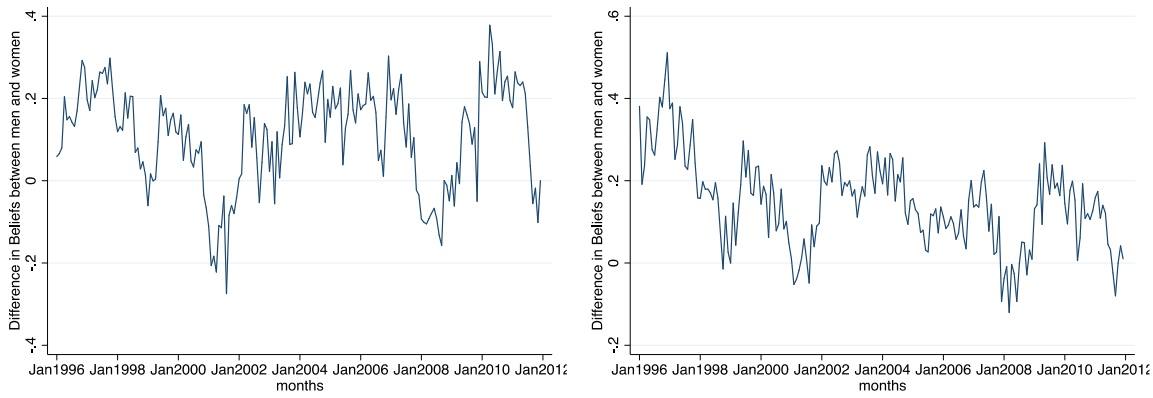
that included the phrase "Sveriges ekonomi" (the Swedish economy), using the online service for media research "Mediebiblioteket" provided by Retriever (www.retriever.se). The results are presented in Figure 6, where the total number of articles for each month is presented.

Figure 6. Number of articles in Swedish newspapers that include the phrase "Sveriges ekonomi" (Swedish economy), monthly



To test whether the amount of information affects convergence in beliefs, we first create a variable that measures the difference between the beliefs of males and females. In Figure 7, we have subtracted the monthly mean of the beliefs of women from the monthly mean of the beliefs of men. The procedure is repeated both for beliefs about the future Swedish economy and the future unemployment rate. A positive value indicates that the monthly mean for men is above that of women, while a negative value indicates the opposite. A value close to zero indicates that the beliefs have converged. As can be seen, only rarely does the value go below zero.

Figure 7. Difference in beliefs between men and women, monthly means



Note: On the left, the variable is difference in beliefs about the future unemployment rate in 12 months compared to today. On the right, the variable is difference beliefs about the future economic situation in Sweden in 12 months compared to today.

Descriptive statistics for the differences in beliefs for men and women and the number of newspaper articles about the Swedish economy are presented in Table 6.

Table 6. Descriptive statistics for difference in beliefs and newspaper articles on the Swedish economy.

Variable	mean	min	max	sd
Newspaper articles	56.41	9	265	48.58
Difference in beliefs about the future Swedish economy	0.152	-0.120	0.511	0.109
Difference in beliefs about the future unemployment rate	0.114	-0.275	0.378	0.120

As a next step, we use the measures of difference in beliefs as outcome variables in OLS regressions of the following equation:

$$Y_t = \alpha + \beta\nu_t + X_{it}\gamma + \delta\tau_t + \varepsilon_{it} \qquad (2)$$

where Y is one of the two measures of the difference in beliefs, ν is the measure of the amount of information available, defined as the number of newspaper articles containing the phrase "Swedish economy" scaled by 100. X_{it} is a vector of control variables defined as above, and τ is a dummy for the Great Recession, taking the value one if the time period is 2008 or later, and zero otherwise.

The results are presented in Table 7, where we show coefficients for regressions for the overall time period, and for the period before and after the commencement of the Great Recession. The estimated coefficients indicate that the amount of information

reduces the distance between men's and women's beliefs about the future. One hundred additional articles on the "Swedish economy" reduces the mean gender difference in beliefs about the future economy with 0.05. This is equivalent to a 33 percent decrease of the mean gender difference (Table 6). Similarly, one hundred additional articles on the "Swedish economy" reduces the mean gender difference in beliefs about future unemployment with 0.05. This is equivalent to a 40 percent decrease of the mean gender difference (Table 6).

Table 7. Information and the difference in beliefs about the economic situation in Sweden

Variables	Beliefs about the economy	Beliefs about unemployment
Time period 1996-2011		
Information	-0.0516***	-0.0483***
	(0.000715)	(0.00104)
Great Recession	-0.0222***	0.00284**
	(0.000840)	(0.00121)
Observations	200,4	200,4
R-squared	0.151	0.046
Time period 1996-2007		
Information	-0.0668***	-0.0741***
	(0.00110)	(0.00106)
Observations	154,601	154,601
R-squared	0.081	0.037
Time period 2008-2011		
Information	-0.0384***	-0.0310***
	(0.000850)	(0.00154)
Observations	45,799	45,799
R-squared	0.039	0.058

Note: The variable Information refers to the number of articles (in hundreds) about the Swedish economy, and the variable Great Recession is a dummy variable defined in equation (2). In the first column, the dependent variable is the difference in belief about the economic situation in Sweden 12 months from now compared to today, and in the second column, the dependent variable is the difference in belief about future unemployment in 12 months from now compared to today. All estimations include dummies for individual beliefs, measure of inflation error, educational categories, age categories, civil status, income categories and occupational categories. Robust standard errors in parentheses.

*** p<0.01, ** p<0.05, * p<0.1

Interestingly, the Great Recession is associated with an increase in gender differences with regards to beliefs about unemployment, whereas it is associated with a decrease in gender differences with regards to beliefs about the economy. The negative association between information and gender differences holds for beliefs about unemployment for all time periods, and the same is the case for beliefs about the economy. For this latter measure however, the results are more sensitive to the time period under consideration: If 2007 is treated as the start of the Great Recession instead of 2008, then the coefficient for the earlier time period 1996-2006 becomes positive. We interpret this to mean that the financial crisis that started around 2007-2008 likely accounts for most of the variation in information as well as convergence/divergence in gender differences relating to future economic development. In relative terms, there was a shortage of newspaper articles about the Swedish economy prior to the financial crisis, and it is possible that the crisis resulted in a shift in how individuals, in particular males, valued and processed economic information. This becomes an important caveat to our findings, and an important venue for future research.

Furthermore, it is not obvious that the observed convergence in gender beliefs is a result of increased information. Both information and beliefs likely respond to economic indicators such as unemployment and productivity growth. The results are therefore to be interpreted as associations rather than causal effects.

5 Conclusion

Using a large survey dataset (236,864 responses), we showed that women are less optimistic than men regarding the future Swedish economy. In addition, we could demonstrate that men make more forecast errors than women. However, the gender differences in optimism disappear in sharp economic downturns. In times of economic crises, both men and women quickly lower their expectations about the present and future to the same level. We suggest that this can be explained by the amount of information available on the economy, and suggest that a dearth of such information in normal times could explain men's over-optimism relative to women, whereas its abundance in times of economic crises keeps men's optimism "in check." When

information on the economy is abundant, men are not more over-optimistic than women. That being said, the structure of the data impedes us to make any definite claims to causality. Future research is necessary to provide clearer answers to these questions.

In addition, the data highlight the importance of measuring optimism correctly. As mentioned, the optimism discussed in the previous literature generally measures perceptions related to the individual's own outcome. However, our data reveals that more than half of the survey respondents differ in their perception of their own future economic condition compared to their perception of the future Swedish economy. In contrast to the previous literature, therefore, our measure of optimism concerns perception of a general outcome, while we are also able to control for any influence of the individual's perception of his/her own situation. This makes our measure reflect a more distinct idea of optimism, which is clearly separate from concepts such as over-confidence or self-efficacy (Bandura 1997).

Some of the questions left unanswered in this study concern the causes for the observed gender differences in optimism. We are not able to discern whether the observed gender differences in optimism can be explained by inherent differences between men and women, or by environmental factors, or both. These questions warrant further research.

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Appendix

Table A1. Inflation perception errors and gender

	Full sample		Inflation error < 2 percent	
Variables	(I)	(II)	(III)	(IV)
Male	-2.236***	-2.163***	-0.00698**	-0.0989***
	(0.219)	(0.222)	(0.00307)	(0.0143)
Beliefs about one's own situation				
worse		-1.110***		-0.0644*
		(0.340)		(0.0328)
same		-3.172***		-0.256***
		(0.340)		(0.0321)
better		-3.627***		-0.247***
		(0.378)		(0.0330)
much better		-3.350***		-0.157***
		(0.405)		(0.0379)
Additional covariates		Yes		Yes
Observations	216,584	200,400	128,659	180,733

Note: Dependent variable is absolute deviation from actual inflation rate All estimations include year-month fixed effects. Robust standard errors clustered by months in parentheses.

*** p<0.01, ** p<0.05, * p<0.1

Table A2. Beliefs about unemployment and the economic situation in Sweden, extended version of Table 3, including all covariates.

	Beliefs about the future economy			Beliefs about future unemployment		
Variables	(I)	(II)	(III)	(IV)	(V)	(VI)
Male	1.423***	1.350***	1.345***	1.267***	1.255***	1.244***
	(0.0264)	(0.0260)	(0.0263)	(0.0237)	(0.0248)	(0.0236)
Beliefs about one's own situation						
worse		2.102***	1.922***		1.616***	1.537***
		(0.0950)	(0.0914)		(0.0598)	(0.0578)
same		4.090***	3.714***		2.380***	2.259***
		(0.190)	(0.183)		(0.0841)	(0.0800)
better		7.064***	6.389***		2.952***	2.803***
		(0.335)	(0.323)		(0.108)	(0.103)
much better		7.862***	7.088***		3.018***	2.839***
		(0.406)	(0.388)		(0.120)	(0.114)
Inflation error			0.996***			0.997***

			(0.000237)			(0.000279)
Secondary schooling		1.052***	1.050***		1.083***	1.083***
		(0.0132)	(0.0134)		(0.0142)	(0.0152)
Higher education		1.141***	1.135***		1.270***	1.269***
		(0.0195)	(0.0198)		(0.0248)	(0.0256)
Age 30-49		0.782***	0.795***		0.707***	0.716***
		(0.0143)	(0.0151)		(0.0138)	(0.0145)
Age 50-64		0.692***	0.705***		0.616***	0.628***
		(0.0153)	(0.0158)		(0.0160)	(0.0167)
Age 64+		0.704***	0.711***		0.728***	0.731***
		(0.0232)	(0.0239)		(0.0233)	(0.0244)
Single with children		0.906***	0.899***		0.942***	0.927***
		(0.0225)	(0.0226)		(0.0219)	(0.0224)
Married		0.951***	0.949***		0.934***	0.932***
		(0.0112)	(0.0120)		(0.0113)	(0.0118)
Married with children		0.931***	0.928***		0.922***	0.920***
		(0.0143)	(0.0150)		(0.0151)	(0.0154)
Other household situation		0.935***	0.930***		0.920***	0.918***
		(0.0147)	(0.0156)		(0.0175)	(0.0180)
Income 180-285		1.037**	1.030**		1.028*	1.027*
		(0.0151)	(0.0148)		(0.0157)	(0.0161)
Income 285-440		1.128***	1.114***		1.124***	1.116***
		(0.0197)	(0.0196)		(0.0217)	(0.0215)
Income 440+		1.230***	1.216***		1.253***	1.242***
		(0.0261)	(0.0261)		(0.0306)	(0.0300)
Self-employed and professional		0.988	0.979		0.936***	0.924***
		(0.0202)	(0.0212)		(0.0175)	(0.0177)
Self-employed farmers		0.907**	0.905**		0.901**	0.889**
		(0.0453)	(0.0457)		(0.0448)	(0.0445)
Clerical and public employees		0.971*	0.960**		0.954***	0.942***
		(0.0151)	(0.0154)		(0.0150)	(0.0151)
Skilled manual workers		0.871***	0.868***		0.861***	0.856***
		(0.0166)	(0.0168)		(0.0163)	(0.0165)
Other manual workers		0.907***	0.899***		0.874***	0.871***
		(0.0183)	(0.0187)		(0.0165)	(0.0166)
Unemployed		0.823***	0.822***		0.746***	0.748***
		(0.0249)	(0.0243)		(0.0191)	(0.0193)
Observations	235,338	217,930	200,400	235,338	217,930	200,400

Note: Odds ratios from ordered logistic regressions. In columns (I)-(III), the dependent variable is belief about the economic situation in Sweden today compared to 12 months ago, whereas in (IV)-(VI) it is belief about the economic situation in Sweden 12 months from now compared to today. In both cases, the dependent variable is ordered from 1 (much worse) to 5 (much better). Income refers to thousands of Swedish krona (SEK). All estimations include year-month fixed effects. Robust standard errors clustered by months in parentheses.

*** p<0.01, ** p<0.05, * p<0.1

Table A3. Multinomial logistic regression on beliefs about unemployment and the economic situation in Sweden,

	Beliefs about future unemployment				Beliefs future economic situation			
Variables	Large increase	Small increase	Small decrease	Large decrease	Much worse	Worse	Better	Much better
Gender	0.786***	0.976	1.269***	1.587***	0.880***	1.035*	1.511***	1.939***
	(0.029)	(0.019)	(0.021)	(0.075)	(0.035)	(0.019)	(0.028)	(0.091)
Beliefs about one's own situation								
worse	0.614***	1.015	1.025	0.618***	0.261***	1.164***	1.012	0.548***
	(0.024)	(0.033)	(0.037)	(0.064)	(0.014)	(0.057)	(0.051)	(0.092)
same	0.427***	0.960	1.136***	0.633***	0.072***	0.479***	0.913*	0.447***
	(0.018)	(0.028)	(0.039)	(0.055)	(0.004)	(0.023)	(0.047)	(0.068)
better	0.407***	0.884***	1.274***	0.804**	0.079***	0.483***	1.882***	1.299*
	(0.018)	(0.028)	(0.048)	(0.079)	(0.005)	(0.023)	(0.093)	(0.198)
much better	0.658***	0.875***	1.319***	1.567***	0.163***	0.481***	1.794***	4.216***
	(0.037)	(0.034)	(0.052)	(0.161)	(0.012)	(0.026)	(0.095)	(0.657)
Observations	200,400				200,400			

Note: Odds ratios from multinomial logistic regressions. The excluded baseline category is the answer "same". All covariates are included in all estimations. The dependent variable is belief about the present and belief about the future. Belief about the present is belief about the economic situation in Sweden today compared to 12 months ago. Belief about the future is
is belief about the economic situation in Sweden 12 months from now compared to today. Robust standard errors clustered by months in parentheses.

*** p<0.01, ** p<0.05, * p<0.1

Table A4. OLS, beliefs about the economic situation in Sweden

	Beliefs about the future economy			Beliefs about future unemployment		
Variables	(I)	(II)	(III)	(IV)	(V)	(VI)
Male	1.164***	0.125***	0.122***	0.114***	0.106***	0.101***
	(0.00932)	(0.00806)	(0.00819)	(0.00858)	(0.00887)	(0.00850)
Beliefs about one's own situation						
worse		0.308***	0.273***		0.203***	0.182***
		(0.0163)	(0.0174)		(0.0154)	(0.0160)
same		0.591***	0.553***		0.381***	0.358***
		(0.0170)	(0.0184)		(0.0150)	(0.0151)
better		0.805***	0.764***		0.477***	0.454***
		(0.0183)	(0.0197)		(0.0156)	(0.0158)
much better		0.843***	0.800***		0.477***	0.450***
		(0.0207)	(0.0217)		(0.0170)	(0.0173)
Inflation error			Yes			Yes
Additional covariates		Yes	Yes		Yes	Yes
Observations	235,338	217,930	200,400	235,338	217,930	200,400

Note: Coefficients from OLS regressions. In columns (I)-(III), the dependent variable is belief about the economic situation in Sweden today compared to 12 months ago, whereas in (IV)-(VI) it is belief about the economic situation in Sweden 12 months from now compared to today. In both cases, the dependent variable is ordered from 1 (much worse) to 5 (much better). All estimations include year-month fixed effects. Robust standard errors clustered by months in parentheses.

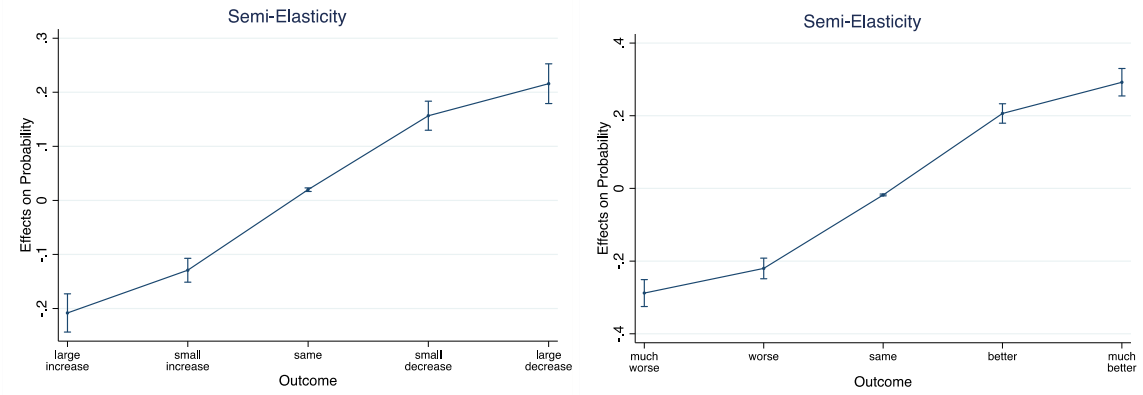
*** p<0.01, ** p<0.05, * p<0.1

Table A5. Predicted probabilities for all outcome categories, where all covariates are held constant at their means.

	Beliefs about the future economy		Beliefs about future unemployment	
Outcome	Men	Women	Men	Women
Much worse	0.02471***	0.03296***	0.04126***	0.05081***
	(0.00098)	(0.00147)	(0.04126)	(0.00122)
Worse	0.17854***	0.22251***	0.29593***	0.33674***
	(0.00266)	(0.00238)	(0.00299)	(0.00253)
Same	0.47608***	0.48476***	0.36957***	0.36232***
	(0.00526)	(0.00532)	(0.00495)	(0.00479)
Better	0.30386***	0.24723***	0.28088***	0.24017***
	(0.00340)	(0.00279)	(0.00288)	(0.00282)
Much better	0.01681***	0.01255***	0.01235***	0.00995***
	(0.00055)	(0.00049)	(0.00062)	(0.00052)

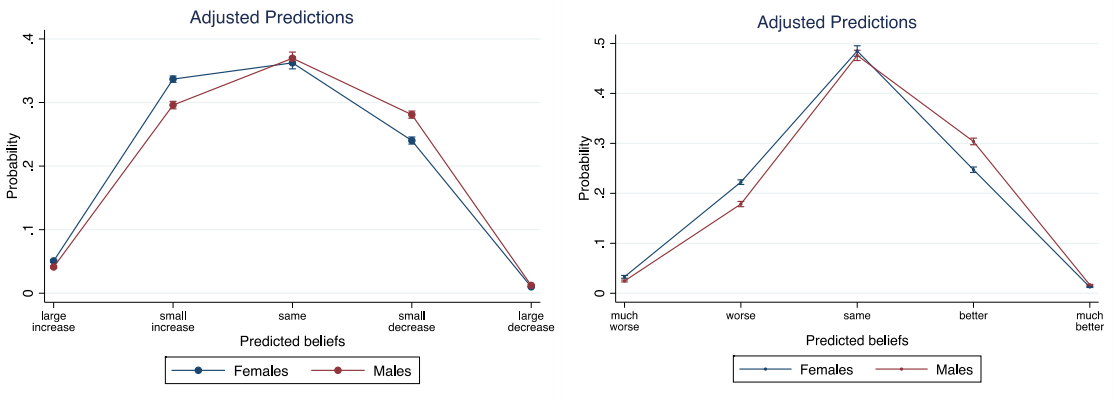
Note: The predicted probabilities are based on the estimations from column (III) and (VI) in Table 3. Robust standard errors in parentheses.
*** p<0.01, ** p<0.05, * p<0.1

Figure A1. The semi-elasticity of being a man on beliefs about future unemployment and economic situation



Note: On the left, the outcome variable is beliefs about future unemployment in 12 months compared to today. On the right, the outcome variable is beliefs about the individual's future economic situation in 12 months compared to today. All covariates are held constant at their means. Vertical lines refer to a 95% confidence interval

Figure A2. Predicted probabilities on beliefs about future unemployment and economic situation by gender



Note: On the left, the outcome variable is beliefs about unemployment in Sweden 12 months from now compared to today. On the right, the outcome variable is beliefs about the future economic situation in Sweden 12 months from now compared to today. All covariates are held constant at their means. Vertical lines refer to a 95% confidence interval.

Figure A3. Density plot of the difference in future and past GDP growth and unemployment rate.

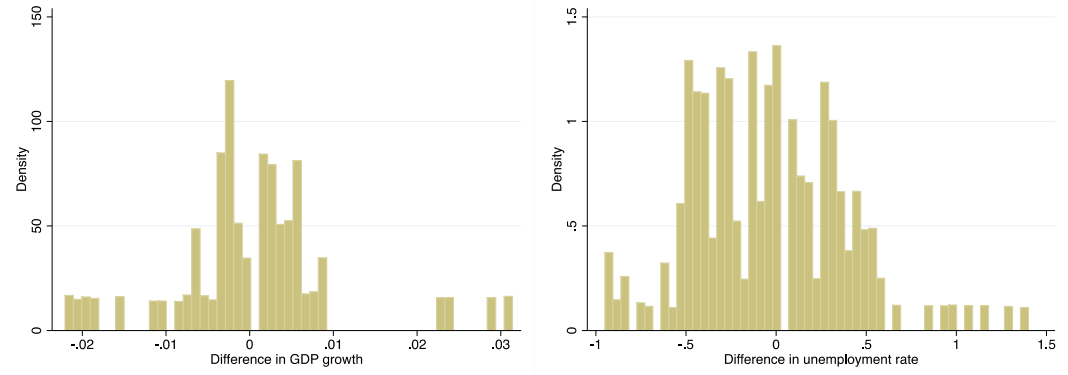
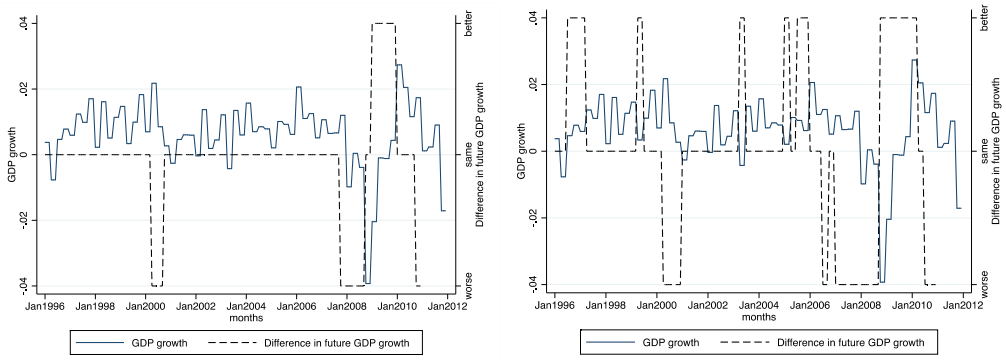
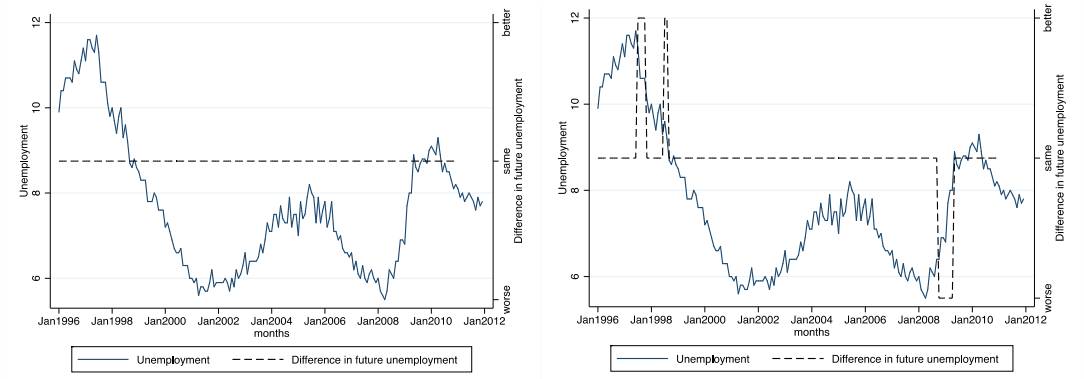


Figure A4. GDP growth and categories based on the difference in future and past GDP growth



Note**:** In the left hand figure, the category "same" is defined as a change in GDP growth that lies within plus minus 1 standard deviations. In the right hand figure, the category "same" is defined as a change in GDP growth that lies within plus minus 0.5 standard deviations.

Figure A5. Unemployment and categories based on the difference in future and past unemployment rates



Note: In the left hand figure, the category "same" is defined as a change in the unemployment rate that lies within plus minus 1 standard deviations. In the right hand figure, the category "same" is defined as a change in the unemployment rate that lies within plus minus 0.5 standard deviations.

Table A6. Linear probability and logistic regression on forecast errors, alternative definitions

	Linear probability (OLS)			Logistic regression		
	(I)	(II)	(III)	(IV)	(V)	(VI)
Category "same" is defined as a change in GDP growth or unemployment that lies within plus minus 1.5 standard deviations.						
The economy	0.0506***	0.0411***	0.0442***	1.251***	1.203***	1.218***
	(0.00453)	(0.00432)	(0.00422)	(0.0243)	(0.0230)	(0.0225)
Unemployment	0.0133***	0.0124***	0.0116***	1.068***	1.063***	1.058***
	(0.00339)	(0.00348)	(0.00331)	(0.0180)	(0.0185)	(0.0175)
Category "same" is defined as a change in GDP growth that lies within plus minus 0.5 standard deviations.						
The economy	0.0212***	0.0129**	0.0148**	1.109***	1.066**	1.075**
	(0.00641)	(0.00605)	(0.00623)	(0.0339)	(0.0315)	(0.0323)
Unemployment	0.0118***	0.0107***	0.00914***	1.062***	1.057***	1.048***
	(0.00337)	(0.00342)	(0.00344)	(0.0183)	(0.0187)	(0.0185)
Inflation error			Yes			Yes
Additional covariates		Yes	Yes		Yes	Yes
Observations	235,338	217,930	200,400	222,304	204,896	189,625

Note: Dependent variable is forecast errors. Columns (I)-(III), display results from OLS, and (IV)-(VI) results from logistic regressions. Odds ratios are presented from ordered logistic regressions. All estimations include year-month fixed effects. Robust standard errors clustered by months in parentheses.

*** p<0.01, ** p<0.05, * p<0.1

Table A7. Number and percent of forecast errors for different definitions

	Number		Percent	
	Correct	Error	Correct	Error
Error used in Table 7. (plus minus 1 standard .deviation)				
The economy	96,036	139,302	40.81	59.19
Unemployment	67,951	167,387	28.87	71.13
Error used in Table A.6. (plus minus 1.5 standard .deviation)				
The economy	98,375	136,963	41.80	58.20
Unemployment	71,018	163,320	30.60	69.40
Error used in Table A.6. (plus minus 0.5 standard .deviation)				
The economy	84,566	150,772	35.93	64.07
Unemployment	67,951	167,387	28.87	71.13