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Abstract

Combining click data from a Swedish newspaper and administrative data on asylum seekers in Sweden, I examine whether a larger presence of refugees in a municipality induces people to avoid news that may encourage welcoming the newcomers. Exploiting the unexpected inflow of refugees to Sweden during 2015 and their exogenous allocation across Swedish municipalities, I find that people living in municipalities where the relative number of refugees has been larger read fewer articles about asylum seekers. I then identify articles that may raise feelings of compassion towards the refugees. The decrease in information acquisition is 36 larger for such empathic articles.

JEL codes: A13, D64, D83, J15, L82

Keywords: information avoidance, refugee crisis, motivated beliefs, click data

1 Introduction

Do inhabitants of a wealthy and peaceful country want to understand the conditions of immigrant refugees? Do they want to know the extent to which air travel causes global warming? Do they want to know whether the fish they are served at the restaurant originates from a sustainable population, or whether their clothes have been manufactured by child labor? Casual observation suggests that the answer is not always affirmative; people sometimes prefer to avoid information that is relevant to their moral choices.[1] They may opt to be deliberately ignorant in order to escape responsibility (Golman et al., 2017; Hertwig and Engel, 2016).

The purpose of this paper is to examine the magnitude of such information-avoidance in a real-world setting, that of refugee immigration to Sweden. Specifically, using the refugee crisis that hit Sweden in 2015, I examine whether a larger presence of asylum seekers induces people to avoid information that may encourage welcoming the newcomers. In 2015 over one million people applied for asylum in the European Union (Koch et al., 2017). More than 160 000 applications were received in Sweden, corresponding to 1.6% of the Swedish population. A heated debate in Sweden, and throughout Europe, raised concerns on how to deal with the situation in terms not only of economic interventions, but also of ethical motivations. Famous quotes from the German Chancellor Angela Merkel had a deep impact on the moral engagement of Europeans in welcoming refugees:

> *"We will cope."*
>
> Federal Press Conference; August 31, 2015

> *"Europe must show it is a continent of values, a continent of solidarity."*
>
> Reuters; October 25, 2015

[1] Strategic ignorance used as attempt to escape responsibility has been discussed by philosophers (e.g. Sartre (1943)), writers (e.g. Bok (1989)), as well as in psychology (e.g. Sweeny et al. (2010)).

This paper analyzes whether people avoid information concerning the refugees as an attempt to reduce the moral pressure to welcome a larger number of asylum seekers. The Swedish context is particularly suitable to investigate this question because the country has historically been generous in welcoming refugees. Public opinion has always been in favor of higher acceptance rates of asylum seekers (SOM surveys, 2000-2014). However, the unexpected inflow of refugees in 2015 put a lot of pressure on the moral choice of hosting the asylum seekers.

I investigate a novel dataset of online clicks from the leading Swedish newspaper (Dagens Nyheter) for 1731 articles related to the refugees during 2015, combined with administrative data on asylum seekers in Sweden. As a measure of information avoidance I employ the number of clicks on selected articles from the online version of the newspaper for each Swedish municipality.[2,3] The topics of the articles are related to the refugee crisis, and to any other fact connected to the asylum seekers mentioned in the Swedish newspaper from February 2015 to February 2016. The online version of the newspaper has national coverage, therefore it is possible to obtain the number of clicks on the same article for each municipality. Moreover, I use data on the overall traffic on the online website for each month and municipality to compare clicking patterns for refugees articles compared to those of other news.

In a fixed effects regression framework, I estimate the causal impact of the number of refugees per capita in a municipality on the average number of clicks per refugee article from that municipality. Conditional on month and municipality fixed effects, I argue that the spatial and temporal variation in the allocation of refugees across Sweden is exogenous. The identification strategy is motivated by two main factors. First, there was an unexpected increase in the number of asylum seeking applications in Sweden during 2015. Second, the allocation of refugees across Sweden is unlikely to co-vary with potential correlates of the click rate. Indeed, I focus on refugees who are waiting for the decision on

[2]Clicks are defined as number of page views at the level of a URL for each article.

[3]A municipality is a lower-level urban administrative division. There are 290 municipalities in Sweden.

their asylum status and have the right of an accommodation upon arrival to Sweden. The Swedish Migration Board is responsible for organizing such accommodation and assigns refugees to municipalities without local political influence on the decisions. Especially during the last months of 2015, no special algorithm or rule was used to match the allocation of asylum seekers across Sweden with municipalities characteristics.[4] Moreover, due to the sudden inflow of people, housing availability increased in almost all municipalities.

I find that people living in Swedish municipalities that were more affected by the inflow of refugees read fewer newspaper articles about asylum seekers. Specifically, one standard deviation increase in the number of refugees per capita reduces the click rate on refugee articles by 0.18 standard deviation. Lags of the explanatory variable suggest that the negative effect on the click rate persists for a couple of months. The finding is robust to altering the regression specification. Linear time trend and county-specific parametric time trends ensure that potential reading patterns do not confound the results. To validate the identification assumption, I show that there are no pre-trends, as the impact of refugee-presence on clicks becomes negative from the beginning of the crisis in September 2015.

To isolate the mechanism of avoiding morally relevant information, I use text analysis methods to identify articles that may raise feelings of compassion towards the refugees. In particular, I classify the articles based on the information provided by the headline according to the sentiment that they may evoke. I find that the negative effect of an increase in the number of refugees per capita is 36% larger for the click rate of this type of article compared to other news which report neutral facts. Since these articles describe the refugees' poor living conditions and may increase empathy towards them, avoiding this information allows protecting oneself from the increased moral pressure of welcoming them.

I present a range of additional findings. Clicks on local news about the refugee situation are fewer for municipalities mentioned in the articles compared to other news about

[4]From January 2017 a new legislation on the allocation of refugees across municipalities has been enacted. Local administration will have a larger influence on the decisions.

the asylum seekers published in the same month. Moreover, there is a lower click rate for articles related to Sweden compared to news regarding the neighboring countries (Norway, Denmark and Finland). These findings suggest that avoidance is stronger for articles that provide more information about a local context in which people could be directly affected. Finally, I find that the negative effect on the clicking behavior is stronger for a higher number of unaccompanied children and hospitalized refugees present in the municipality. This result indicates that there is a higher moral pressure to welcome people who need more assistance.

A greater presence of refugees may have affected the decrease in the click rate of refugee articles through other channels than avoidance of morally relevant information. Therefore, I evaluate the plausibility of additional mechanisms. I start by assessing whether exposure to refugees could have been a source of information about their conditions, through first-hand experiences instead of reading news. However, two pieces of evidence suggest a prompt reaction to the arrival of refugees rather than a substitution effect from other information outlets. First, there is a larger decrease on clicks for the 2 months right after the beginning of the crisis, when there had been less time for interactions with the asylum seekers. Second, the decrease in the click rate is higher for municipalities that had a sudden inflow of refugees, rather than a prolonged experience. Another mechanism that could explain the decline is clicks is a crowding-out effect of the news. Given the saliency of the topic during Fall 2015, an increased number of articles about refugees could have reduced the click rate on a single article. However, the empathic articles, for which I find a larger negative effect, are fewer than the other selected articles. In addition, the total number of clicks on refugee articles increases over time in parallel to a rising amount of articles being published. Moreover, I do not find evidence on substitution to other newspapers. Finally, I evaluate whether the reduction in click rate may have been the consequence of a change in public opinion from positive acceptance of newcomers to increased opposition. If this opinion shift was the main driver of the results, a larger negative effect would be expected for municipalities that previously welcomed refugees and could have been overwhelmed by the larger inflow. Instead, I find a smaller negative

impact on the clicks for these localities.

To further illustrate the mechanism behind the empirical results, I propose a motivated beliefs model based on Rabin (1995) in which an agent avoids information to protect his belief on moral actions. The key assumption of the model is that the agent takes actions under moral pressure, for example to comply with a social norm. The extent of such moral cost depends on the belief about being in a morally binding situation. The prior also affects the choice on information acquisition. If the benefit of an updated belief is lower than the cost, then the agent is better off avoiding information about the true state of the world to escape responsibility of the moral action. Previous models on belief manipulation in response to morally charged information focus on compliance with internal moral rules (Rabin, 1995), self-confidence (Bénabou and Tirole, 2002), duty-orientation (Nyborg, 2011), maintenance of self-image (Grossman and Van der Weele, 2017), reduction of guilt and shame from social norm deviation (Thunström et al., 2014). The importance of motivated beliefs (e.g., willful blindness, wishful thinking, overconfidence) has been stressed by recent work (Bénabou, 2015; Bénabou and Tirole, 2016). However, the lack of an established theoretical framework on strategic avoidance of morally relevant information suggests the need for further investigation (Golman et al., 2017; Hertwig and Engel, 2016).

To the best of my knowledge, this is the first paper that tests avoidance of morally relevant information using observational data.[5] Experimental evidence on strategic ignorance being used to escape responsibility has been presented in several previous studies. The common idea behind these findings is that individuals may prefer to remain ignorant about other people's worse conditions in order not to feel compelled to act generously. Using a modified version of the dictator game, Dana et al. (2007) show that individuals

[5]Other studies have empirically tested the mechanisms behind information avoidance in other contexts different from moral behavior: selective exposure to political news (Gentzkow and Shapiro, 2010; Garrett et al., 2013; Bakshy et al., 2015), refrain from getting medical tests' results (Oster et al., 2013) or the outcome of investment decisions (Sicherman et al., 2016).

choose the fair allocation between themselves and the recipients when they know about potential outcomes. However, when there is uncertainty about the amount they could give to the recipient, some participants decide not to know and choose a more selfish allocation for themselves. Several other studies (Spiekermann and Weiss, 2016; Feiler, 2014; Thunström et al., 2014; Van der Weele, 2014; Grossman, 2014; Grossman and Van der Weele, 2017) have found similar results suggesting that there is not a clearcut distinction between altruistic and selfish individuals. Some people would usually behave generously, but if they are given the opportunity to avoid such situation, then they would choose to act selfishly. Yet, little is known about avoidance of information that may encourage a moral action outside laboratory experiments.

Prosocial behavior has been recently studied in several field experiments which find evidence of less generous actions when people are offered the opportunity to escape from moral responsibilities (DellaVigna et al., 2012; Trachtman et al., 2015; Exley and Petrie, 2016; Andreoni et al., 2017). This paper differs from these latter field experiments as I examine the avoidance of *information* that would encourage engaging into a moral action, while these studies focus on the avoidance of a *known situation* in which they could be asked to be generous.

With respect to the media literature, most scholars have focused on the selective exposure to media and its influence on political attitudes and ideology (see Strömberg (2015) for a recent review). Related to information avoidance, Gentzkow and Shapiro (2010) and Garrett et al. (2013) shed light on how avoiding information may lead to media bias and political polarization. However, there is no evidence about the effect that media could have on the engagement of moral behavior by the readers. Click data have been previously used to empirically test editorial decisions (Sen and Yildirim, 2015) and the allocation of consumer attention (Boik et al., 2016).

Finally, this paper contributes to the literature on immigration and the public attitudes towards it (see Hainmueller and Hopkins (2014) for a recent review). In the Swedish context, mixed evidence has been proposed about the perception of immigration by the native population (Dahlberg et al., 2012; Nekby and Pettersson-Lidbom, 2017; Carlsson

et al., 2015; Koch et al., 2017). While this paper does not discuss public opinion towards refugees, it still contributes to the literature by providing a more precise measure of the information environment in which people may choose to form their views on immigration.

The remainder of the paper is organized as follows. Section 2 presents the institutional setup about the refugee crisis in Sweden. Section 3 describes the data and the empirical strategy. Section 4 shows the main results and Section 5 assesses their robustness. Section 6 discusses alternative mechanisms. Section 7 illustrates the theoretical framework. Section 8 concludes the paper.

2 Institutional setup

Sweden is one of the EU countries with the highest number of asylum seekers per inhabitant (see Figure 1).[6] In 2015 more than 160 000 people applied for asylum in Sweden, which corresponds to a 1.6% increase in the Swedish population.[7] Even though the inflow of refugees to Sweden has always been large, the increase in the number of asylum applications dramatically rose during the second period of 2015. As Figure 2 shows, the number of refugees arriving to Sweden more than doubled from 2014 to 2015. Moreover, the impact of this crisis was highly unexpected. The Swedish Migration Board, which has the mandate to decide on the asylum claims, was not prepared to welcome such a large number of people. Forecasts on the inflow of incoming refugees made by the Swedish Migration Board in February, April and July 2015 were 50% lower than the actual number of asylum seekers that arrived to Sweden by the end of 2015 (The Swedish Migration Board, 2015b).[8]

[6]Source: Eurostat.

[7]Source: Swedish Migration Board.

[8]In February 2015 90 000 people were expected to enter Sweden by the end of 2015 with a window [80 000 and 105 000] of good and bad scenarios; in April 2015 80 000 people were expected within [68 000 and 88 000] and in July 2015 74 000 people were expected within [66 000 and 80 000]. Only in October 2015 the prognosis was 160 000 which was indeed the total number of asylum seekers arriving to Sweden in 2015.

[Figure 1 here]

[Figure 2 here]

In order to better understand the allocation of refugees across Swedish municipalities, I illustrate the procedure to get asylum status in Sweden. The whole process can be divided in three phases. The first starts when refugees arrive to Sweden and they are hosted in one of the five welcome centers of the country where they register their application.[9] After 1-7 days asylum seekers, in need of a place to live, are given an accommodation in one of the housings organized by the Swedish Migration Board across the country. Indeed, according to a 1986 legislation the Swedish Migration Board has to provide accommodation for each refugee during the examination of their asylum application.[10] Before the crisis in 2015, refugees would usually be lodged in this type of accommodation up to 3 months, but after the large inflow of asylum seekers the waiting period was prolonged to 6-8 months. After the decision has been taken, if the asylum is rejected, refugees have to go back to their home country. Instead, if the decision is positive, refugees can relocate to another municipality potentially different from where they were previously living. In this third phase it is responsibility of the new municipality to provide an accommodation and other services to refugees. In the second and third phase asylum seekers are encouraged to arrange for their own accommodation with family and friends, in case it is possible. However, the percentage of refugees choosing this option is relatively low (15% in 2015) compared to the total number of registered refugees, especially before the decision on the asylum is taken.

In order to identify a causal impact of an increase in the number of refugees, in this

[9]The welcome centers for asylum seekers in Sweden are in Stockholm, Malmö, Gothenburg, Gävle, Flen.

[10]Administrative Procedure Act(1986:223) states that "Each authority shall provide information, guidance, advice and similar assistance to all persons concerning matters falling within the scope of its functions. The assistance shall be given to the extent that is deemed appropriate with regard to the nature of the matter, the persons need of assistance and the activity of the authority".

paper I focus on the second phase of the asylum seeking process (when refugees wait for their asylum decision).[11] The reason behind this choice is to avoid any endogeneity in the number of refugees present in the municipalities. The Swedish Migration Board is responsible to provide accommodation to the refugees in need of it and therefore, allocates the newcomers across Sweden according to its resources. Local governments have no influence on the assignment of refugees that are welcomed during the waiting period. On the other hand, municipalities can decide the number of asylum seekers that are accepted in the locality after the refugee is granted the asylum status. Thus, using the number of newcomers present in a municipality after the decision has been taken would bias the results since municipality characteristics may influence the distribution of refugees across Sweden.

One of the main challenges during the crisis in 2015 was related to the availability of accommodation to host the incoming refugees. Even though the Swedish Migration Board takes care of hosting the refugees, it does not own any housing or property. It relies on either rental contracts with legal entities or housing gained through public procurement. The private providers are usually hotels, resorts and retirement houses. During 2015 additional bids of procurement were launched in order to meet the increased need of accommodation. Despite these efforts, in November 2015 the Migration Board publicly announced that it had no more housing to welcome further refugees and asked for a political intervention in order to reduce the inflow of people.[12]

The main goal of the Swedish Migration Board is to have an equal distribution of the number of refugees per inhabitant across Sweden. However, it is hard to attain exactly the same ratio across all these localities. Indeed, one criterion in allocation used by the

[11]Even though the main analysis is based on the number of asylum seekers (people still waiting for the decision on their asylum), throughout the paper I am going to use the terms "refugee" and "asylum seeker" interchangeably.

[12]http://www.migrationsverket.se/Om-Migrationsverket/Nyhetsarkiv/Nyhetsarkiv-2015/2015-11-19-Migrationsverket-kan-inte-langre-erbjuda-boende-till-alla-asylsokande.html

Migration Board is the amount of resources that the agency has in some municipalities. In particular, the presence of an office as well as its staffing plays a key role in the determination of the number of refugees allocated in a municipality. Moreover, the Migration Board takes into account whether there are many refugees who are arranging for their own accommodation in a specific municipality. In order to reach the goal of uniform distribution, fewer refugees needing accommodation from the Migration Board are sent to these places. However, these criteria did not apply during the second half of 2015 when the unexpected inflow of refugees arrived to Sweden and the Migration Board had to allocate individuals even to municipalities that had no previous connections with the agency.

3 Data and empirical design

In this section I describe the data. I also outline my empirical strategy to estimate the impact of refugee-presence in a municipality on the click rate on refugees articles.

3.1 Data and descriptives

Click data: I got access to property data on the number of page views (clicks) on refugee articles from the Swedish newspaper Dagens Nyheter. First, I selected all articles containing in the headline and/or body content one of the keywords: refugees (flyktingar), asylum seekers (asylsökande) and immigrants (invandrare). These articles were published in the online version of the newspaper from February 1st 2015 to February 29th 2016. The total sample is 2743 articles. I combined data for articles that were published with the same headline but in different dates or subsections. Moreover, I eliminated articles with no click data reducing the sample to 2636. Among all these articles, I selected those that were published in the online sections of the newspaper "News" (Nyheter), "Economy" (Ekonomi) and "Stockholm" (Sthlm) to avoid any bias of opinion pieces and other topical sections. The sample for the main analysis is then composed of 1731 articles. For each article I have the total number of page views (clicks) as well as the access location for

each click at the municipality level. Additional information on the date of publication and section of the newspaper are also included in the analysis. Moreover, I have data on the overall traffic on the online website for each month and municipality. This information is used to control for seasonality effect and for variation in the usage of the online version of the newspaper across Sweden.

On average a refugee article is clicked 52 times, even though there is some variation during 2015, as shown in Figure 3. Both the absolute value of average clicks and the ratio over the total online traffic are presented for each month. There are two sharp declines in the clicking behavior: the first in June 2015 could be explained by some seasonality effect (possibly, start of summer holidays in Sweden). The second occurs in October 2015 and lasts until January 2016, which corresponds exactly to the period when the refugee crisis hit Sweden. To better understand these two drops, I compare the average number of clicks divided by the total online traffic to the total traffic itself, as shown in Figure 4. The first decline in June can indeed be explained by some seasonality effect.[13] However, the decrease in the average clicks per refugee article does not correspond to a decrease in the use of the website. The volatility in the click data is also present in the monthly changes of average clicks and of the ratio over total traffic as shown in Online Appendix Figure A.2. It is important to notice that the reading behavior can also be affected by the number of articles published in each month. Since the refugee crisis was a salient event in Sweden, from September to November 2015 more articles were published about the refugees, as shown in Figure 5. The decrease in the number of clicks may be driven by an overcrowding effect of news. To address this issue, I identify a smaller set of articles through which the effect of the presence of refugees could be stronger. Moreover, I discuss some evidence and explanations that may exclude this channel.

[Figure 3 here]

[Figure 4 here]

[13]Other potential seasonality effects are not present in clicking patterns for articles about other topics, such as accidents, as shown in Online Appendix Figure A.1.

[Figure 5 here]

Through text analysis methods, I classified the 1731 articles in two broad categories based on their headlines. Indeed, the choice to click on the article (and consequently to read it) is based on the information hinted by the headline. Therefore, it is sufficient to analyze the words and messages conveyed by the headline. I first selected a random sample of 577 headlines (33% of the total sample) and classified them manually in two categories. One group is composed of articles that share the refugees perspective in terms of their living conditions, their escape towards Europe and other elements that may raise feelings of compassion. The other group collects all other articles. It is important to stress that these other articles still talk about the refugee crisis, but they convey other information/facts. Then, I used the training sample to create and train a Support Vector Machine (SVM) model. Based on the SVM classifiers, I classified all the remaining articles. More details are provided in the Online Appendix. Overall, I identified 534 articles that may raise empathy towards the refugees. An example of such articles is "Desperate refugees waiting at the platform". The distribution over time of these empathic articles follows the same pattern of other refugee articles, with a sharp increase in the supply of news between September and November 2015 (see Online Appendix Figure A.3). Figure 6 shows the distribution of the national average number of clicks for these two categories across time. On average, the average number of clicks on the "refugee perspective" articles relative to the total traffic is 26% lower than for the other articles. Moreover, the decline between October 2015 and January 2016 is more pronounced for articles that highlight the bad conditions of the asylum seekers.

[Figure 6 here]

Refugees data: For each of the 290 Swedish municipalities and for each month from January 2015 to February 2016 I obtain the number of refugees registered at the Migration Board and waiting for their asylum application from the Swedish Migration Board.

This number is further decomposed in those living in the housing organized by the Migration Board, those providing for their own accommodation (usually, family and friends) and a third category, which includes unaccompanied children or hospitalized refugees. Moreover, for each municipality and each month I have the number of housing administrated by the Migration Board. In particular, this data is the actual number of beds available to host the asylum seekers. As mentioned in Section 2, the Migration Board can continuously acquire new apartments/buildings through rounds of public procurement. Thus, the housing availability in each municipality mainly depends on the offer by private companies/entities present in the area. Figure 7 shows the number of refugees over inhabitants in each Swedish municipality in February, May, September 2015 and February 2016. Darker colors refer to a larger ratio of refugees over population. As Figure 7 illustrates, earlier in 2015 the distribution of refugees was clustered around specific areas. However, after the beginning of the crisis in August 2015, the number of refugees started to increase dramatically in almost all municipalities. Though, as shown in Figure 8, there is some variation across municipalities in the percentage increase in the number of asylum seekers from February 2015 to February 2016. This variation is going to be crucial for the identification strategy.

[Figure 7 here]

[Figure 8 here]

The sharp increase in the number of asylum seekers from August 2015 until December 2015 is shown in Figure 9. It is also important to notice that the rise in the total number of asylum seekers is driven by those who live in the accommodation organized by the Migration Board (*Asylum seekers - Migration housing*) (see Figures 10 and 11). Indeed, the impact on public finances and local communities is likely to be larger for refugees living in public places. Thus, the clicking behavior is more likely to be affected if the raise in the number of refugees is due to the increase in this category of asylum seekers.

[Figure 9 here]

[Figure 10 here]

[Figure 11 here]

Table 1 reports descriptive statistics for the data used in the main analysis. Since the data on the number of refugees are by municipality and month, I aggregate the click data by taking the average of clicks on refugee articles in each municipality and month. I do not have data for 36 (out of 290) municipalities since these areas do not have any traffic on the newspaper website. I discuss this issue later. The total sample consists of 3302 observations: 254 municipalities for 13 months. For the main analysis I drop 7 observations which are outliers (in the 99 percentile of the distribution) for the number of clicks.[14] In terms of the classified articles, the average number of clicks on news that take the refugee perspective is higher than for the mean of all other articles. However, when weighting by the total online traffic of DN, the click rate on empathic articles is lower. Finally, on average the number of refugees is 1.8% of the municipality population with more than half of the asylum seekers living in accommodation organized by the Migration Board.

[Table 1 here]

Administrative data: I collected administrative data for each of the 290 Swedish municipalities from Statistics Sweden. In particular, I gathered data on population, population density, land area and average age to control for demographic characteristics. Moreover, the rate of foreign population and the percentage of people holding a post secondary

[14]There are 7 observations in the number of clicks that are extremely high and 6 of them are in February 2015. Since until that date Dagens Nyheter was using a different algorithm to collect the click data, the high number in clicks may be due to the transition to the new method and consequently, the data may not be accurate. Nonetheless, when including these 7 observations, the results do not change.

degree are used to analyze the extent of existing immigration and the education level. Financial measures such as the net profit of the municipality at the end of 2015, the median consumption income and the employment rate are included in the analysis. Moreover, using data from the last Swedish political election in November 2014, I collected the share of votes and seats in the municipality council for the right-wing political party Sweden Democrats. This party advocates for a strong anti-immigration policy, therefore the presence of voters and politicians related to this party may have influenced the acceptance of the refugees in the municipality. With reference to this aspect, I also use data on public opinion towards the refugees. From the SOM survey (University of Gothenburg, 2016), I created an index for positive (3) and negative (1) attitude towards the asylum seekers using the following question: "Do you think is it a good proposal to accept fewer refugees?". Summary statistics are reported in Table 2.

[Table 2 here]

I use these data to analyze whether there are differences across municipalities that may influence the allocation of refugees. For example, as mentioned above, not all municipalities host a Migration Board office in their territory. As expected, areas with an office hosted more refugees both in absolute and relative terms (see Online Appendix Table A.1). However, the increase in the number of asylum seekers occurred in both type of municipalities after September 2015 and the mean difference in the number of refugees across the two groups remained constant over time (see Figure 12). This outcome provides some support in favor of the exogenous allocation of refugees across Sweden during the months of crisis. In addition, in Section 3.3 I analyze whether municipalities characteristics may facilitate the allocation of refugees in specific areas.

[Figure 12 here]

Another issue is related to the coverage of the Swedish newspaper across the whole Sweden. Even though Dagens Nyheter is a national newspaper, it is considered to be

a "Stockholm paper". On the other hand, it is the biggest Swedish newspaper which discusses news at a national level and which is read across all Sweden. Indeed, only 36 out of 290 municipalities do not have any click data in my sample (see Online Appendix Figure A.4 for a map of these municipalities). Out of these locations, 34 did not have any traffic on the online website during the whole period of analysis. One municipality (Bjurholm) had a few clicks only in January 2015. One municipality (Mullsjö) had normal traffic across the year but no clicks on any of the selected articles in my sample. Since it is only one location, the effect should not bias my results. The main concern would be if these municipalities, where Dagens Nyheter is not read, experienced a larger inflow of refugees compared to other parts of Sweden. However, the 254 municipalities for which I have click data welcomed 94% of all refugees arriving to Sweden both before and after the crisis. Therefore, the sample of municipalities used for the analysis is representative of the Swedish situation during 2015. More details about the 36 municipalities without click data are reported in the Online Appendix.

3.2 Identification strategy

In order to identify a causal effect of the large inflow of refugees in Sweden on the click rate on refugee articles, I start by estimating the panel regression

$$\text{Clicks}_{i,t} = \alpha_0 + \alpha_1 \text{Refugees}_{i,t} + \mu_i + \delta_t + \epsilon_{i,t}, \tag{1}$$

where $Clicks_{i,t} = avgClicks_{it}/totClicks_{it}$ is a measure for the clicking behavior on all 1731 articles related to the refugees. In particular, for refugee articles published in month t I take the average number of clicks in municipality i ($avgClicks_{i,t}$) and divide it by the total online traffic (total number of page views) of the website of the newspaper in municipality i and month t ($totClicks_{i,t}$). The latter controls for seasonality effects, as well as for variation in the usage of the online version of the newspaper across Sweden. $Refugees_{i,t}$ is the number of refugees registered in the Migration Board agency in municipality i in

month t. I divide this stock by the population of municipality i. Finally, unobservable determinants of the click rate which are fixed at the municipality level are captured by municipality indicators (μ_i), and common time shocks are absorbed by the month indicators (δ_t). Throughout the article, standard errors are clustered at the municipality level and robust to heteroskedasticity.

The hypothesis is that the effect of the number of refugees on clicking behavior should be negative, i.e. $\alpha_1 < 0$, implying that people living in a municipality where the number of refugees increased substantially read fewer articles related to the asylum seekers. Since there could be unobservables that may correlate over time, I also run the same specification of Equation (1) in first difference using as dependent variable the change in the normalized number of clicks from month $t-1$ to month t ($\Delta Clicks_{i,t}$) and the change in the ratio of refugees over population from month $t-1$ to month t ($\Delta Refugees_{i,t}$) as explanatory variable. This specification allows to estimate whether monthly variations have an effect compared to changes to the average trend estimated with the stock variables. Moreover, I also augment Equation (1) with lags for the measure of refugees in order to evaluate whether the inflow of asylum seekers may affect the reading patterns for the following months.

As the main part of the analysis, I estimate whether the effect of the inflow of refugees on the reading behavior differs across types of articles. This allows to isolate a precise mechanism through which a larger number of refugees leads to a change in information acquisition.[15] To this end, I classify the articles in order to identify those that take the perspective of the refugees and that may encourage helping them. The conjecture is that there should be a difference between the clicking behavior of articles generally related to the refugees and those that instead highlight their poor conditions and challenges. In particular, the increase in the number of refugees should have a bigger (negative) effect on the articles that may raise feelings of compassion towards the refugees. The decrease in the clicks of these articles compared to other refugees articles should be larger. Hence,

[15] Alternative mechanisms are discussed in Section 6.

I estimate

$$\text{Clicks}_{i,j,t} = \beta_0 + \beta_1 \text{Refugees}_{i,t} + \beta_2 \text{Empathy}_j + \beta_3 \text{Refugees}_{i,t} \times \text{Empathy}_j + \mu_i + \delta_t + \upsilon_{i,j,t}, \quad (2)$$

where $Clicks_{i,j,t}$ is the normalized measured of clicks for articles of type j in municipality i. $Refugees_{i,t}$ is the number of refugees per inhabitants, and $Empathy_j$ is an indicator variable for the type j of the article. In particular, $Empathy_j$ takes value 1 if the article talks about the living conditions of the refugees, their escape towards Europe and other elements that may raise feelings of compassion, and 0 otherwise. The differential effect is given by the parameter β_3 of the interaction term between the relative number of refugees and the type of article. The hypothesis is that this effect should be negative for articles that take the refugees' perspective compared to other refugee articles, i.e., $\beta_3 < 0$. Finally, I include municipality μ_i and month δ_t fixed effects.

3.3 Assessing the identification strategy

In this subsection I discuss potential threats to the identification strategy. First, I analyze the parallel trends assumption of the fixed effects estimation. In particular, I estimate Equation (1) adding leads and lags of the explanatory variable to exclude the presence of any pre-trend. As shown in Figure 13, the effect of refugees on the clicks in month t is negative in month t, but it is zero for later months. This outcome suggests that the negative impact of an increase in asylum seekers on the click rate of refugee articles did not have any pre-trend.

[Figure 13 here]

The key threat to the identification strategy is that there could be municipality characteristics that may influence the allocation of refugees and at the same time correlate with click patterns. All unobservables which are fixed at the municipal level are captured by the municipality indicators. However, some characteristics might be related to different underlaying trends in the click rate across municipalities. To ensure that there

is no correlation between municipalities characteristics and potential trends in the click rate, I regress municipality features-specific time trends on the click rate. Figure 14 plots the estimated coefficients of the municipality characteristics for each month. The results show that any underlying trend in the clicks did not correlate with the baseline controls, as the effect is very close to zero.

[Figure 14 here]

To further challenge the identification strategy, I investigate whether some municipality features may have facilitated the allocation of refugees in specific areas. Before turning to a more rigorous regression analysis, I first graphically examine that the distribution of refugees was almost uniform across the country. Figure 7 shows how the number of refugees per capita was clustered in certain areas until August 2015, but then substantially increased in almost all municipalities. More specifically, the amount of municipalities with a number of refugees per capita more than the national average decreased after September 2015, suggesting a more uniform distribution across the country. Moreover, as shown in Figure 12, the relative increase in the number of refugees per capita after September 2015 was the same across municipalities with and without a Migration Board office. If refugees were only sent to places where the Migration Board had already logistics, then the increase would have been larger in places with an office.

Secondly, I examine whether baseline municipality characteristics described in Section 3.1 could predict the number of refugees per capita assigned to a municipality by the Migration Board. First, I regress the municipality controls on the relative and absolute number of asylum seekers, respectively. As reported in Table 3, the F-test of the model is not rejected, suggesting that these municipality characteristics jointly have an impact on the number of refugees allocated. However, the effect is negligible (coefficient 0.00) for all variables and most of OLS coefficients are not statistically significant.

[Table 3 here]

As mentioned in Section 2, after a positive response to the decision on the asylum application, the refugee is under the responsibility of the municipality. Therefore, it could be that the Migration Board allocates asylum seekers before the decision to municipalities that are more prone to accept refugees. Thus, I check the correlation between the number of refugees, which are under the responsibility of municipalities after the decision on their asylum application, and the number of asylum seekers, which are allocated by the Migration Board across municipalities before the decision. If the pre-decision assignment was exogenous, the number of asylum seekers allocated by the Migration Board to a municipality should be poorly correlated with the number of refugees with granted asylum already living in the same municipality in 2014 (or residing in that municipality after the asylum decision in 2016). Indeed, Online Appendix Figure A.5 shows that there is a small positive correlation between asylum seekers welcomed in a municipality in October 2015 and refugees with granted asylum living in the same municipality in December 2014, December 2015 and October 2016. Moreover, the Pearson's correlation coefficient between the number of refugees waiting for their asylum allocated to a municipality and living in a Migration Board housing and the total number of refugees under the municipality responsibility in December 2014 is around 30% for each month in 2015. It is around 37% for the number of refugees with granted asylum in December 2015 and around 28% for the number of refugees with granted asylum in October 2016 (see Online Appendix Table A.2 for details). Since these correlations are low and constant during the whole 2015, it suggests that the decision of the Migration Board to allocate asylum seekers in a specific municipality was not highly affected by the pre-existing number of refugees present in that municipality and did not influence the allocation after the decision in 2016. In addition, similar patterns for this low correlation can be found in previous years 2013 and 2014, as shown in Online Appendix Figure A.6.

Overall, these findings are in line with the sudden increase in the number of refugees who arrived in the second half of 2015. The inflow was so unexpected that the Migration Board did not have time to evaluate municipalities characteristics, but simply allocated

refugees across all Sweden.[16] This finding is also consistent with evidence that local demographics have little influence on attitudes towards immigrants (Hainmueller and Hopkins, 2014).

4 Empirical analysis

The first step in the analysis is to assess the relationship between the inflow of refugees and the clicking behavior across Swedish municipalities. Table 4 reports the results from the estimation of Equation (1). Overall, one standard deviation increase in the number of refugees per capita leads to a 0.18 standard deviation decrease in the predicted average clicks relatively to the total traffic. In Panel A, I use the measures of clicks and refugees at the same time t. From columns (1) to (4) I gradually add municipality and month fixed effects. The impact of the inflow of refugees on the clicking behavior is negative when introducing municipality fixed effects, implying that the results are driven by within rather than between variation. Therefore, as also suggested by Figure 8, the main driver of the results is the difference across municipalities in the change over time of the number of refugees. Column (5) controls for a linear time trend instead of month fixed effects to capture any pattern in the clicking behavior, but the coefficient of interest is unaffected. Since the variables are in levels, the results may depend on the functional form adopted. However, column (6) shows the results using the logarithmic measures for both dependent and independent variables and the coefficient is very similar to the original specification. Finally, in terms of intensity of the treatment, I examine the effect of refugees per capita on the click rate through a quantile regression. As shown in Figure 15, the negative effect of refugees per capita on the click rate is mainly driven by the change from the 25 to the 50 percentile of the refugees per capita variable distribution. Indeed, after the 50 percentile the impact is quite constant.[17] This result suggests that most of the effect is given by

[16]For a more detailed discussion, see Online Appendix A.1.3.

[17]The effect is also stable between the 5th and the 25th percentile. For example, the coefficient on refugees per capita is about -0.19 for the 15th percentile, as reported in

municipalities moving from very few to some refugees, rather than by municipalities that had already a substantial number of asylum seekers.

[Table 4 here]

[Figure 15 here]

In order to examine the effect over time, I use lagged measures for the number of refugees per capita. The results are shown in Panel B of Table 4. The effect is negative and larger for up to 4 lags while it is positive for a 5 and 6-months lag. These results are not unexpected. Indeed, the inflow of refugees at a certain point in time can definitely influence the reading behavior for a few months ahead, but the effect may decrease over time as the reaction to news tends to be more instantaneous. Finally, Online Appendix Table A.3 shows similar results in first difference, suggesting that the error terms $\epsilon_{i,t}$ are uncorrelated across months. Columns (3) and (4) use 3 and 6 months differences. The magnitude of the effect is stable across month specifications, consistently with the results in Table 4.

Having established a negative relationship between the inflow of refugees and the reading behavior, I analyze the mechanism through which people living in municipalities with a larger relative number of refugees have decreased their reading behavior on articles related to refugees. In particular, I estimate whether there is a different pattern for articles that take the perspective of the refugees and highlight their poor conditions. The results from the estimation of Equation (2) are reported in Table 5. The sample size is twice as big since there are two observations per type of article for the click rate in each municipality and each month.[18] The coefficient on the variable $Refugees_t$ shows a negative and statistically significant impact on the number of normalized clicks, as expected from previous analyses. If the article describes the poor condition of the asylum seekers $Empathy_j$,

column (4) of Table 14.

[18]Similarly to the previous analyses, I drop 14 observations which are outliers for the click data (in 99 percentile of the distribution) and are related to February 2015.

there is also a decrease in the clicking behavior. Most importantly, the coefficient on the interaction term $Refugees_t \times Empathy_j$ shows that the number of refugees decreases even more the clicks for articles that take the refugees perspective compared to the other articles. In particular, the negative effect of an increase in the relative number of asylum seekers is 36% larger for emphatic articles compared to the others. Indeed, one standard deviation increase in the number of refugees per capita yields to a 0.16 standard deviation decrease in the click rate for articles emphasizing empathy compared to a 0.12 standard deviation decrease in the click rate for all other refugee articles. This result provides support in favor of the hypothesis that, when there is a larger opportunity to help the refugees, people tend to avoid to a larger extent reading news that may encourage moral behavior.

[Table 5 here]

In order to check that the results do not depend on the classification of the articles, I run two placebo tests using two different classifications for the articles. First, I restrict the sample to those articles that were published in the "Sweden" and "World" subsections of the newspaper and classify them in these two categories. In particular, $Sweden_j$ takes value 1 if the article was published in the "Sweden" section and zero if the section is "World". The idea is that people may be more affected by articles related to the refugee situation in their home country relative to other places. If this was the case, the negative impact of more refugees should be larger for articles related to Sweden compared to the other articles. The results in column (2) of Table 5 show that the coefficient on the interaction term between number of refugees and articles about Sweden is positive and statistically insignificant. Moreover, the effect is almost halved compared to articles that emphasize empathy for the refugees. The other test identifies whether the decrease in clicks may be due to a general avoidance of all articles talking about refugees. If there is an overcrowding of news on the same topic, people may read fewer articles on that subject. Therefore, I classify the articles between those that have the word "refugee" or "asylum seeker" in the headline and all the others. In this case, $Word\ "refugee"_j$ takes value 1 if

the headline contains one of the two key words and zero otherwise. Thus, I investigate whether the overall negative effect of refugees is driven by articles directly mentioning the refugee topic. However, the results in column (3) of Table 5 show that there is indeed a decrease in the number of clicks for articles with the specific words, but the negative effect is not bigger for these news compared to the others. This provides further support that the negative impact of the refugees on the clicking behavior hinges upon the particular classification of articles between those that take the refugees' perspective and other refugee articles.

4.1 Additional results

Does the location mentioned in the news matter? Does the refugees' type of accommodation give different results? Does the political orientation of the municipality affect the result? In this subsection I discuss additional findings that provide further support to the causal impact of refugee-presence on the click rate of refugee articles.

Local news may have an additional impact for the municipalities involved. Thus, I restrict the sample to 45 municipalities that are mentioned in the headlines of the articles and focus only on the months when these articles were published. Results from a similar specification as Equation (1) are reported in Table 6. In columns (1) and (2) I restrict the analysis to local news. The effect of refugees per capita on the click rate of local news is negative and significant. However, when including month fixed effects, the impact becomes positive and loses statistical significance. This outcome highlights the greater importance of the within rather than between variation in the effect discussed above. Columns (3) and (4) display the results for other articles that were published in the same months as the local news. The coefficient on refugees per capita is negative but not statistically significant. This result suggests that the presence of asylum seekers in a municipality has a definite negative effect on the clicking of local news, while it is less clear for other types of articles.

[Table 6 here]

Another difference in the clicking behavior may be due to the country mentioned in the article. The idea is that news about neighboring countries (Norway, Denmark and Finland) should affect the reading pattern to a lesser extent since people are not directly affected. Therefore, information avoidance should be larger for articles related to the Swedish context where people could have instead a direct contact with the refugees. Thus, I restrict the sample to articles that are concerned with Sweden and its neighboring countries. Table 7 reports the results of estimation of Equation (1). I restrict the analysis to news related to Sweden in column (1) and to news about neighboring countries in column (2). The impact of the relative number of refugees on the click rate is negative and significant for Swedish news, while it is positive and not statistically significant for articles related to Norway, Denmark and Finland. Therefore, these results provide further support that, when the information about the refugee situation could encourage a direct action from people, there is more avoidance of such information.

[Table 7 here]

As mentioned in Section 3.1, not all refugees live in housing organized by the Migration Board while waiting for their residence permit. Therefore, I examine whether the number of asylum seekers could have different effects to the clicking behavior according to the type of accommodation the refugees live in. In particular, I investigate whether the decrease could be driven by refugees living in accommodation organized by the Migration Board versus the asylum seekers who joined family and friends. I run the same estimation of Equations (1) and (2) using three different measures for the number of refugees according to the type of accommodation they lived during the waiting time. The results are shown in Table 8. The negative effect on the clicking behavior is stronger for asylum seekers living in the Migration Board accommodation and for unaccompanied children or hospitalized persons. An explanation for this result could be that there is more awareness for refugees living in public housing and therefore, an increase in their number may have a bigger effect than a change in the number of refugees who live in

private homes. Moreover, the bigger effect for unaccompanied children and hospitalized persons provides further support in favor of the tested hypothesis on information avoidance. Because these refugees usually need more help, a bigger presence in the municipality implies a larger opportunity to assist them and therefore people may avoid getting the information about them in order not to feel compelled to help. A similar explanation applies to the results using the classification of articles, shown in columns (4)-(6). The effect driven by articles that highlight the poor conditions of the refugees is stronger for a higher number of asylum seekers residing in public places and for children or sick people.

[Table 8 here]

Finally, it is interesting to analyze whether there is a differential effect of refugees on clicks between municipalities with different political orientation.[19] In particular, I look at the vote share for the right-wing party Sweden Democrats (SD) that advocates for strong anti-immigration policies. I run the same estimation of Equations (1) and (2), adding an interaction term between $Refugees_{it}$ and an indicator variable SD_i. The latter takes value 1 if the municipality had a vote share for Sweden Democrats party larger than the national average at the last municipality elections in 2014 and zero otherwise. The results are reported in Table 9. The negative effect of refugees per capita on the click rate is larger for municipalities with a lower vote share for the right-wing party. Moreover, the

[19]I also control for heterogeneous effects across other observable municipality characteristics. I estimate the main specification of Equation (1) and interact the number of refugees per capita with each of the (standardized) municipality controls separately. The results provided in Online Appendix Table A.4 show that there are no heterogeneous effects of the impact of refugee-presence on the click rate driven by municipality features. The only significant differential effect is with the percentage of foreign population: the decline is clicks is smaller for municipalities with more foreigners. However, the overall effect of the number of refugees per capita conditional on the municipality controls is qualitatively and quantitatively similar to the main results.

decline in clicks for empathic articles is 19% larger for such municipalities compared to those with a higher vote share. These findings provide corroborating evidence that people who could potentially welcome more refugees in their municipality avoid information that may encourage such behavior.

[Table 9 here]

5 Robustness checks

In this section I run several robustness checks to validate the results.

5.1 Remaining threats to identification

To provide further support to the absence of pre-trends, I run four additional tests. To control for any time trend specific to municipalities, I add municipality-specific quarter trends. In addition, I augment the same specification of Equation (1) with county-specific time trends instead of month fixed effects.[20] The estimated effects shown in columns (1) and (2) of Table 10 are qualitatively and quantitatively similar to the main results, suggesting that the inflow of refugees did not correlate with other trends in the click patterns at the municipality and county level. Moreover, I interact the explanatory variable of the relative number of refugees with time dummies for each month. The results are shown in column (3) of Table 10. The impact of refugee-presence on clicking patterns becomes negative and statistically significant only after September 2015. The only exception is given by June 2015, whose results are driven by the big drop in the average click per refugee article related to a seasonality effect in this month. Finally, I run a placebo test where I estimate the effect of refugees per capita from September 2015 to February 2016 on the click rate from March 2015 to August 2015. As shown in column (4) of Table 10 the effect is positive and not statistically significant, implying that the negative impact on the clicking behavior is key to the crisis period as discussed further in Section 6.

[20]The 290 Swedish municipalities are divided in 21 counties.

[Table 10 here]

In addition, I investigate a potential concern of measurement error in the estimation of Equation (1). In particular, the number of refugees present in each municipality in each month may not be precise due to the unexpected arrival of a large amount of people paired with limited resources. As a scaling exercise of the fixed effects estimation, I instrument the number of refugees by the total stock of housing available to host them in each municipality and each month. This accommodation can vary over time and across municipalities since the Migration Board can obtain several rental contracts from different geographical areas and can increase or decrease the amount of housing according to the demand from the inflow of refugees. Since the asylum seekers have the right to accommodation while waiting for their application to be processed, the correlation between housing available in a municipality and number of refugees hosted in this area is likely to be quite high. Therefore, I start by estimating the first stage relationship

$$\text{Refugees}_{i,t} = \gamma_0 + \gamma_1 \text{Housing}_{i,t} + \mu_i + \delta_t + \xi_{i,t}, \tag{3}$$

where $Refugees_{i,t}$ is defined above and $Housing_{it}$ is the number of beds available in municipality i and month t divided by the population in municipality i. I include municipality μ_i and month fixed effects δ_t. I expect γ_1 to be positive. Then, I use the predicted values for $Refugees_{i,t}$ from Equation (3) to estimate their impact on the number of normalized clicks,

$$\text{Clicks}_{i,t} = \theta_0 + \theta_1 \hat{\text{Refugees}}_{i,t} + \mu_i + \delta_t + \eta_{i,t}. \tag{4}$$

As above I expect θ_1 to be negative. The exclusion restriction $corr(\text{Housing}, \eta_{i,t})=0$ relies on the assumption that housing affects the clicking behavior only through the relative number of refugees. As mentioned in Section 2, the Migration Board acquires the accommodation only through rental contracts and public procurement from hotels/resorts and other private entities. Therefore, the availability of housing for the refugees in a municipality mainly depends on the business offer present in the area and it is not an outcome of the general public opinion. In addition, municipality characteristics do not

seem to correlate with the amount of housing (see Table 3 and Online Appendix Table A.5). Moreover, the financial incentives of private companies are unlikely to be directly connected with the average clicking behavior in a municipality. Thus, the effect that more housing could have on information acquisition about refugees is likely to occur only through the actual number of individuals that are hosted in these accommodations.

Results from the first stage estimation of Equation (3) are reported in Panel B of Table 11. The correlation between the amount of accommodation and the number of refugees is positive and statistically significant. The strength of the instrument is supported by the value of the F-statistic which is much greater than the rule of thumb of 10 across all specifications. Then, using the predicted values for the relative number of asylum seekers, I estimate the impact of refugees on the clicks. The results are reported in Panel A of Table 11. The coefficient of interest is qualitatively and quantitatively similar to the OLS results, suggesting that the OLS estimates are still consistent. Results are robust when I add a linear time trend, instead of month indicators, to control for any clicking pattern.

[Table 11 here]

Similar findings are found for the empathic articles by instrumenting the number of refugees with the amount of housing available to host them, as reported in Online Appendix Table A.6. With 2SLS estimates, the marginal effect of the presence of refugees on the click rate is 38% larger for empathic articles compared to other refugee news.

5.2 Validation checks

One challenge mentioned in Section 3.1 is that the newspaper Dagens Nyheter is often referred to be a "Stockholm paper".[21] Indeed, the overall traffic and average number of clicks in my sample are much higher for Stockholm and this could inflate the results.

[21]Dagens Nyheter is a daily newspaper published in Stockholm. It has about 70% penetration of the print version and 40% penetration of the digital versions in Stockholm municipality compared to the other geographical areas. Source: Orvesto Internet February 2016.

Therefore, I replicate the main analyses of Equations (1) and (2) excluding the Swedish capital. The results shown in column (1) of Tables 12 and 13 are qualitatively and quantitatively consistent. On the other side of the spectrum, there are municipalities where Dagens Nyheter is not the main newspaper. In particular, 2 municipalities (Ale and Heby) do not have online traffic on the website of DN for all the months in my analysis. A low average number of page views for the selected articles could be related to a general low usage of the online version of the newspaper. Thus, I exclude these municipalities, but again the results shown in column (2) of Tables 12 and 13 are statistically indistinguishable. A low usage of the website could also be driven by substitution to other newspapers. Indeed, there are 72 municipalities belonging to the counties Skåne and Västra Götaland where there is a relatively strong penetration of local newspapers. The decrease in the number of clicks in these areas may be driven by a substitution effect to other media outlets. However, when I exclude these municipalities from the analysis, the effect of refugee-presence on the click rate increases, as shown in column (3) of Tables 12 and 13. Different clicking patterns may also arise in municipalities that host large airports, since the clicks on the articles may be inflated by people temporarily transiting from that place. Yet, the effect of refugees per capita on clicks is unaffected when excluding the 10 municipalities with high-traffic airports, as shown in column (4) of Tables 12 and 13. These findings suggest that the negative effect is not driven by variation in the access or usage of Dagens Nyheter.

[Table 12 here]

[Table 13 here]

Another issue related to the newspaper is connected to the display of articles on the online platform. In particular, from November 2015 the format is such that once an article is clicked, 8 to 10 related articles are automatically suggested after the end of the first article. Fortunately, the algorithm used by the newspaper is such that it accounts for a new page view once a new article is started to be scrolled. Therefore, the number of clicks is reliable. However, it could be easy to accidentally "read" the first suggested

article, given that it automatically starts after the first article. For this reason, I restrict the analysis to data before November 2015 and the results are shown in column (5) of Tables 12 and 13. The magnitude of the effect increases for the general relation between clicks and refugees and for the interaction with empathic articles. One explanation behind these results is linked to the timing of the refugees' inflow to Sweden. The biggest change in the relative number of asylum seekers occurred from August and therefore, when it is likely that the effect on the clicking behavior is stronger for the first months after the crisis (September 2015 to November 2015) than later (December 2015 to February 2016).

Being a relatively recent web analytic service, the algorithm used by the newspaper to collect the click data is not without caveats. One main concern for my analysis is that sometimes the software is not able to identify the IP address and consequently, the precise location of the online access is unknown. The algorithm still marks the page view, but the location is missing. Fortunately, in my sample the clicks on each article for which I do not have the location are, on average, only 3.5% of the total clicks for the same article.[22] Moreover, the average number of clicks on the same article from unknown locations is much lower (and statistically different) from the average clicks from recognized municipalities. Therefore, I consider the data available to be representative of the actual reading patterns across Sweden.

As mentioned in Section 2, after refugees are granted the asylum status, the municipalities can have control on their allocation in the territory. In particular, each year the municipalities stipulate contract agreements with the Migration Board regarding the number of refugees that can be accepted in the locality. Most importantly, due to the considerable scope of local self-government in Sweden, some municipalities can refuse to accept refugees. Even though my analysis focuses on the period when the Migration Board has full control over the refugee quota, these municipalities may have different characteristics that could bias my results. I identified 24 municipalities that between 2012 and 2015 did not have an agreement with the Migration Board (The Swedish Migration Board,

[22]Only 5 articles have more than 10% of their clicks from unknown location and the maximum is 16%.

2007-2012, 2014-2015a). Out of these localities, I do not have click data for 6 of them and they are automatically excluded from my sample. Thus, I exclude the remaining 18 municipalities and replicate the main analyses. The results shown in column (6) of Tables 12 and 13 are qualitatively consistent. The magnitude is larger for both the general effect and for the interaction with the empathic articles. These results provide more support for the instantaneous effect of the inflow of refugees, rather than anti-immigration opinion and sentiment. If the latter was the cause of information avoidance, the effect should be smaller when excluding these municipalities.

To further control for heterogeneous effects in the presence of refugees, I also exclude municipalities that are in the top 5% and bottom 5% distribution of the variables refugees per capita (columns (7) and (8) in Table 12). The impact of asylum seekers on the click rate is a bit smaller when excluding municipalities that received a lot of refugees, suggesting that the decline in clicks is bigger for places that were mostly affected by the crisis. In addition, I control for the presence of refugees with granted asylum that are already residing in the municipality in December 2014. However, the results reported in column (9) of Table 12 suggest that there is no heterogeneous effect of asylum seekers on click conditioning on the number of already present refugees.

In Tables 14 and 15 I assess the robustness of the results to changes in the functional form of the variables and/or estimation. One potential concern about using the average number of clicks is that an increasing number of articles could decrease the count of clicks. However, Online Appendix Figure A.7 shows that the total number of clicks on refugee articles increases over the period of my analysis, in parallel to the increase in the number of articles. Moreover, I run a similar estimation of Equations (1) and (2), using as dependent variable the *total* number of clicks per article (divided by the total traffic) instead of the *average*. The results shown in columns (1) of Tables 14 and 15 confirm the negative and statistical significance of the original estimates.

Next, to control for any autocorrelation in the click rate and for potential correlations of the measure of refugees per capita with past realizations of the error term, I estimate a

dynamic panel estimator (Arellano-Bond).[23] Indeed, I can take advantage of the smaller number of time observations compared to the number of municipalities. In particular, I use month fixed effects as the only exogenous instrumenting variables and up to 2 lags of the click rate and the number of refugees as model-generated instruments. The results are shown in column (2) of Table 14 and are qualitatively consistent with the main findings.

Finally, I check whether potential sources of heteroskedasticity in the click rate could bias the results. In particular, I use two tests. One consists in running the specification of Equations (1) and (2) and estimating bootstrapped standard errors with 1000 replications. The statistical significance of the coefficients of interest remains valid as reported in column (3) of Table 14 and column (2) of Table 15. In addition, I run a weighted least squares estimation of Equations (1) and (2) using the square root of population as weight. Indeed, population size is likely to be inversely proportional to the variance of the click rate. However, results shown in column (4) of Table 14 and column (3) of Table 15 confirm the consistency of the original fixed effects estimates.

[Table 14 here]

[Table 15 here]

5.3 Placebo test

The refugee crisis was one of the main topics in the Swedish news during 2015. However, there were other main events that raised equal attention. Therefore, as a placebo test, I

[23] I opt for estimation of a difference GMM, rather than a system GMM, since the first differences of the lagged variables of the click rate and the relative number of refugees are likely to be correlated with municipality fixed effects. Moreover, since there are gaps in the panel due to the 7 outliers, I estimate orthogonal deviations instead of first differencing. To control for panel specific autocorrelation and heteroskedasticity, the standard errors are Windmeijer-corrected cluster-robust. See Roodman (2006) for details on the implementation of Arellano-Bond estimator.

examine whether the number of refugees per capita could have an effect on reading other articles that talk about other major events in 2015. In particular, I got access to click data on articles mentioning the Greek debt crisis, the earthquake in Nepal, the terrorist attacks in Europe, the US presidential election and conflicts in Africa. All these articles were published in the same period as my original sample of refugee articles. Since these events did not have media coverage throughout all the months, I combine the data in an unique dataset in order to have variation over time. Using the click data on these articles, I run a similar analysis as Equation (1). The results are reported in column (1) of Table 16. The coefficient for refugees per capita is not statistically significant and the sign is even positive.

[Table 16 here]

In addition to the major events in 2015, I obtained click data for a set of articles talking about accidents.[24] This type of article may also raise feelings of compassion and empathy as some of the refugee articles and therefore, it could be a good term of comparison. Moreover, it is a news topic that got media attention throughout all the period of my analysis. I replicate the estimation of Equation (1) using click data on these accidents articles. The results reported in column (2) of Table 16 show a negative but not statistically significant effect on the number of refugees per capita. Therefore, I conclude that an increase in the presence of refugees in a municipality leads to avoidance only of information that may encourage helping the asylum seekers.

6 Alternative mechanisms

In this section I consider alternative explanations for my results.

Extensive exposure to refugees as alternative source of information. If many asylum seekers are present in a municipality, it could be easier to acquire information

[24]These articles contain the Swedish term for "accident" (olycka) and generally refer to car accidents, planes crashes and other forms of unfortunate incidents.

about their conditions through first-hand experiences. People may not need to read newspaper articles about refugees, since they already have the knowledge about the situation. First, I evaluate whether the effect of refugees on clicks changes over the time period of the analysis, since exposure and consequent interactions with asylum seekers varied across 2015. The negative findings should be larger for the months in which the large arrival of refugees occurred. As shown in Table 17, the negative effect is indeed specific to the period after September 2015, defined by the indicator variable *Post-September*, when the inflow of asylum seekers drastically increased. As shown in column (2) of Table 17, the overall effect of the presence of refugees is statistically significant and negative for the months after September 2015. However, the effect is larger only for the months right after the beginning of the crisis. I interact the relative number of refugees by a indicator variable *Crisis* that takes value 1 if the data are between October 2015 and November 2015. As shown in column (3) of Table 17, the overall decrease in clicks is much bigger (47% larger) in these two months compared to the others. The argument that people got information about refugees by being exposed to them could be valid if the click rate on refugee articles was larger in later months (December 2015-February 2016) after several interactions between the Swedish residents and the newcomers.

[Table 17 here]

Secondly, I assess whether the effect of the inflow of refugees on the clicking behavior varies across municipalities that had a differential exposure to refugees. In particular, I run a similar specification as Equation (1) using the interaction between the relative number of refugees and two municipality characteristics that could affect the reception of asylum seekers. One feature is the presence of a Migration Board office in the territory of the municipality (see Online Appendix Figure A.8 for a map of the offices).[25] Due to logistics and resources constraints, these areas welcomed more refugees during 2015.

[25]Some offices are situated in localities that are part of municipalities. Ljungbyhed is a locality in Klippan municipality, Billingsfors is a locality in Bengtsfors municipality, Kållered/Sagåsen is a locality in Mölndal municipality, Arlanda is a locality in Sigtuna

Despite this larger magnitude of asylum seekers, it is not straightforward to know a priori whether hosting a Migration Board office in the area can have an influence on the click rate of refugee articles. On one hand, people living in these municipalities may have been overwhelmed by the larger inflow. On the other hand, people were more used to the presence of asylum seekers. Instead, areas without an office were not accustomed to welcome refugees and moreover, experienced a larger percentage change in the number of newcomers (see Online Appendix Table A.1). Data display that there are differences in the reading behavior across the two types of municipalities. Online Appendix Figure A.9 shows that on average the clicks per refugee article are lower for municipalities that have a Migration Board office. At the same time, the drop in clicks after September 2015 is larger for areas without an office.

Another feature which may influence exposure is the magnitude of the number of refugees. Indeed, some localities hosted a number of asylum seekers above the national average throughout the entire year, while other areas switched from below to above national average after September 2015. Also with respect to this municipality characteristic, data show that there are differences in the clicking behavior across municipalities with different volumes of refugees. The decline in the click rate of refugee articles is stronger for municipalities that were exposed to a larger number of asylum seekers (see Online Appendix Figure A.10). Therefore, to analyze these potential differential effects, I estimate

$$\text{Clicks}_{i,t} = \phi_0 + \phi_1 \text{Refugees}_{i,t} + \phi_2 \text{Refugees}_{i,t} \times \text{Feature}_i + \mu_i + \delta_t + \chi_{i,t}, \qquad (5)$$

where $Clicks_{i,t}$ is the measure of average clicks in municipality i at month t over total online traffic as described above. $Refugees_{i,t}$ is the number of refugees registered in the Mi-

municipality, Hallonbergen is a locality in Sundbyberg municipality, Märsta is a locality in Sigtuna municipality, Visby is a locality in Gotland municipality, Åby is a locality in Östhammar municipality, Sveg is a locality in Härjedalen municipality, Vittangi is a locality in Kiruna municipality. Since the click data are at municipality level, I consider the corresponding municipality of these localities.

gration Board agency in municipality i in month t. I divide this stock by the population of municipality i. $Feature_i$ is an indicator variable that takes value 1 if the municipality has one of the characteristics described above and zero otherwise. In particular, the features I am analyzing are: whether the municipality hosts a Migration Board office, whether it welcomed a number of refugees per capita above the national average throughout the entire period or whether it welcomed a number of refugees per capita that switched from below to above the national average after September 2015. The effect of interest is captured by ϕ_2, which is the coefficient on the interaction term between the relative number of refugees and the municipality feature. Finally, I include municipality μ_i and month δ_t fixed effects.

Table 18 reports the results from estimation of Equation (5). As shown in column (1), the overall effect of the relative number of refugees is larger for municipalities without an office. This result is consistent with the hypothesis that these areas were more affected by the inflow of refugees because they were not accustomed to welcome many asylum seekers before the crisis. Column (2) restricts the sample to municipalities that hosted a number of refugees above or below the national average throughout all months in my sample. As expected, the overall effect of the relative number of asylum seekers is larger for areas that welcomed more refugees. Moreover, in column (3) I restrict the sample to municipalities where the number of refugees switched from below (above) to above (below) the national average after September 2015. Interestingly, the negative effect of the relative number of refugees is larger for localities that moved from above to below the average.

[Table 18 here]

Finally, I do not find evidence of increasing returns in the number of asylum seekers. In particular, I examine whether the impact of the presence of refugees is larger as the number of asylum seekers increases by estimating the squared term of the relative number of refugees. Column (4) of Table 17 shows that indeed the second order effect is larger. However, as suggested by the value of the adjusted-R^2, the model does not improve the goodness-of-fit of the data by introducing the quadratic term, suggesting that the rela-

tionship between refugees per capita and number of clicks is mainly linear. Overall, data show that the decline in clicks was bigger at the beginning of the crisis and in municipalities without the Migration Board office and with an extensive magnitude of asylum seekers. Therefore, these findings suggest that the effect was larger for a sudden inflow of refugees, rather than a prolonged experience.

Substitutions to other newspapers. People may have substituted Dagens Nyheter with other newspapers that could have provided more detailed information about refugees' conditions. In particular, they may have opted for local newspapers. However, the results reported in columns (3) of Tables 12 and 13, where I exclude municipalities with strong penetration of local newspapers, show that the effect of refugees on the click rate is unchanged. Moreover, I check for differences in the amount of searches on Google for opinion blogs between places that received a lot of refugees and those that got fewer. Specifically, I look at the search term "Avpixlat", a website that is known to publish news with strong (usually negative) opinions on immigration. To measure the volume of the searches across Sweden, I use Google trends, which provide an index of popularity on a scale from 0 to 100 for all search terms. Online Appendix Figure A.11 reports the index for the word "Avpixlat" for counties with a number of refugees above the national average and for those below.[26] Places with fewer refugees tend to search less for this website, but the difference over time is unaffected, suggesting that there is no substitution effect towards other news outlets as result of the increase in refugees.

Crowding-out effect of news. Another potential explanation for the decrease in the number of clicks is the large amount of articles published during the months of the refugee crisis. As discussed in Section 3.1, the number of articles about the refugees was much higher between September and November 2015, and people may have selected only a few articles to read about the topic, reducing the average click per article. However, the

[26]Google trends publicly report these popularity indexes only at the county level in Sweden.

findings described in the previous sections appear inconsistent with this channel. First, articles describing the refugees' perspective are much fewer than all other articles, therefore the larger negative effect cannot be explained by a crowding out effect of these news. Second, the total number of clicks on refugee articles increases over time, especially between September 2015 and January 2016 (see Online Appendix Figure A.7). This finding suggests that the increase in number of articles was matched with a positive response in the amount of clicks. Indeed, when I examine the between variation of the effect of refugee-presence on the click rate, as shown in column (2) of Table 4, the between-estimator is positive. This implies that over time a larger number of asylum seekers (which is connected to more articles being published) yields to more clicks. Similarly, as shown in column (2) of Table 5 the click rate is increasing for articles published in the "Sweden" section compared to the "World" section. And the number of articles are comparable for both sections. Moreover, the impact of refugee-presence on the click rate is negative also in those months where the number of articles was smaller (December 2015 - February 2016). Finally, the findings are robust when using the total number of clicks, instead of the average, as shown in columns (1) of Tables 14 and 15. Therefore, a larger number of articles seems not to have negatively impacted the reading patterns.

Change in opinion towards refugees. Finally, the reduction in click rate may have been the consequence of a change in opinion towards the refugees. A bigger exposure to asylum seekers or a sudden rise may have shifted public opinion from positive acceptance of newcomers to increased opposition. Moreover, people could have clicked less on refugee articles because they held negative sentiments towards the asylum seekers. Running a similar estimation of Equation (5), I can analyze the differential effect on the click rate between municipalities with positive and negative opinion towards refugees.[27] Using data from the SOM survey in 2014 on the question "Do you think is it a good proposal to accept fewer refugees?", I can divide municipalities between those that have a positive

[27]The indicator variable $Feature_i$ takes value 1 if the municipality has a neutral or positive opinion towards the refugees.

opinion towards the newcomers (value 2 or 3 from the constructed index) and those that have a more negative attitude. The results shown in column (4) of Table 18 do not support the hypothesis that previously pro-refugees municipalities were overwhelmed by the huge inflow and read fewer articles due to a more negative opinion. Indeed, municipalities that were already against refugees should have not changed their reading behavior on refugee articles. Instead, a decline in clicks due to a shift in opinion would be expected in municipalities that were previously pro-refugees. However, the decline in clicks is smaller for municipalities that had a neutral or positive opinion towards the refugees, limiting the possibility of such mechanism.

Based on all findings from Table 18, it is hard to draw clear conclusions on the change in opinion as a key driver of the main results. On one hand, the negative effect of the presence of refugees is larger for municipalities that were exposed to a large number of asylum seekers throughout the whole period. This result may suggest a shift in opinion from positive to negative acceptance as more refugees arrive. However, an even larger negative effect is found for municipalities that were not used to welcome refugees since they did not have a Migration Board office in their territory. If the change in opinion was the main channel, a larger effect would be expected for municipalities hosting a office, which historically welcomed refugees. Moreover, a negative attitude towards the newcomers should be similar for all categories of asylum seekers, regardless of the type of accommodation in which they are hosted. As shown in Table 8, the effect on the click rate changes whether the refugees live in Migration Board housing or on their own. In addition, the effect is much larger for children and hospitalized people, which is consistent with avoidance of morally charged information.

Another way to analyze whether there has been an attitude change towards the refugees is to examine opinion pieces and other articles that may convey points of view or discussions rather than facts. Dagens Nyheter is known to share liberal views in favor of welcoming refugees, therefore a decrease in the click rate of opinion pieces may suggest a transition towards more opposition. From the sample of all collected articles, I select those that are in the sections “debate”, “culture”, “editorial” and in several blogs. Using

the click data for these articles, I run an estimation of Equation (1). The results are shown in Table 19. The presence of refugees has a negative impact on the click rate of all three categories of articles; however, the effect is not statistically significant for opinion pieces and cultural articles. Thus, there is no strong evidence that the decrease in the clicking behavior is due to opinion changes. Finally, opinion polls conducted right after the crisis in Fall 2015 (Inizio, 2015; Demoskop, 2015) reported that on average the Swedish population was in favor of welcoming refugees, but they were concerned about the number of people who could be helped. Therefore, anecdotal evidence alleges uncertainty about the resources available to properly accept asylum seekers rather than a stronger opposition towards refugees.

[Table 19 here]

7 Theoretical framework

To illustrate the mechanism of avoiding morally charged information, I propose a theoretical framework based on the motivated beliefs model due to Rabin (1995).

Consider two possible states of the world, $\omega \in \{B, G\}$, where $\omega = B$ is bad and $\omega = G$ is good. An agent has to decide whether to undertake an action $a \in \{W, N\}$, where $a = W$ is welcoming refugees and $a = N$ is not welcoming them. If the agent decides to welcome refugees, he suffers a loss $w(n)$, which depends on the number of refugees n.[28] The agent has a belief $q \in (0, 1)$ that $\omega = B$. Following Rabin (1995), I assume there is a threshold belief $\bar{q}$ such that the agent suffers a moral cost C of not complying with the social norm. In this case, the moral pressure to welcome refugees is felt when q exceeds $\bar{q}$.

The agent can gather information on the true state of the world by reading newspapers. I define u_R as the direct utility that the agent obtains from reading the news. Then,

[28]This cost can be interpreted as direct forms of helping newcomers, like monetary donations or voluntary work. But it could also take indirect forms of help through taxation or voting for less restrictive immigration policies.

the agent's total utility is given by

$$U(n,q) = \begin{cases} u_x + u_R - I_q C & \text{if } a = N; \\ u_x + u_R - w(n) & \text{if } a = W, \end{cases}$$

where u_x is utility from consumption and I_q is an indicator function on the moral rule such that

$$I_q = \begin{cases} 1 & \text{if } q \geq \bar{q}; \\ 0 & \text{otherwise.} \end{cases}$$

By reading newspapers the agent observes a binary signal $\sigma \in \{b, g\}$ about the true state of the world. Before discussing the agent's decision on the action and information acquisition, I state the following assumptions:

A1. The cost of welcoming refugees $w(n)$ is:

(a) a non-decreasing function of the number of refugees n: $w(n) \geq 0$;

(b) less than the moral cost of not complying with the social norm: $w(n) < C$;

(c) larger than the utility from reading $w(n) > u_R$.

A2. The conditional probability of receiving the signal given the true state of the world is $Pr(\sigma = b|B) = Pr(\sigma = g|G) = \pi$ for some $\pi \in (0.5, 1)$.

A3. Independent of the prior, the agent draws from the same distribution of signals.

The agent observes the signal by reading the news. If the signal is $\sigma = b$, the posterior q' is above the prior q_0 due to Assumption (A2). Only if the posterior exceeds $\bar{q}$ will the agent play $a = W$ due to Assumption (A1.b). If the signal is $\sigma = g$, the posterior could be below the threshold $q' \leq \bar{q}$. In this scenario, the agent is better off not welcoming refugees and enjoys a larger utility $u_x + u_R > u_x + u_R - w(n)$.[29] Regardless of the signal, the agent does not have a lower expected utility.

[29]In a modified version of the dictator game, Feiler (2014) provides experimental evidence that people are willing to obtain information to get an outside option from altruistic actions. She finds that even when there is a 90% chance that the recipient's payoffs are

Instead, if the prior is below the threshold $q_0 \leq \bar{q}$, the choice on observing the signal depends on the relative benefit and cost from information acquisition. In particular, the expected utility from reading is

$$EU(R) = u_R - Pr(q' > \bar{q}|q_0)w(n),$$

where $Pr(q' > \bar{q}|q_0)$ is the conditional probability that the agent holds a posterior belief q' larger than the threshold $\bar{q}$. If this happens, then the agent incurs in the cost $w(n)$ of welcoming the refugees. On the other hand, the expected utility from not reading is simply zero.[30] Therefore, the agent decides not to read if

$$u_R - Pr(q' > \bar{q}|q_0)w(n) < 0.$$

Using Bayesian updating and solving for the prior q_0, I get a threshold value for the prior q_0

$$u_R - \frac{\pi q_0}{\pi q_0 + (1-\pi)(1-q_0)}w(n) = 0.$$

That is, the threshold prior is

$$q_R \equiv \frac{u_R(1-\pi)}{u_R(1-2\pi) + w(n)\pi}. \tag{6}$$

Proposition 1. *If the agent holds a prior that is greater than the threshold $q_0 > q_R$, then he does not observe the signal. Instead, if the prior is less or equal the threshold $q_0 \leq q_R$, then the agent observes the signal.*

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not aligned with the dictator's payoffs (suggesting an altruistic action), some individuals would still choose to know the true state of the world. Indeed, there is a 10% probability that the payoffs are aligned and the individual can opt for a self-interested allocation.

[30] I ignore the utility from consumption u_x since it is the same for both cases of reading and not reading.

Figure 16 shows the agent's utility as a function of the belief (both prior and posterior).

[Figure 16 here]

Following Assumption (A1.a), a larger presence of asylum seekers $n' > n$ increases the cost of welcoming $w(n)$. An individual with a prior above the threshold $q_0 > \bar{q}$ enjoys a smaller utility. However, the decision on information acquisition remains unchanged. If the prior is below the threshold $q_0 \leq \bar{q}$, an increase in the number of refugees reduces the threshold q_R.

Proposition 2. *The set of readers is a decreasing function of the number of refugees n.*

The result is an immediate consequence of (6). The cutoff belief q_R decreases for a bigger number of asylum seekers n. A smaller cutoff $q_R{}'$ implies that there is a larger range of beliefs for which the agent is better off not observing the signal as displayed in Figure 17.

[Figure 17 here]

8 Concluding remarks

It is a fundamental tenet of single-person decision theory that more information improves decision-making of individuals. However, this study provides observational evidence that individuals may avoid getting information, even if available, free and relevant. Using the refugee crisis that affected Sweden in 2015, I examine whether people opted for strategic ignorance as an attempt to reduce the moral pressure on welcoming a larger number of asylum seekers. Combining click data from a leading Swedish newspaper and administrative data on refugees in Sweden, I find that people living in municipalities where the relative number of asylum seekers has been larger read fewer news about refugees. The identification strategy relies on the unexpected inflow of newcomers to Sweden and their

exogenous allocation across Swedish municipalities. The decrease in information acquisition is 36% larger for articles that emphasize the poor conditions of the refugees and that may raise feelings of compassion. In addition, the click rate is smaller for articles that can have a direct influence on the readers, like local news and Swedish events related to the refugees. Overall, the empirical findings provide support in favor of the hypothesis that people may opt to be deliberately ignorant as a strategic device to eschew responsibility (Golman et al., 2017; Hertwig and Engel, 2016).

The analysis carried out in this paper is based on click data from the main national Swedish newspaper. How generalizable are the results to the whole country? Online Appendix Figure A.12 shows the total online traffic in each municipality in August 2015 divided by the population in each municipality. Darker areas, which correspond to a larger use of the website per capita, are scattered across the whole country, suggesting that the coverage of the newspaper is wide-spread across Sweden. Moreover, there is a larger penetration of the online version of the newspaper than the print format at the national level. In terms of demographics of the online readers relative to the Swedish population, they are younger (around 60% are between 20 and 44 years old compared to about 33% of the Swedish population in the same age category).[31] There are slightly more men (about 60% are men compared to the 50% of the total population). They are also highly educated (about 70% have a post secondary degree education compared to 42% of the Swedish population aged 25-64). Finally, they have a slightly higher income (50% have an income of 353 000 Swedish crowns compared to the national median income of 257 000 Swedish crowns). However, given the average age of the online readers, education and income levels are comparable to national averages. Therefore, I conclude that the sample of online DN readers can be considered representative of the Swedish population.

A simple model of motivated beliefs illustrates that individuals avoid information to protect their belief on moral actions. In particular, agents can deliberately choose to remain ignorant and escape the responsibility of a morally binding action. In this paper I limit the empirical analysis to the choice on information acquisition. With respect to

[31]Descriptive statistics provided by Dagens Nyheter available upon request.

future research directions, it is worth investigating whether people living in areas more affected by the crisis were also less generous in terms of helping refugees. Preliminary analysis on Google trends indexes shows that counties that received more asylum seekers have a higher popularity index for the search term "flyktingar" (the Swedish word for "refugees"), but a lower index for the search terms "Refugees Welcome" and "Röda Korset" (the Swedish word for "Red Cross").[32] These findings may suggest that in areas with a larger presence of refugees people sought less information about potential donations towards the newcomers. Therefore, it is interesting analyzing whether strategic ignorance about the refugees' conditions may have yielded to fewer donations to charitable organizations related to the refugees.

Assistance towards asylum seekers does not necessarily have to imply material or direct monetary help, but it could take indirect forms of support, like local taxation or public good provision. Thus, it is worth investigating whether reduced information about the refugees had an effect on preferences towards less generous fiscal policies or stricter immigration rules. Preliminary analysis in Table 9 shows that the negative impact of refugee-presence on the click rate is larger for municipalities with a lower share of votes of the right-wing party (Sweden Democrats), which has strong anti-immigration motives. This finding suggests that information avoidance has been larger in localities that have been more positive towards immigration. With respect to the recent refugee crisis, there is mixed evidence on the effect of exposure to refugees on voting outcomes (Dustmann et al., 2016; Sekeris and Vasilakis, 2016; Steinmayr, 2016). Thus, it is possible to extend the analysis by looking at potential changes in attitudes towards refugees as response to the crisis. In addition, it follows to examine whether less knowledge about the refugees could eventually lead to more restrictive immigration policies.

Overall, the evidence in this paper suggests the need for a more comprehensive theory on strategic ignorance and moral responsibility, which can have several implications in the real world, such as welcoming refugees.

[32]See Online Appendix Table A.7 for results.

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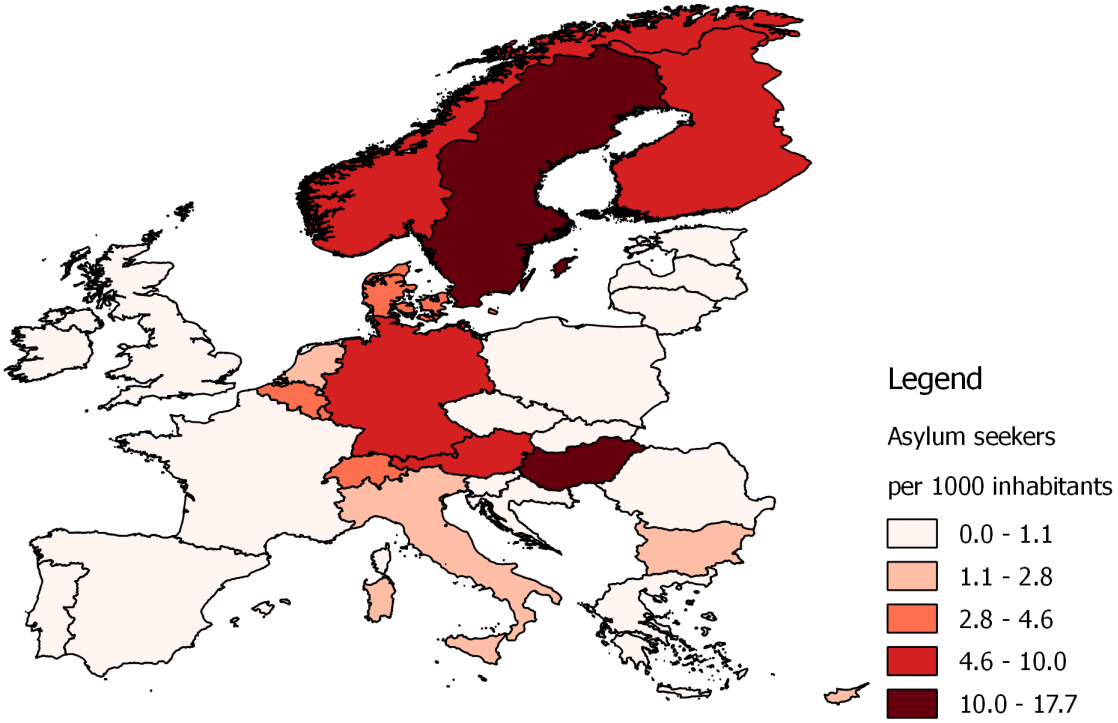
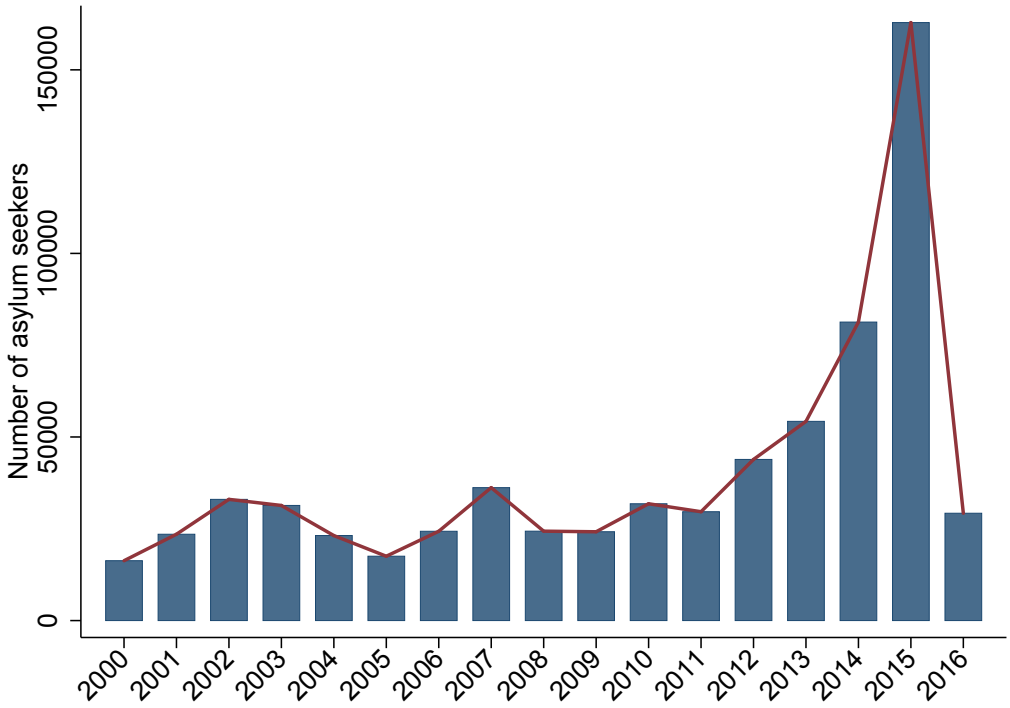
Figures and Tables

Figure 1: Number of asylum seekers per 1000 inhabitants in EU countries in 2015



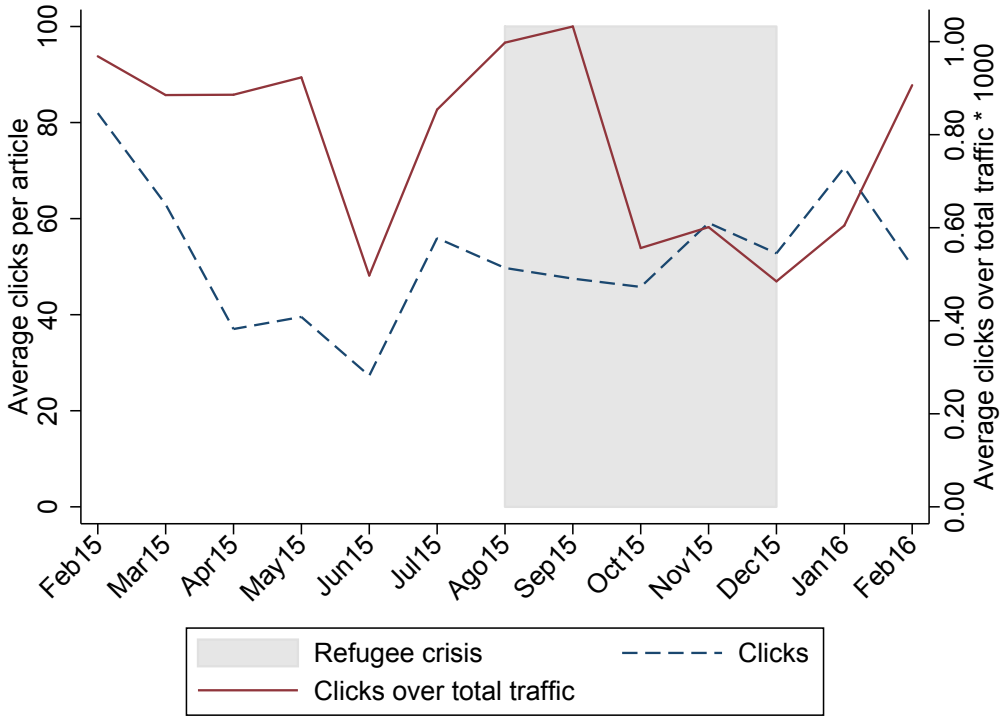
Notes: Total number of asylum seekers per 1000 inhabitants arriving to EU countries plus Switzerland and Norway in 2015. 16 refugees per 1000 inhabitants arrived to Sweden. Source: Eurostat and own calculations.

Figure 2: Number of asylum seekers in Sweden from 2000 to 2016



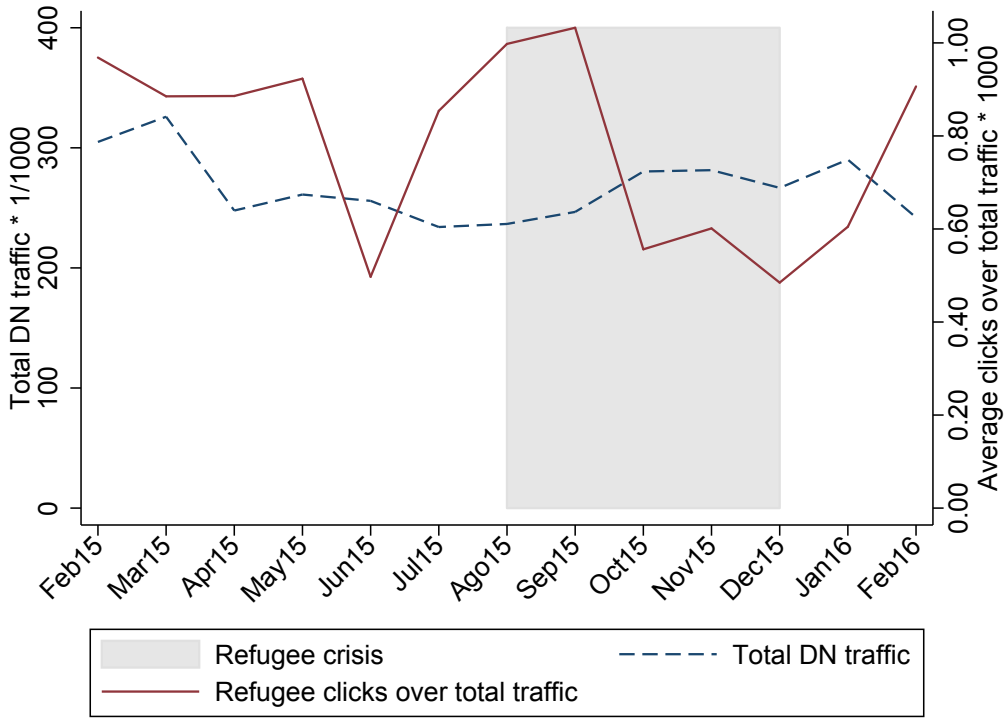
Notes: Total number of asylum seekers arriving to Sweden from 2000 to 2016. More than 160 000 people applied for asylum in 2015 compared to 80 000 in 2014. Source: Swedish Migration Board.

Figure 3: Average number of clicks per refugee article across municipalities per month



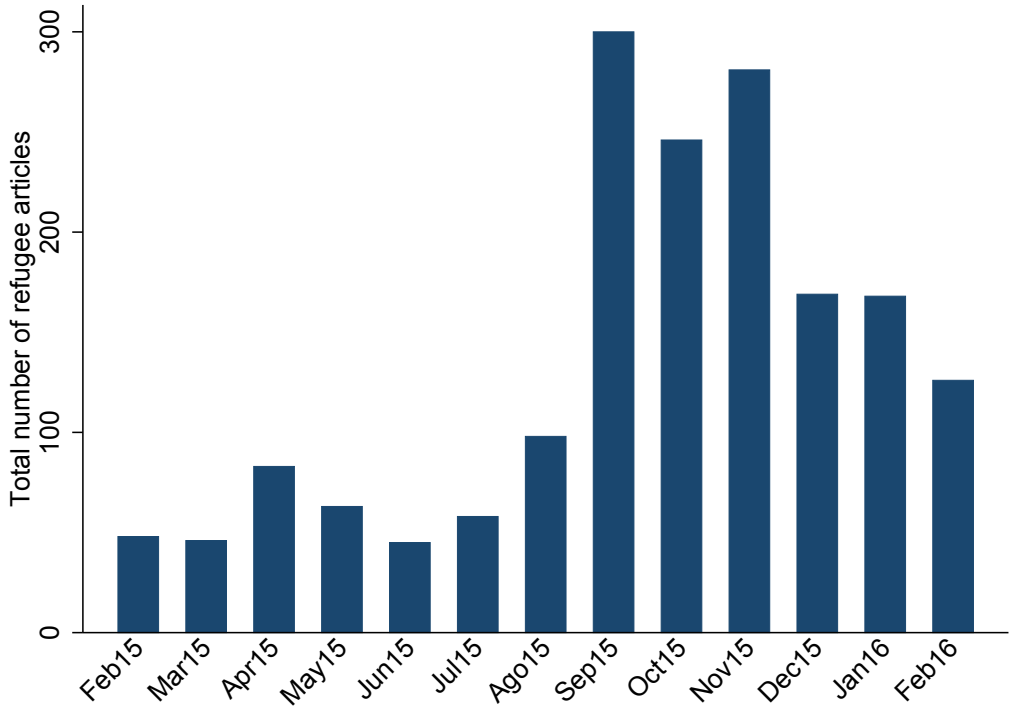
Notes: Descriptive graph on the absolute and relative number of clicks on refugee articles across Swedish municipalities in 2015. Dashed line: average across municipalities per month of the mean number of clicks per refugee article for each municipality and month. Solid line: average across municipalities per month of the mean number of clicks per refugee article for each municipality and month divided by the total number of clicks in the whole website in each municipality and month. Shaded area: period of the unexpected inflow of refugees to Sweden.

Figure 4: Average number of clicks per refugee article and average total DN traffic across municipalities per month



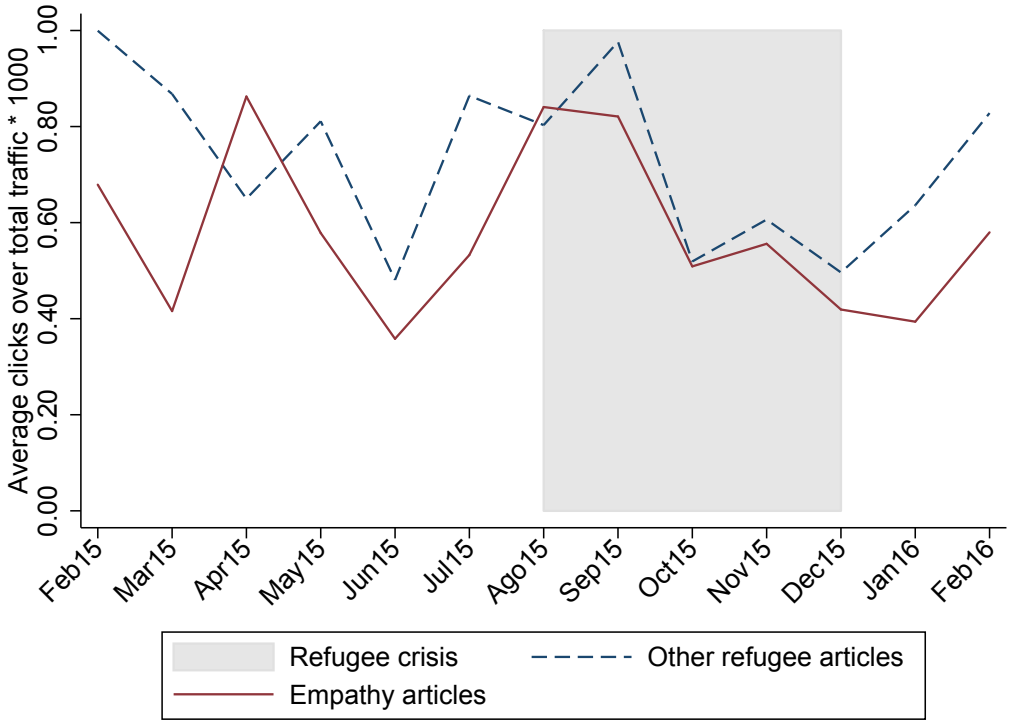
Notes: Descriptive graph on the relative number of clicks on refugee articles compared to the total traffic across Swedish municipalities in 2015. Dashed line: average across municipalities per month of total number of clicks in the whole website in each municipality and month. Solid line: average across municipalities per month of the mean number of clicks per refugee article for each municipality and month divided by the total number of clicks in each municipality and month. Shaded area: period of the unexpected inflow of refugees to Sweden.

Figure 5: Total number of refugee articles per month



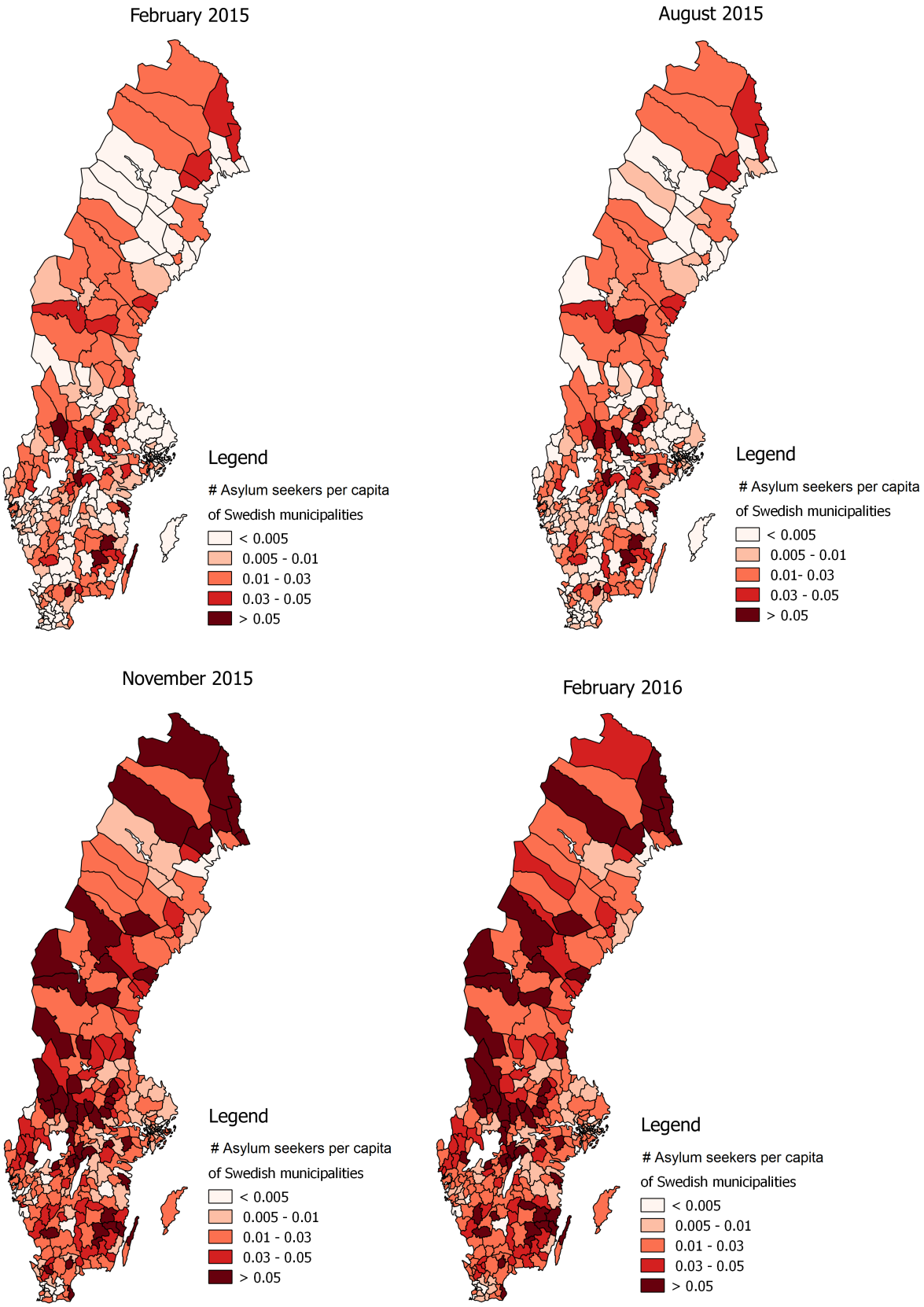
Notes: Distribution from February 2015 to February 2016 of 1731 articles that talk about the refugee crisis published in the Swedish newspaper Dagens Nyheter.

Figure 6: Average number of clicks per empathic and other refugee article across municipalities per month



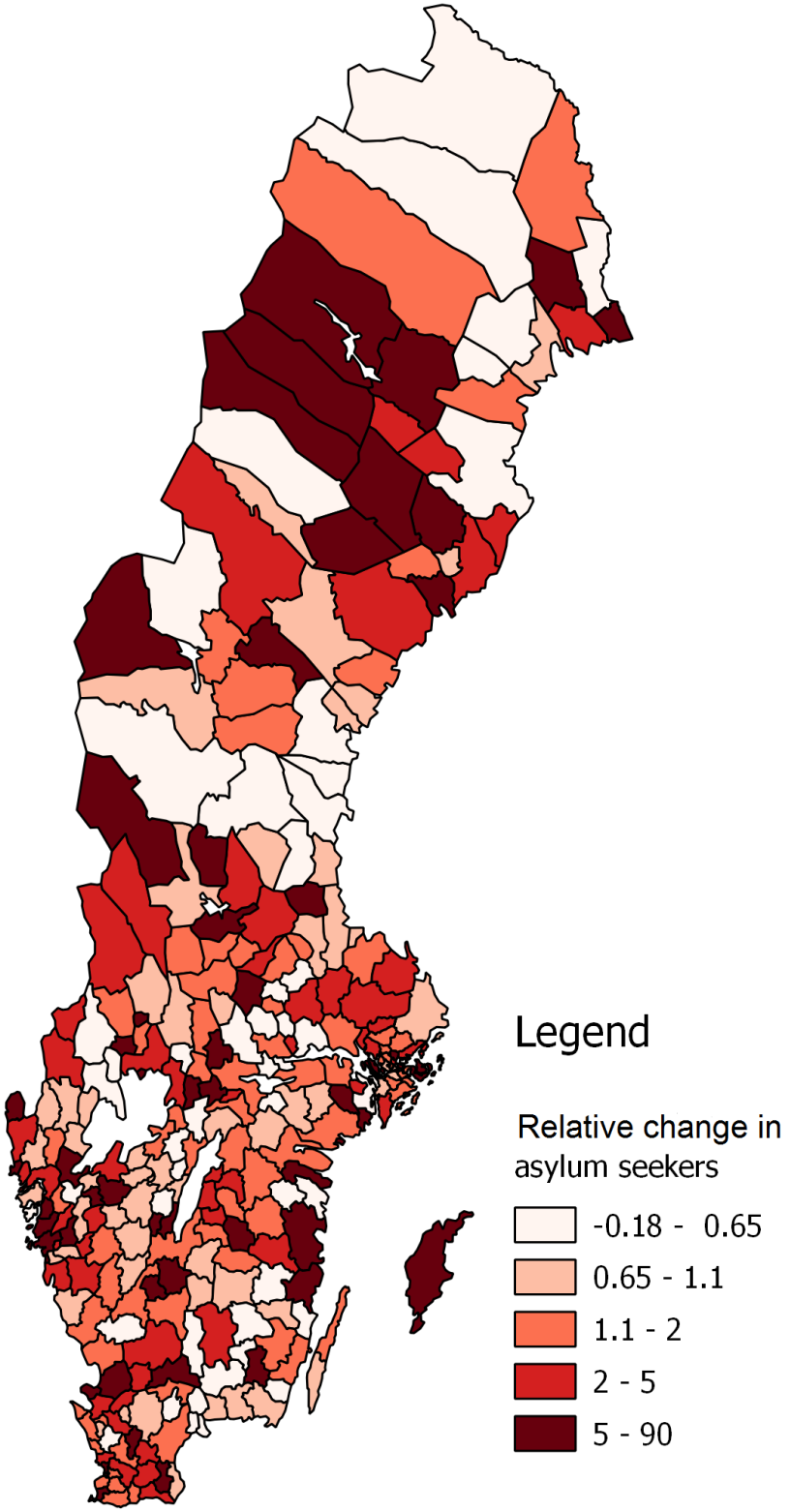
Notes: Descriptive graph on the relative number of clicks on empathic and other refugee articles across Swedish municipalities in 2015. Solid line: average across municipalities per month of the mean number of clicks per *Empathy* article for each municipality and month divided by the total number of clicks in the whole website in each municipality and month. Dashed line: average across municipalities per month of the mean number of clicks per other refugee article for each municipality and month divided by the total number of clicks in the whole website in each municipality and month. Shaded area: period of the unexpected inflow of refugees to Sweden.

Figure 7: Number of asylum seekers per capita of Swedish municipalities



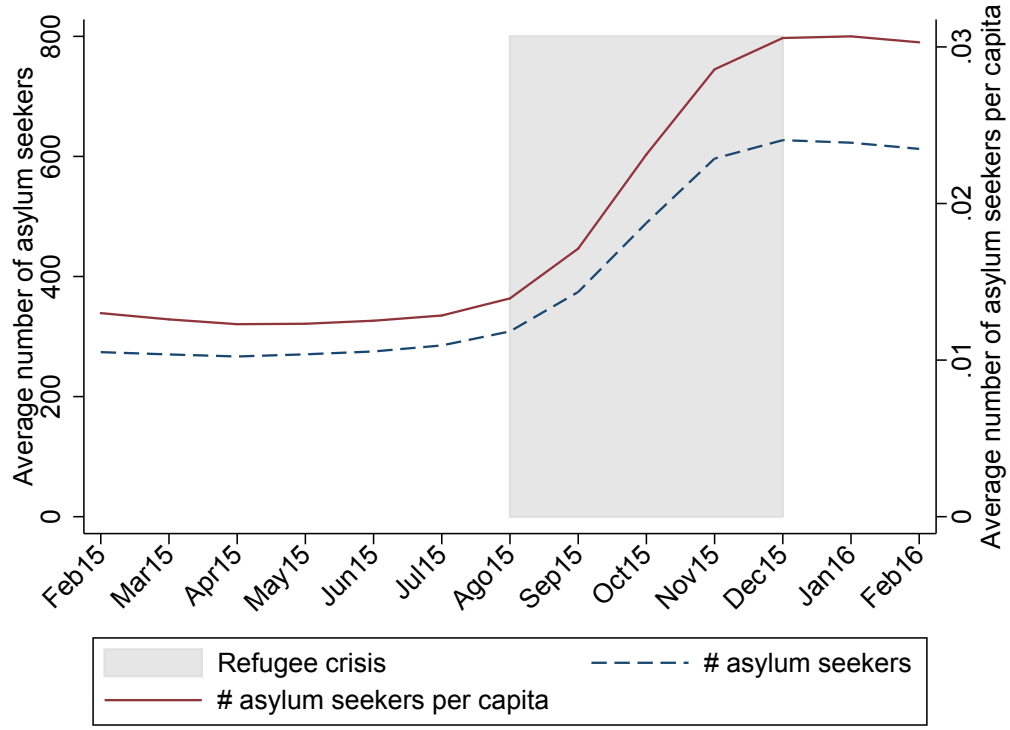
Notes: Total number of asylum seekers waiting for the decision on their asylum per capita in all Swedish municipalities. Darker areas correspond to a larger number of asylum seekers relative to the population in the municipality. The national average is 0.013 in February 2015, 0.014 in August 2015, 0.029 in November 2015, 0.030 in February 2016.

Figure 8: Relative change in number of asylum seekers of Swedish municipalities



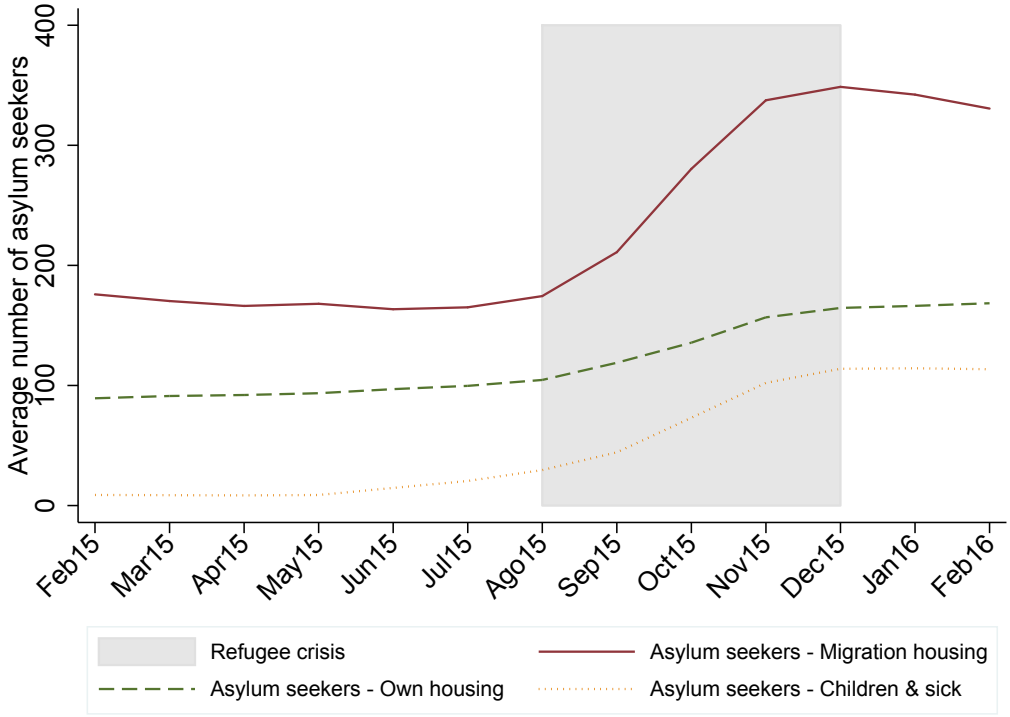
Notes: Relative change from February 2015 to February 2016 in the number of asylum seekers waiting for the decision on their asylum in all Swedish municipalities. Darker areas correspond to a larger change in number of asylum seekers relative to the amount in February 2015. The number of asylum seekers is, on average, 4.3 times larger in February 2016 than February 2015.

Figure 9: Average number of asylum seekers across municipalities per month



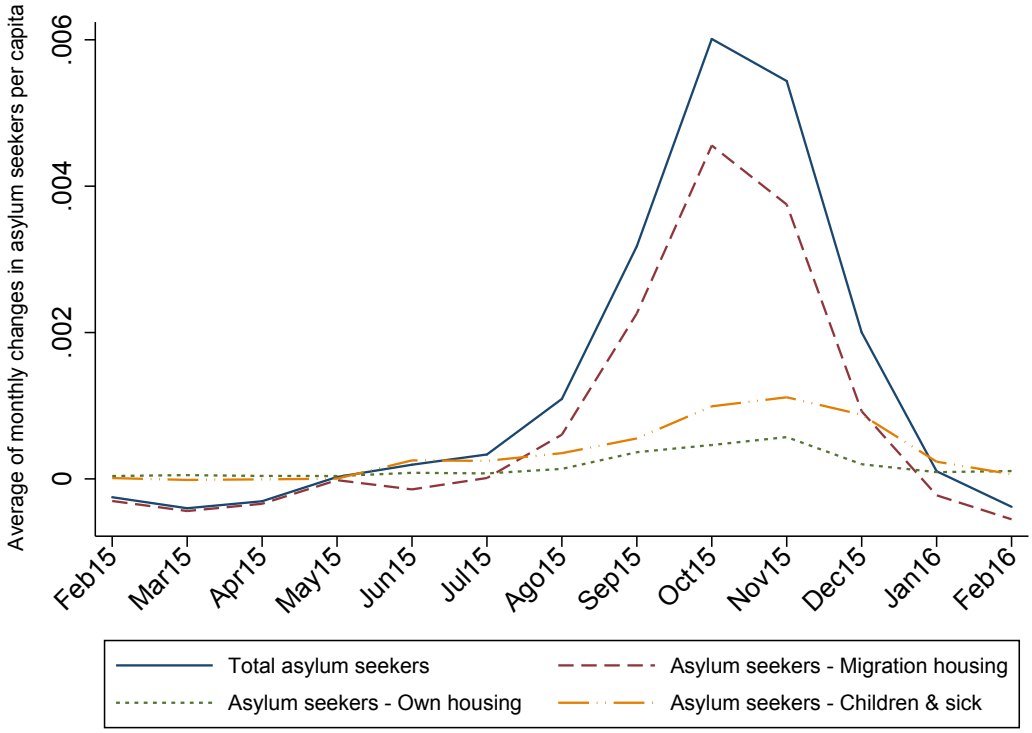
Notes: Sharp increase in the number of asylum seekers arriving to Sweden from September 2015. Solid line: average across municipalities of the total number of asylum seekers waiting for the decision on their asylum. Dashed line: average across municipalities of the total number of asylum seekers waiting for the decision on their asylum per capita. Shaded area: period of the unexpected inflow of refugees to Sweden.

Figure 10: Average number of asylum seekers by accommodation type



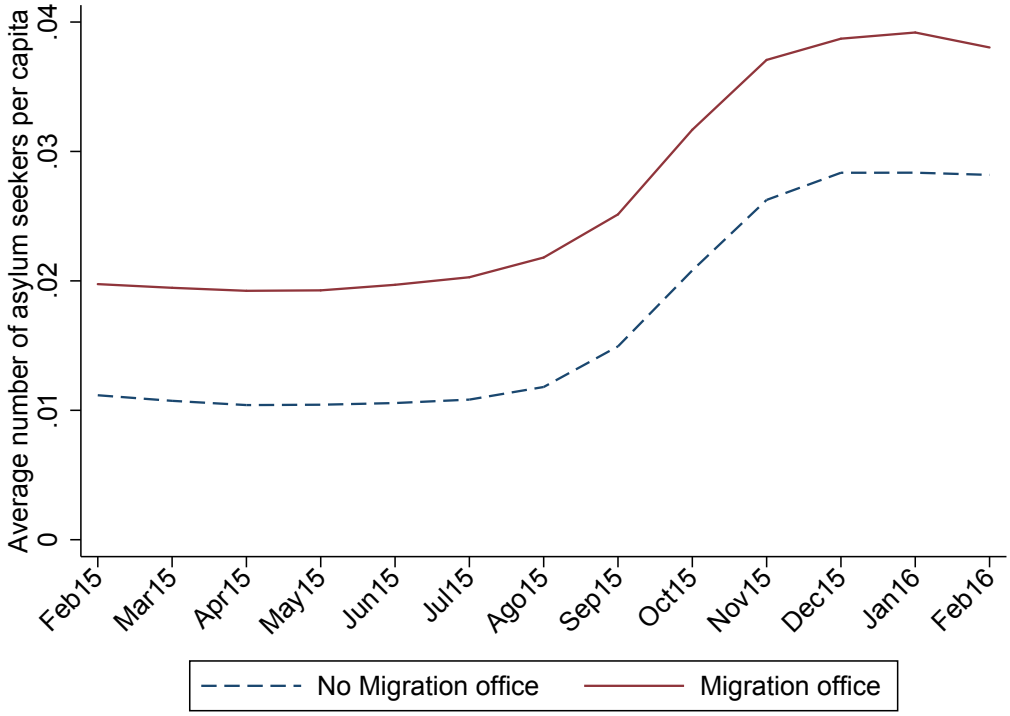
Notes: Increase in the number of asylum seekers arriving to Sweden by accommodation type. Solid line: average across municipalities of the number of asylum seekers waiting for the decision on their asylum and living in Migration Board housing. Dashed line: average across municipalities of the number of asylum seekers waiting for the decision on their asylum and living with family and friends. Dotted line: average across municipalities of the number of children and hospitalized persons waiting for the decision on their asylum. Shaded area: period of the unexpected inflow of refugees to Sweden.

Figure 11: Monthly changes in asylum seekers per capita across municipalities per month



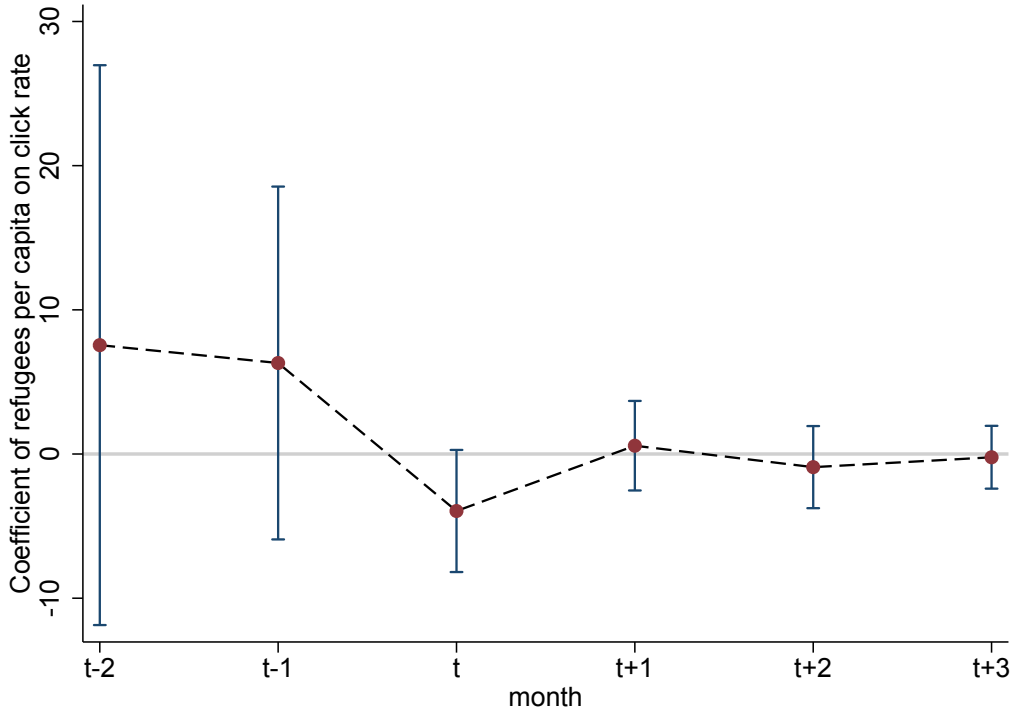
Notes: Biggest changes in the number of asylum seekers arriving to Sweden between September 2015 and December 2015. Solid line: average across municipalities of the total number of asylum seekers waiting for the decision on their asylum. Dashed line: average across municipalities of the number of asylum seekers waiting for the decision on their asylum and living in Migration Board housing. Dotted line: average across municipalities of the number of asylum seekers waiting for the decision on their asylum and living with family and friends. Dashed/double dotted line: average across municipalities of the number of children and hospitalized persons waiting for the decision on their asylum.

Figure 12: Average number of asylum seekers across municipalities with and without a Migration Board office



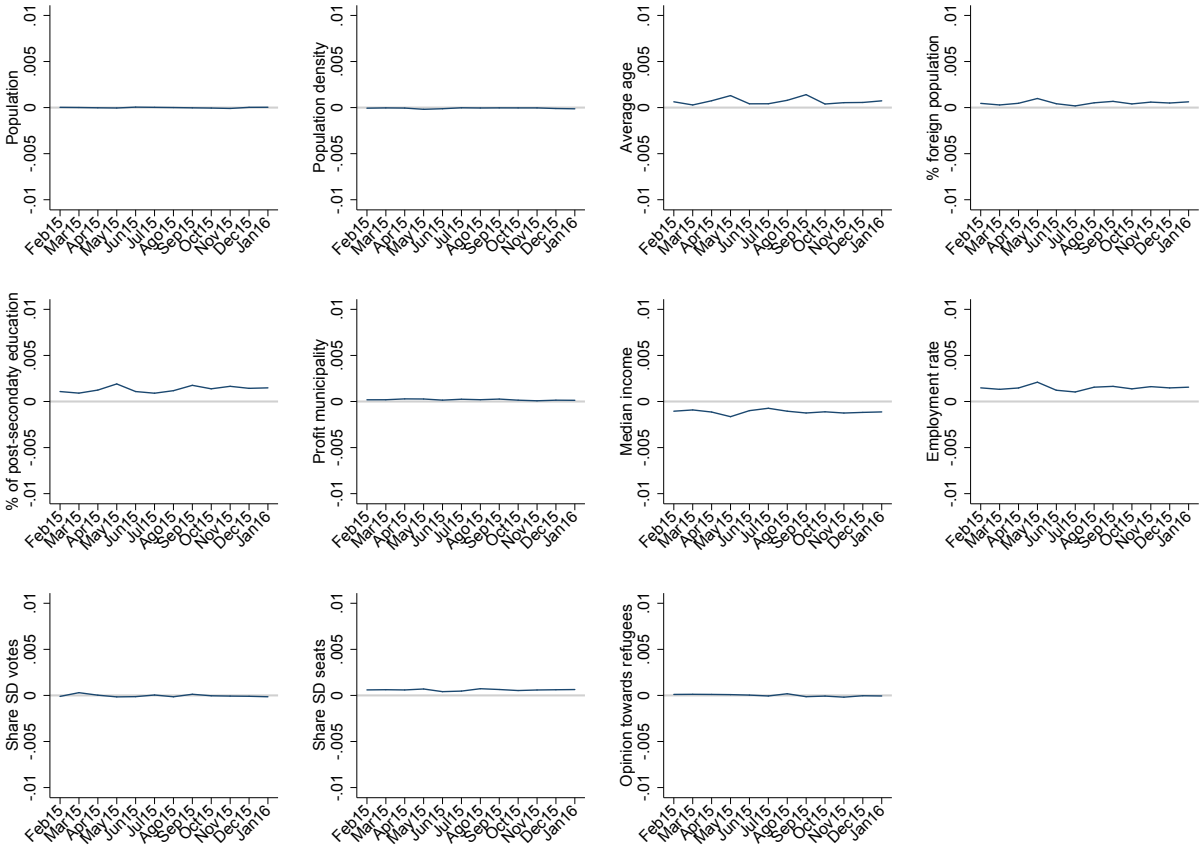
Notes: The allocation of asylum seekers between municipalities with and without a Migration Board office is constant across all months in 2015. Solid line: average number of asylum seekers waiting for the decision on their asylum per capita across municipalities *with* a Migration Board office per month. Dashed line: average number of asylum seekers waiting for the decision on their asylum per capita across municipalities *without* a Migration Board office per month.

Figure 13: Estimated effect of several lags and leads for refugees per capita on number of clicks



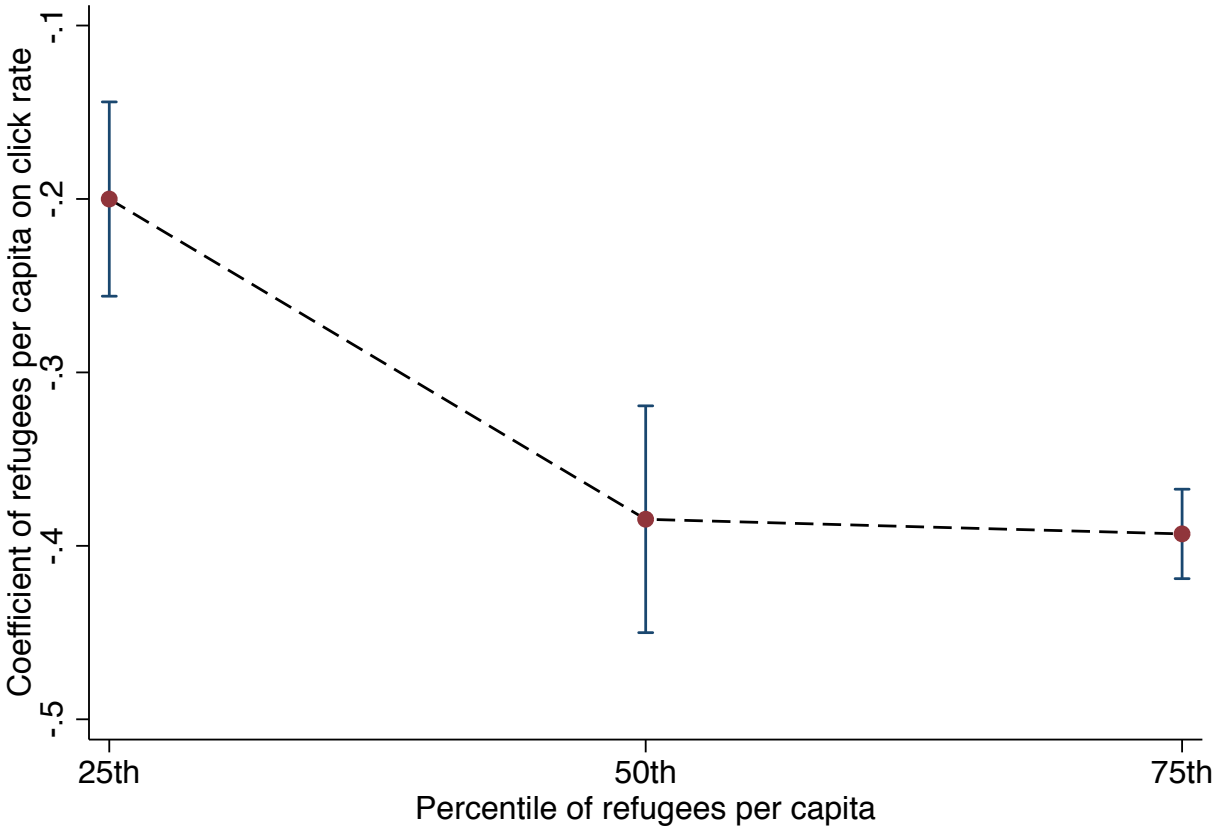
Notes: Estimated impact of refugees per capita on the average number of clicks per refugee article over total traffic for month t and 3 leads and 2 lags. Standard errors are clustered at municipality level. Vertical bands represent $\pm$ 1.96 times the standard error of each point estimate.

Figure 14: Correlation between clicks and municipality characteristics over time



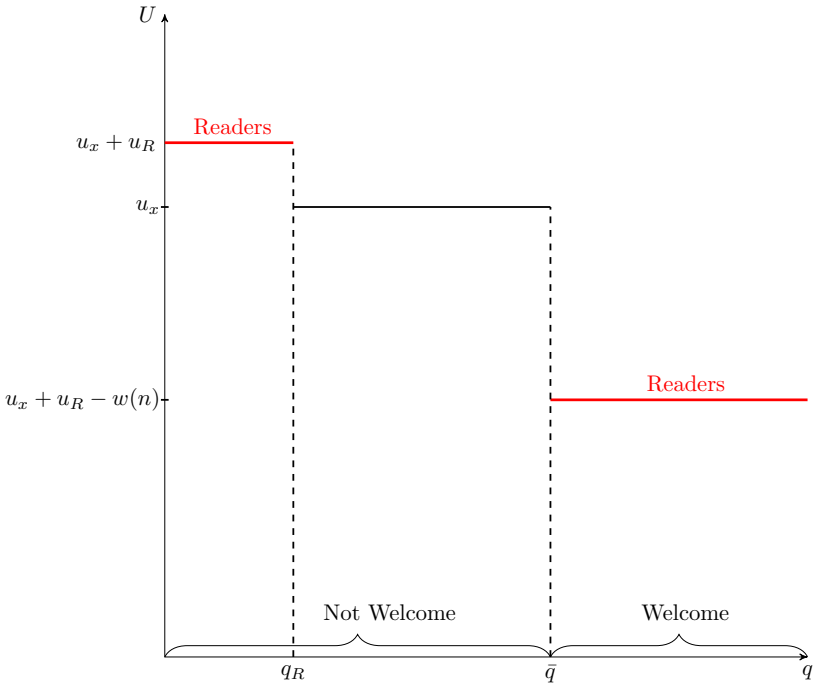
Notes: The figure reports the estimated OLS coefficients for observable municipality characteristics on the number of clicks on refugee articles divided by the total online traffic for each month.

Figure 15: Effect of refugees per capita on click rate at 25th, 50th, 75th percentiles



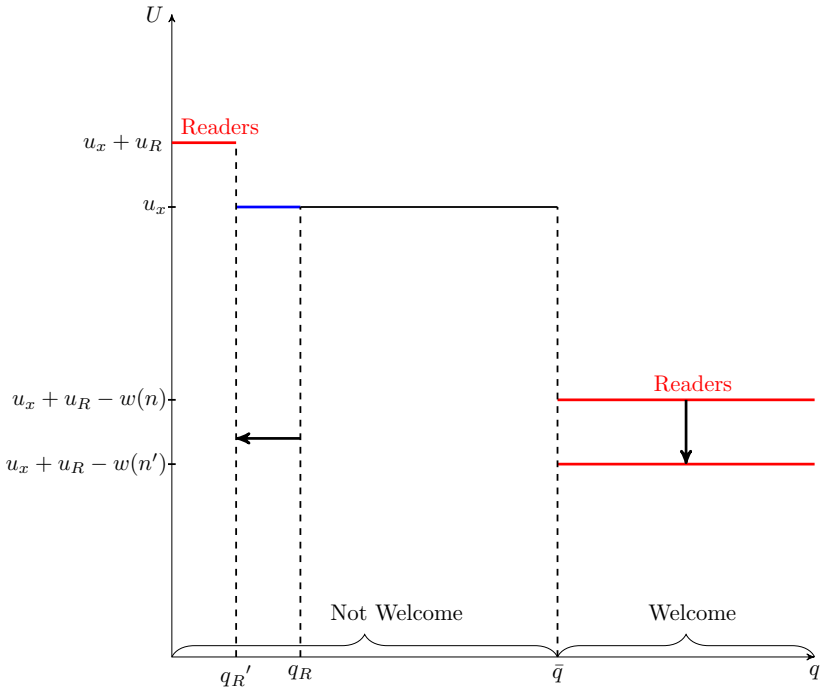
Notes: The figure reports the estimated OLS coefficients for refugees per capita on the number of clicks on refugee articles divided by the total online traffic for each month at the 25th, 50th and 75th percentiles of the refugees per capita variable distribution.

Figure 16: Utility as a function of the belief



Notes: The figure represents the individual's utility as a function of the belief q, both prior and posterior. The utility U is defined by u_x utility from consumption, u_R utility from reading and $w(n)$ cost of welcoming a number n of refugees. *Readers* denote the set of individuals holding a belief such that they are willing to observe the signal about the true state of the world. *Welcome* and *Not Welcome* are actions that the individual can undertake.

Figure 17: Utility as a function of the belief - comparative statistics on number of refugees



Notes: The figure represents the individual's utility as a function of the belief q, both prior and posterior. The utility U is defined by u_x utility from consumption, u_R utility from reading and $w(n)$ cost of welcoming a number n of refugees. *Readers* denote the set of individuals holding a belief such that they are willing to observe the signal about the true state of the world. *Welcome* and *Not Welcome* are actions that the individual can undertake. An increase in the number of refugees n decreases the utility of readers and increases the set of not readers.

Table 1: Summary statistics - clicks and refugees

Variable	Mean	Std. Dev.	Median	# obs
Dependent variable				
Clicks	52.31	363.96	9.93	3,302
Clicks over total traffic	0.087	0.324	0.028	3,302
Clicks (w/o outliers)	52.29	364.34	9.93	3,295
Clicks over total traffic (w/o outliers)	0.078	0.229	0.028	3,295
Classified articles				
Clicks on empathic articles	58.89	405.53	11.27	3,079
Clicks on empathic articles over total traffic	0.058	0.135	0.027	3,295
Clicks on other articles	52.60	362.83	10.37	3,180
Clicks on other articles over total traffic	0.073	0.215	0.027	3,295
Explanatory variable				
Refugees	433.80	655.67	262.5	3,302
Refugees - Migration housing	242.83	294.02	144	3,302
Refugees - Own housing	136.15	409.89	36	3,302
Refugees - Children & sick	54.83	147.07	22	3,302
Refugees per capita	0.018	0.022	0.011	3,302

Notes: Clicks is the average number of clicks per refugee article in month t and municipality i. *Clicks over total traffic* is *Clicks* divided by the total online traffic of DN in municipality i and month t. *Clicks (w/o outliers)* and *Clicks over total traffic (w/o outliers)* exclude 7 observations which are biased due to sampling issues. *Clicks on empathic articles* is the average number of click per article taking the refugee perspective in month t and municipality i. *Clicks on other articles* is the average number of clicks per article for all other refugee news in month t and municipality i. *Clicks on empathic articles over total traffic* and *Clicks on other articles over total traffic* are divided by the online traffic of DN in municipality i and month t. *Refugees* is the number of refugees registered in the Migration Board agency in municipality i in month t. *Refugees - Migration housing, Own housing, children & sick* refer to the number of refugees by type of accommodation: organized by Migration Board, self-organized, unaccompanied children or hospitalized refugees, respectively. *Refugees per capita* is the total number of refugees divided by the population of municipality i at the end of 2015. The measures for clicks over total traffic are scaled by 100.

Table 2: Summary statistics - municipality characteristics

Variable	**Mean**	**Std. Dev.**	**Median**	**# obs**
Population	33969.02	70159.69	15464.5	290
Population density	148.29	533.4	27.45	290
Land area (in sqkm)	1404.52	2437.0	670.47	290
% foreign population	0.166	0.081	0.145	290
% post-secondary education	0.256	0.083	0.233	290
Average age	43.35	2.628	43.6	290
Profit municipality	980.78	2187.93	1061	289
Median income	221.74	24.05	215.35	290
Employment rate	78.52	4.080	78.71	290
Share SD votes	0.100	0.048	0.092	290
Share SD seats	0.103	0.051	0.098	290
Opinion towards refugees	1.575	0.782	1	285

Notes: Population is the population of the municipality at the end of 2015. *Population density* is defined as population of the municipality at the end of 2015 divided by the land area in square km. *Land area (in sqkm)* is the land area of the municipality measured in squared kilometers. *% foreign population* is the percentage of non-native population in the municipality at the end of 2015. *% post-secondary education* is the percentage of population in the municipality having a degree of post-secondary education at the end of 2015. *Average age* is the average age in the municipality at the end of 2015. *Profit municipality* is the net profit of the municipality at the end of 2015. *Median income* is the median income in the municipality at the end of 2014. *Employment rate* is the number of employed as percentage of the municipality population aged 20-64 at the end of 2014. *Share SD votes* and *Share SD seats* are the shares of votes and seats of Sweden Democrats in the municipality council after 2014 election. *Opinion towards refugees* is a categorical variable from positive (3) to negative (1) attitude towards the asylum seekers using SOM survey 2014.

Table 3: Effect of municipality characteristics on number of refugees per capita

Dep var:	Refugees per capita	Refugees	Housing
Population	-0.001	535.96	62.20
	(0.284)	(0.000)***	(0.001)***
	[1.000]	[0.000]***	[0.014]**
Population density	0.001	3.640	-25.56
	(0.050)*	(0.871)	(0.182)
	[0.551]	[1.000]	[1.000]
% foreign population	0.002	66.14	-19.22
	(0.245)	(0.013)**	(0.336)
	[1.000]	[0.147]	[1.000]
% post-secondary education	-0.004	-2.064	7.88
	(0.077)*	(0.969)	(0.827)
	[0.843]	[1.000]	[1.000]
Average age	0.008	81.63	84.95
	(0.000)***	(0.001)***	(0.000)***
	[0.001]***	[0.010]**	[0.001]***
Profit municipality	-0.000	-21.25	-14.94
	(0.886)	(0.247)	(0.355)
	[1.000]	[1.000]	[1.000]
Median income	0.003	-51.07	5.53
	(0.200)	(0.224)	(0.854)
	[1.000]	[1.000]	[1.000]
Employment rate	-0.005	-29.72	-41.56
	(0.029)**	(0.337)	(0.109)
	[0.323]	[1.000]	[1.000]
Share SD votes	0.001	16.72	12.75
	(0.504)	(0.283)	(0.410)
	[1.000]	[1.000]	[1.000]
Share SD seats	0.003	48.45	34.46
	(0.115)	(0.019)**	(0.071)*
	[1.000]	[0.204]	[0.780]
Opinion towards refugees	0.000	-22.139	-15.008
	(0.648)	(0.214)	(0.366)
	[1.000]	[1.000]	[1.000]
Month FE	X	X	X
N	3,263	3,263	3,263
R^2	0.378	0.738	0.198
F-test joint significance	11.58	31.87	9.49

Note: The table reports the fixed effects coefficients from OLS regressions. The dependent variable is number of refugees in municipality i in month t divided by the population of municipality i in column (1), only the number of refugees in municipality i in month t in column (2), the number of beds available in municipality i in month t in column (3). The explanatory variables are standardized. Standard errors are clustered at municipality level. P-values are reported in parenthesis and adjusted for multiple testing using Bonferroni's (in squared brackets, Holm's p-values are similar). *** - significant at 1 percent, ** - significant at 5 percent, * - significant at 10 percent.

Table 4: Clicks and refugees - Fixed effects results

Panel A

Dep var: Clicks$_t$	(1)	(2)	(3)	(4)	(5)	Logs (6)
Refugees$_t$	0.802***	1.064***	-1.672***	-1.875***	-1.881***	-1.286***
	(0.296)	(0.366)	(0.484)	(0.717)	(0.701)	(0.468)
Municipality FE			X	X	X	X
Month FE		X		X		X
Linear time trend					X	
N	3,295	3,295	3,295	3,295	3,295	3,295
R^2	0.006	0.330	0.017	0.335	0.330	0.436

Panel B

Dep var: Clicks$_t$	(1)	(2)	(3)	(4)	(5)	(6)
Refugees$_{t-1}$	-2.511**					
	(1.067)					
Refugees$_{t-2}$		-2.082*				
		(1.089)				
Refugees$_{t-3}$			-1.189			
			(1.572)			
Refugees$_{t-4}$				-6.604**		
				(3.206)		
Refugees$_{t-5}$					1.819	
					(3.150)	
Refugees$_{t-6}$						16.68***
						(5.795)
Municipality FE	X	X	X	X	X	X
Month FE	X	X	X	X	X	X
N	2,787	2,279	2,025	1,771	1,517	1,263
R^2	0.359	0.410	0.427	0.422	0.481	0.554

Notes: The table reports the fixed effects coefficients from OLS regressions. Panel A: The dependent variable *Clicks* is the measure of average clicks in municipality i and month t divided by the total online traffic of DN in municipality i and month t. *Refugees* is the number of refugees registered in the Migration Board agency in municipality i in month t divided by the population of municipality i. Column (5) controls for a linear time trend instead of month fixed effects. Column (6) uses logarithmic measures for both dependent and independent variables. Panel B: The dependent variable *Clicks* is the measure of average clicks in municipality i and month t divided by the total online traffic of DN in municipality i and month t. Column (1) uses 1-lag measure of the number of refugees registered in the Migration Board agency in municipality i in month t per inhabitants. Columns (2)-(6) use 2-6 lags of the explanatory variable, respectively. Standard errors clustered at municipality level are in parentheses. *** - significant at 1 percent, ** - significant at 5 percent, * - significant at 10 percent.

Table 5: Clicks and refugees - articles classification results

Dep var: $Clicks_t$	Empathy	Placebo	Placebo
$Refugees_t$	-0.984*	-0.838***	-1.302**
	(0.553)	(0.261)	(0.545)
$Empathy_j$	-0.009*		
	(0.005)		
$Refugees_t \times Empathy_j$	-0.356*		
	(0.184)		
$Sweden_j$		0.016***	
		(0.005)	
$Refugees_t \times Sweden_j$		0.151	
		(0.131)	
Word "refugee"$_j$			-0.011**
			(0.005)
$Refugees_t \times$ Word "refugee"$_j$			0.127
			(0.123)
Municipality FE	X	X	X
Month FE	X	X	X
$Refugees_t + Refugees_t \times Empathy_j$	-1.340**		
	(0.592)		
$Refugees_t + Refugees_t \times Sweden_j$		-0.686**	
		(0.288)	
$Refugees_t +$ $Refugees_t \times$ Word "refugee"$_j$			-1.175**
			(0.554)
N	6,590	6,590	6,590
R^2	0.237	0.209	0.255

Notes: The table reports the fixed effects coefficients from OLS regressions. The dependent variable *Clicks* is the measure of average clicks in municipality i and month t divided by the total online traffic of DN in municipality i and month t. *Refugees* is the number of refugees per inhabitants. *Empathy* is an indicator variable of the article taking value 1 if it talks about the refugees' perspective and zero otherwise. The placebo tests consist in using two alternative classifications of the articles. *Sweden* takes value 1 if the article has been published in the "Sweden" section and zero if it is in the "World" section. *Word "refugee"* takes value 1 if the article has the word "refugee" or "asylum seeker" in the headline and zero otherwise. Standard errors clustered at municipality level are in parentheses. *** - significant at 1 percent, ** - significant at 5 percent, * - significant at 10 percent.

Table 6: Local news results

Dep var: $Clicks_t$	Local news	Local news	Other news	Other news
$Refugees_t$	-1.090***	0.427	-2.855	-2.716
	(0.371)	(0.478)	(2.795)	(3.779)
Municipality FE	X	X	X	X
Month FE		X		X
N	154	154	154	154
R^2	0.998	0.999	0.756	0.759

Notes: The table reports the fixed effects coefficients from OLS regressions using a subsample of local news and compare it to other refugee articles published in the same month. The dependent variable *Clicks* is the measure of average clicks in municipality i and month t divided by the total online traffic of DN in municipality i and month t. *Refugees* is the number of refugees registered in the Migration Board agency in municipality i in month t divided by the population of municipality i. Standard errors clustered at municipality level are in parentheses. *** - significant at 1 percent, ** - significant at 5 percent, * - significant at 10 percent.

Table 7: Sweden vs. neighboring countries results

Dep var: $Clicks_t$	Swedish news	Neighboring countries news
$Refugees_t$	-1.343***	0.112
	(0.496)	(0.153)
Municipality FE	X	X
Month FE	X	X
N	3,295	3,295
R^2	0.280	0.181

Notes: The table reports the fixed effects coefficients from OLS regressions using a subsample of news about refugees in Sweden and compare it to articles about refugees in neighboring countries (Norway, Denmark, Finland). The dependent variable *Clicks* is the measure of average clicks in municipality i and month t divided by the total online traffic of DN in municipality i and month t. *Refugees* is the number of refugees registered in the Migration Board agency in municipality i in month t divided by the population of municipality i. Standard errors clustered at municipality level are in parentheses. *** - significant at 1 percent, ** - significant at 5 percent, * - significant at 10 percent.

Table 8: Results by refugees' accommodation type

Dep var: Clicks$_t$	Migration housing	Own housing	Children & sick	Migration housing	Own housing	Children & sick
Refugees$_t$	-2.036**	-1.692	-6.602**	-1.061*	-0.182	-3.629
	(0.799)	(3.225)	(3.239)	(0.617)	(2.755)	(2.595)
Empathy$_j$				-0.009*	-0.019***	-0.013***
				(0.005)	(0.007)	(0.005)
Refugees$_t$ × Empathy$_j$				-0.439**	1.509**	-1.217
				(0.214)	(0.761)	(1.907)
Municipality FE	X	X	X	X	X	X
Month FE	X	X	X	X	X	X
Refugees$_t$ + Refugees$_t$ × Empathy$_j$				-1.499**	1.326	-4.846**
				(0.667)	(2.567)	(1.999)
N	3,295	3,295	3,295	6,590	6,590	6,590
R^2	0.335	0.330	0.331	0.237	0.233	0.234

Notes: The table reports the fixed effects coefficients from OLS regressions on subsamples of refugees based on the type of accommodation (*Migration housing* is housing provided by the Migration Board, *Own housing* is when the refugee joins family or friends, *Children & sick* are unaccompanied children and hospitalized persons). The dependent variable *Clicks* is the measure of average clicks in municipality i and month t divided by the total online traffic of DN in municipality i and month t. *Refugees* is the number of refugees per inhabitants. *Empathy* is an indicator variable of articles taking value 1 if it talks about the refugees' perspective and zero otherwise. Standard errors clustered at municipality level are in parentheses. *** - significant at 1 percent, ** - significant at 5 percent, * - significant at 10 percent.

Table 9: Results by right-wing party vote share

Dep var: $Clicks_t$	Right-wing party	Right-wing party and empathy articles
$Refugees_t$	-2.179**	-1.381**
	(0.858)	(0.593)
$Refugees_t \times SD_i$	0.883	
	(0.813)	
$Refugees_t \times Empathy_j \times$ no-SD_i		-0.191
		(0.241)
$Refugees_t \times Empathy_j \times SD_i$		0.597
		(0.541)
Municipality FE	X	X
Month FE	X	X
N	3,295	6,590
R^2	0.336	0.238

Note: The table reports fixed effects coefficients from OLS regressions. The dependent variable *Clicks* is the measure of average clicks in municipality i and month t divided by the total online traffic of DN in municipality i and month t for all months from February 2015 to February 2016. *Refugees* is the number of refugees per inhabitants. *SD* is an indicator variable that takes value 1 if the municipality i had a vote share for the party Sweden Democrats larger than the national average in the 2014 municipality elections and zero otherwise. *Empathy* is an indicator variable of articles taking value 1 if it talks about the refugees' perspective and zero otherwise. Standard errors clustered at municipality level are in parentheses. *** - significant at 1 percent, ** - significant at 5 percent, * - significant at 10 percent.

Table 10: Parallel trend assumption

Dep var:				Clicks
$Clicks_t$	(1)	(2)	(3)	Mar '15 - Aug '15
$Refugees_t$	-2.847*	-1.888***		
	(1.482)	(0.675)		
Refugee $\times$ I_{feb}			0.737	
			(1.035)	
Refugees $\times$ I_{mar}			0.0352	
			(1.036)	
Refugees $\times$ I_{apr}			0.378	
			(0.862)	
Refugees $\times$ I_{may}			0.720	
			(0.966)	
Refugees $\times$ I_{jun}			-1.462*	
			(0.885)	
Refugees $\times$ I_{jul}			0.721	
			(0.808)	
Refugees $\times$ I_{aug}			0.501	
			(0.666)	
Refugees $\times$ I_{sep}			1.516*	
			(0.807)	
Refugees $\times$ I_{oct}			-1.066**	
			(0.478)	
Refugees $\times$ I_{nov}			-0.945***	
			(0.359)	
Refugees $\times$ I_{dec}			-0.933***	
			(0.339)	
Refugees $\times$ I_{jan}			-0.672**	
			(0.292)	
$Refugees_{\text{Sep '15 - Feb '16}}$				1.395
				(0.975)
Municipality FE	X	X	X	X
Month FE			X	X
Quarter FE	X			
Municipality FE $\times$ Quarter FE	X			
County level trends		X		
N	3,295	3,295	3,295	1,524
R^2	0.317	0.399	0.341	0.334

Notes: The table reports fixed effects coefficients from OLS regressions. The dependent variable *Clicks* is the measure of average clicks in municipality i and month t divided by the total online traffic of DN in municipality i and month t for all months from February 2015 to February 2016 in column (1) and from March 2015 to August 2015 in column (2). *Refugees* is the number of refugees registered in the Migration Board agency in municipality i in month t divided by the population of municipality i for all months in column (1) and from September 2015 to February 2016 in column (2). I_{month} are indicator variables for each month. Standard errors clustered at municipality level are in parentheses. *** - significant at 1 percent, ** - significant at 5 percent, * - significant at 10 percent.

Table 11: Clicks and refugees - IV estimation results

2SLS estimates			
Dep var:			
$Clicks_t$	(1)	(2)	(3)
$Refugees_t$	-1.760***	-2.004***	-1.940***
	(0.515)	(0.712)	(0.693)
Municipality FE	X	X	X
Month FE		X	
Linear time trend			X
N	3,295	3,295	3,295

First stage regression			
Dep var:			
$Refugees_t$	(1)	(2)	(3)
$Housing_t$	1.128***	0.956***	0.989***
	(0.031)	(0.030)	(0.028)
Municipality FE	X	X	X
Month FE		X	
Linear time trend			X
N	3,295	3,295	3,295
R^2	0.917	0.936	0.933
F - statistic	1294.45	238.44	1213.57

Notes: The table reports fixed effects and IV coefficients from OLS and 2SLS regressions. Panel A: The dependent variable *Clicks* is the measure of average clicks in municipality i and month t divided by the total online traffic of DN in municipality i and month t. Panel B: The dependent variable *Refugees* is the number of refugees registered in the Migration Board agency in municipality i in month t divided by the population of municipality i. *Housing* is the number of available beds to host asylum seekers in municipality i at month t divided by the population of municipality i. Standard errors clustered at municipality level are in parentheses. *** - significant at 1 percent, ** - significant at 5 percent, * - significant at 10 percent.

Table 12: Robustness checks - Clicks and refugees

Dep var: Clicks$_t$	Exclude Stockholm	Exclude few clicks municipalities	Exclude other newspapers	Exclude airports	Exclude after Nov '15	Exclude no refugees contract	Exclude top 5% refugees	Exclude bottom 5% refugees	Refugees with granted asylum
Refugees$_t$	-1.875***	-1.929***	-1.934**	-1.901***	-2.089***	-2.043***	-1.267***	-1.938***	-2.068**
	(0.717)	(0.715)	(0.815)	(0.725)	(0.730)	(0.765)	(0.475)	(0.735)	(0.791)
Refugees$_t$ × Granted asylum									0.002
									(0.002)
Municipality FE	X	X	X	X	X	X	X	X	X
Month FE	X	X	X	X	X	X	X	X	X
N	3,282	3,270	2,349	3,191	2,534	3,061	3,140	3,139	3,295
R^2	0.335	0.381	0.313	0.347	0.347	0.332	0.332	0.334	0.335

Notes: The table reports fixed effects coefficients from OLS regressions. The dependent variable *Clicks* is the measure of average clicks in municipality i and month t divided by the total online traffic of DN in municipality i and month t. *Refugees* is the number of refugees registered in the Migration Board agency in municipality i in month t divided by the population of municipality i. Column (1) excludes data from Stockholm. Column (2) excludes data from 2 municipalities for which I have click data only for a few months (Ale and Heby). Column (3) excludes data from 72 municipalities where there is a strong penetration of other newspapers. Column (4) exclude 10 municipalities with high-traffic airports. Column (5) restricts the sample to data before November 2015. Column (6) excludes 18 municipalities which previously did not have agreement to host refugees. Columns (7) and (8) exclude municipalities in the top and bottom 5% distribution of refugees per capita, respectively. Column (9) reports heterogeneous effect for the number of refugees with granted asylum living in the municipality in December 2014. Standard errors in parentheses are clustered at municipality level. *** - significant at 1 percent, ** - significant at 5 percent, * - significant at 10 percent.

Table 13: Robustness checks - Articles classification results

Dep var: $Clicks_t$	Exclude Stockholm	Exclude few clicks municipalities	Exclude other newspapers	Exclude airports	Exclude after Nov '15	Exclude no refugees contract
$Refugees_t$	-0.984*	-1.005*	-1.041*	-1.000*	-1.077	-1.073*
	(0.554)	(0.553)	(0.623)	(0.558)	(0.679)	(0.590)
$Empathy_j$	-0.009*	-0.008*	-0.010	-0.009*	-0.006	-0.010*
	(0.005)	(0.005)	(0.007)	(0.005)	(0.005)	(0.005)
$Refugees_t \times Empathy_j$	-0.354*	-0.368**	-0.358*	-0.350*	-0.559**	-0.376*
	(0.184)	(0.182)	(0.195)	(0.185)	(0.279)	(0.197)
Municipality FE	X	X	X	X	X	X
Month FE	X	X	X	X	X	X
$Refugees_t + Refugees_t \times Empathy_j$	-1.339**	-1.373**	-1.399**	-1.636**	-1.350**	-1.449**
	(0.593)	(0.590)	(0.675)	(0.744)	(0.598)	(0.632)
N	6,565	6,540	4,698	5,069	6,382	6,123
R^2	0.233	0.264	0.208	0.242	0.235	0.229

Notes: The table reports fixed effects coefficients from OLS regressions. The dependent variable *Clicks* is the measure of average clicks in municipality i and month t divided by the total online traffic of DN in municipality i and month t. *Refugees* is the number of refugees registered in the Migration Board agency in municipality i in month t divided by the population of municipality i. Column (1) excludes data from Stockholm. Column (2) excludes data from 2 municipalities for which I have click data only for a few months (Ale and Heby). Column (3) excludes data from 72 municipalities with strong penetration of other newspapers. Column (4) exclude 10 municipalities with high-traffic airports. Column (5) restricts the sample to data before November 2015. Column (6) excludes 18 municipalities which previously did not have agreement to host refugees. Standard errors clustered at municipality level are in parentheses. *** - significant at 1 percent, ** - significant at 5 percent, * - significant at 10 percent.

Table 14: Robustness checks (functional form) - Clicks and refugees

Dep var: $Clicks_t$	Total clicks	Arellano-Bond estimator	Bootstrapped standard errors	Weighted Least Squares	15th percentile
$Refugees_t$	-3.036*	-3.053*	-1.875**	-1.954***	-0.191***
	(2.041)	(1.762)	(0.728)	(0.745)	(0.024)
Municipality FE	X	X	X	X	X
Month FE	X	X	X	X	X
N	3,295	2,533	3,295	3,295	3,295
R^2	0.844		0.335	0.349	0.226
A-B AR(1)		0.073			
A-B AR(2)		0.259			

Notes: The table reports fixed effects coefficients from OLS regressions. The dependent variable *Clicks* is the measure of average clicks in municipality i and month t divided by the total online traffic of DN in municipality i and month t in columns (2)-(5) and the measure of total clicks in municipality i and month t divided by the total online traffic of DN in municipality i and month t in column (1). *Refugees* is the number of refugees registered in the Migration Board agency in municipality i in month t divided by the population of municipality i. Column (2) estimates the Arellano-Bond estimator for a dynamic panel model. Column (4) reports WLS estimates using the square root of population as weights. Column (5) reports the effect at the 15th percentile of the refugee per capita distribution. Standard errors in parentheses are clustered at municipality level are in columns (1)-(2), (4)-(5) and bootstrapped with 1000 replications in column (3). *** - significant at 1 percent, ** - significant at 5 percent, * - significant at 10 percent.

Table 15: Robustness checks (functional form) - Articles classification results

Dep var: $Clicks_t$	Total clicks	Bootstrapped standard errors	Weighted Least Squares
$Refugees_t$	3.256	-0.984***	-1.037*
	(2.710)	(0.335)	(0.564)
$Empathy_j$	-0.716***	-0.009*	-0.004
	(0.032)	(0.005)	(0.003)
$Refugees_t \times Empathy_j$	-9.319***	-0.356**	-0.408**
	(2.001)	(0.173)	(0.197)
Municipality FE	X	X	X
Month FE	X	X	X
N	6,590	6,590	6,590
R^2	0.734	0.237	0.252

Notes: The table reports fixed effects coefficients from OLS regressions. The dependent variable *Clicks* is the measure of average clicks in municipality i and month t divided by the total online traffic of DN in municipality i and month t in columns (2)-(5) and the measure of total clicks in municipality i and month t divided by the total online traffic of DN in municipality i and month t in column (1). *Refugees* is the number of refugees registered in the Migration Board agency in municipality i in month t divided by the population of municipality i. Column (3) reports WLS estimates using the square root of population as weights. Standard errors in parentheses are clustered at municipality level in columns (1) and (3) and bootstrapped with 1000 replications in column (2). *** - significant at 1 percent, ** - significant at 5 percent, * - significant at 10 percent.

Table 16: Placebo test - other news

Dep var: Clicks$_t$	Other major news	Accidents
Refugees$_t$	0.808	-0.459
	(0.816)	(0.752)
Municipality FE	X	X
Month FE	X	X
N	3,295	3,295
R^2	0.118	0.113

Notes: The table reports fixed effects coefficients from OLS regressions using other sets of articles which do not talk about the refugee crisis. The dependent variable *Clicks* is the measure of average clicks in municipality i and month t divided by the total online traffic of DN in municipality i and month t. *Refugees* is the number of refugees registered in the Migration Board agency in municipality i in month t divided by the population of municipality i. Column (1) uses articles on other major events in 2015. Column (2) uses articles talking about accidents. Standard errors clustered at municipality level are in parentheses. *** - significant at 1 percent, ** - significant at 5 percent, * - significant at 10 percent.

Table 17: Crisis and non-linear results

Dep var: $Clicks_t$	(1)	(2)	(3)	(4)
$Refugees_t$	-1.875***	-0.661	-1.704**	-1.534*
	(0.717)	(0.710)	(0.691)	(0.800)
$Post\text{-}September_t$		0.028		
		(0.030)		
$Refugees_t \times Post\text{-}September_t$		-0.909**		
		(0.436)		
$Crisis_t$			-0.002	
			(0.024)	
$Refugees_t \times Crisis_t$			-0.471	
			(0.354)	
$Refugees_t^2$				-2.383
				(6.301)
Municipality FE	X	X	X	X
Month FE	X	X	X	X
$Refugees_t + Refugees_t \times Post\text{-}Sept_t$		-1.570**		
		(0.719)		
$Refugees_t + Refugees_t \times Crisis_t$			-2.175***	
			(0.800)	
N	3,295	3,295	3,295	3,295
R^2	0.335	0.336	0.336	0.335
Adj-R^2	0.277	0.278	0.277	0.277

Notes: The table reports the fixed effects coefficients from OLS regressions. The dependent variable *Clicks* is the measure of average clicks in municipality i and month t divided by the total online traffic of DN in municipality i and month t. *Refugees* is the number of refugees registered in the Migration Board agency in municipality i in month t divided by the population of municipality i. *Post-September* is an indicator variable taking the value of 1 if the data are between October 2015 and February 2016. *Crisis* an indicator variable taking the value of 1 if the data are between October 2015 and November 2015. Standard errors clustered at municipality level are in parentheses. *** - significant at 1 percent, ** - significant at 5 percent, * - significant at 10 percent.

Table 18: Results by type of municipality

Dep var: Clicks$_t$	(1)	(2)	(3)	(4)
Refugees$_t$	-2.292***	-0.909**	-10.30***	-1.995**
	(0.798)	(0.358)	(3.436)	(0.962)
Refugees$_t$ × Office	1.504*			
	(0.806)			
Refugees$_t$ × Above average		-0.668		
		(0.538)		
Refugees$_t$ × Large increase			5.387**	
			(2.144)	
Refugees$_t$ × Pro-refugees				0.307
				(0.832)
Municipality FE	X	X	X	X
Month FE	X	X	X	X
Refugees$_t$ + Refugees$_t$ × Office	-0.789			
	(0.668)			
Refugees$_t$ + Refugees$_t$ × Above average		-1.577**		
		(0.611)		
Refugees$_t$ + Refugees$_t$ × Large increase			-4.911**	
			(2.115)	
Refugees$_t$ + Refugees$_t$ × Pro-refugees				-1.688***
				(0.519)
N	3,295	3,023	272	3,295
R^2	0.336	0.337	0.372	0.335

Notes: The table reports fixed effects coefficients from OLS regressions. The dependent variable *Clicks* is the measure of average clicks in municipality i and month t divided by the total online traffic of DN in municipality i and month t. *Refugees* is the number of refugees registered in the Migration Board agency in municipality i in month t divided by the population of municipality i. *Office* is an indicator variable taking the value of 1 if there is a Migration Board office in municipality i. Column (2) restricts the sample to municipalities hosting a number of refugees above or below the national average. *Above average* is an indicator variable taking the value of 1 if the municipality hosted a number of refugees above the national average. Column (3) restricts the sample to municipalities hosting a number of refugees which switch from below(above) to above(below) national average after September 2015. *Large increase* is an indicator variable taking the value of 1 if the number of refugees hosted in the municipality went from below to above national average after September 2015. *Pro-refugees* is an indicator variable that takes value 1 if the municipality has a neutral or positive opinion towards refugees (corresponding to value 2 and 3 of the constructed index from 2014 SOM survey). Standard errors clustered at municipality level are in parenthesis. *** - significant at 1 percent, ** - significant at 5 percent, * - significant at 10 percent.

Table 19: Opinion pieces results

Dep var: $Clicks_t$	Opinion	Culture	Editorial
$Refugees_t$	-0.363	-0.085	-0.746*
	(0.399)	(0.355)	(0.397)
Municipality FE	X	X	X
Month FE	X	X	X
N	3,295	3,295	3,295
R^2	0.017	0.014	0.035

Notes: The table reports fixed effects coefficients from OLS regressions using articles about the refugees which are published in opinion/blogs/editorial sections. The dependent variable *Clicks* is the measure of average clicks in municipality i and month t divided by the total online traffic of DN in municipality i and month t. *Refugees* is the number of refugees registered in the Migration Board agency in municipality i in month t divided by the population of municipality i. Column (1) uses articles in the section "Debate" and in blogs. Column (2) uses articles in the section "Culture". Column (3) uses editorial articles. Standard errors clustered at municipality level are in parentheses. *** - significant at 1 percent, ** - significant at 5 percent, * - significant at 10 percent.