

Has Opposition to Immigration Increased in the U.S. after the Economic Crisis? An Experimental Approach¹

Mathew J. Creighton
Universitat Pompeu Fabra

Amaney Jamal
Princeton University

Natalia C. Malancu
Universitat Pompeu Fabra

We employ two population-level experiments to accurately measure opposition to immigration before and after the economic crisis of 2008. Our design explicitly addresses social desirability bias, which is the tendency to give responses that are seen favorably by others and can lead to substantial underreporting of opposition to immigration. We find that overt opposition to immigration, expressed as support for a closed border, increases slightly after the crisis. However, once we account for social desirability bias, no significant increase remains. We conclude that the observed increase in anti-immigration sentiment in the post-crisis U.S. is attributable to greater expression of opposition rather than any underlying change in attitudes.

INTRODUCTION

Historically, the economy plays an important role in shaping public opinion about immigration reform (Citrin *et al.*, 1997). In the post-crisis U.S.

¹We would like to acknowledge the support of Time-Sharing Experiments for the Social Sciences (TESS) without which this work would not be possible. In the development of this work, we benefitted from the technical support of Graeme Blair and Kosuke Imai. We also appreciate the feedback received from the presentation of an earlier draft to the Politics Methods Seminar at Princeton University and the Demography and Sociology Research Group (DEMOSOC) at the Universitat Pompeu Fabra.

political landscape, immigration has emerged as a centerpiece of the current legislative session, reflected in the hotly contested bipartisan reform effort (Parker, 2013). Currently, two-thirds of the U.S. population considers immigration policy to be in need of major reform (Pew Research Center, 2013). Underlying this somewhat broad consensus are clear divisions on the way forward.

Support for immigration in the U.S. has been weak, even before the financial crisis of 2008 (Fetzer, 2000; Ilias, Fennelly, and Frederico, 2006; Janus, 2010). For legal immigrants, public opinion is divided with similar proportions of the population supporting increasing, maintaining or reducing the flow of legal immigrants.² Undocumented immigration is viewed differently with over half of the U.S. population wanting to halt the flow in 2006 and 2010.³ In the EU, more restrictive postures toward immigrants have become part of the post-crisis political landscape (DeParle, 2008; Dalton, 2011). Media depictions of antipathy toward immigrants in the U.S. (Baker, 2008; Robertson, 2012) and the EU (Donadio and Bounias, 2012) have been attributed to the global economic downturn.

We assess trends in opposition to immigration⁴ using two population-level experiments conducted before and after the financial crisis of 2008. The first, fielded in late 2005 and early 2006, queries opposition to a closed border in the U.S. (Janus, 2005). To measure change in opposition to immigration after the financial crisis, we conduct a comparable experiment in 2010 (Creighton and Jamal, 2010). The rationale for employing an experimental design, termed a list experiment (Sniderman and Carmines, 1997; Kuklinski, Cobb, and Gilens, 1997; Kuklinski *et al.*, 1997; Tsuchiya, Hirai, and Ono, 2007; Blair and Imai, 2010; Glynn, 2013), is to minimize social desirability bias, which previous work has shown can lead to significant underestimation of opposition to immigration (Janus, 2010; Malhotra, Margalit, and Mo, 2013) and nativism (Knoll, 2013).

²Estimates are derived from the following Gallup polls: 2005 (June 6–25), 2005 (December 9–11), 2006 (April 7–9), 2006 (June 8–25), 2007 (June 4–24), 2008 (June 5–July 6), 2009 (July 10–12), 2010 (July 8–11), 2011 (June 9–12), and 2012 (June 7–10). The 2013 estimates are derived from the Pew Research Center (May 1–5).

³Estimates are derived from the following Gallup polls: 2006 (May 5–7) and 2010 (June 11–13).

⁴Consistent with previous work (Janus, 2010), opposition to immigration is measured by measuring support for a closed border. Greater support for a closed border is interpretable as greater opposition to immigration.

EXPLANATIONS OF ATTITUDES TOWARD IMMIGRATION

Moments of economic hardship differentially affect distinct socioeconomic groups, which can result in an increase in opposition with those most affected being the most opposed. This basic logic underlies theories opposition to immigration rooted in economic competition. Put succinctly in a review of the literature, “[a]s rational actors, natives pursuing their own well-being develop unfavorable attitudes in order to legitimate their social positions when competing with foreigners over jobs. . . , especially during times of economic recession (Ceobanu and Escandell, 2010:317).” Another, more recent assessment of the literature points out inconsistent findings, suggesting that economic self-interest is not clearly determinant of anti-immigrant sentiment (Hainmueller and Hopkins, 2014). Recent work, focused on the 2008 economic crisis, finds that immigration flows to specific employment sectors result in less support for immigration by workers in those sectors under conditions of economic deterioration (Dancygier and Donnelly, 2013). That said, overall empirical support is mixed.

One of the most commonly included measures of labor market position is education, defined as a proxy for skill level. Research consistently shows greater opposition to immigrants/immigration among the less educated (Scheve and Slaughter, 2001; Mayda, 2006; Hanson, Scheve, and Slaughter, 2007; McLaren and Johnson, 2007). Those with fewer skills compete most directly with immigrants, who are assumed to incorporate into the lower strata of the economic ladder, and therefore are most opposed to immigration.⁵ In contrast, work by Hainmueller and Hiscox in Europe (2007) and the U.S. (2010) finds no significant association between labor market competition and opposition to immigration. In the U.S. case, Hainmueller and Hiscox (2010) show that low-skilled natives do not oppose low-skilled immigrants to a greater extent than highly skilled natives. This finding is reaffirmed by work that shows that fear of labor market competition does not substantially affect attitudes toward immigrants (Hainmueller and Hiscox, 2010; Hainmueller, Hiscox, and Margalit, 2011). Some argue that education is a proxy for more than just human capital and skill level. Instead, the association between higher levels of education and tolerance toward immigration reflects a more global/

⁵A notable exception to this assumption is Malhotra, Margalit, and Mo (2013) who consider high skilled workers.

cosmopolitan outlook (Chandler and Tsai, 2001; Haubert and Fussell, 2006).

Unemployment is also consistently used as a proxy for labor market position and, for the unemployed, a marker of vulnerability to competition from immigrants. Most work includes the measure directly (Gang, Rivera-Batiz, and Yun, 2002; McLaren and Johnson, 2007; Kinder and Kam, 2009), but some use a similar attribute like job security or fear of job loss (McLaren, 2003; Dustmann and Preston, 2007). As with education, findings are mixed. Some scholars find no evidence that the unemployed are more opposed to immigration (Fetzer, 2000; McLaren and Johnson, 2007; Brader, Valentino, and Suhay, 2008; Kinder and Kam, 2009). Others find only limited support (Gang, Rivera-Batiz, and Yun, 2002; McLaren, 2003; Dustmann and Preston, 2007; Rustenbach, 2010). Recent work in Germany, which uses longitudinal data to assess individual-level changes in economic circumstance effect on attitudes toward immigration, finds that becoming unemployed or being laid-off significantly increases concern over immigration (Lancee and Pardos-Prado, 2013). That said, our ability to generalize about the role of unemployment in shaping opposition to immigration is limited at best.

A third measure of labor market position is income. Some research using expectations of reduced wages or lower income to explain opposition to immigration finds no support (Chandler and Tsai, 2001; Brader, Valentino, and Suhay, 2008) or limited support (Espenshade and Hempstead, 1996; McLaren, 2003; Dustmann and Preston, 2007; Sides and Citrin, 2007). Other work that uses observed income (Mayda, 2006; Hanson, Scheve and Slaughter, 2007) or average occupational wages (Scheve and Slaughter, 2001) finds that lower wages predict greater opposition to immigration.

In contrast to economic theories of anti-immigration sentiment, some work suggests that opposition is better captured by explanations that treat immigrants as cultural and social threats to mainstream identities (Espenshade and Hempstead, 1996; Bauer, Lofstrom, and Zimmerman, 2000; Gang, Rivera-Batiz, and Yun, 2002; Sniderman, Hagendoorn, and Prior, 2004; Sides and Citrin, 2007; Dustmann and Preston, 2007; Brader, Valentino, and Suhay, 2008; Hainmueller and Hiscox, 2010; Pichler, 2010; Knoll, 2013). Theoretically these threats are moderated (or exacerbated) by social interaction between immigrants and non-immigrants. Work in New Zealand concludes that the frequency of intercultural contact reduces to the perceived threat of immigrants (Ward and Masgoret,

2008). Research in Germany (Fitzgerald, 2012) finds that social engagement has a moderating effect on anti-immigration sentiment in some domains (*e.g.*, church attendance) and not in others (*e.g.*, routinely helping others).

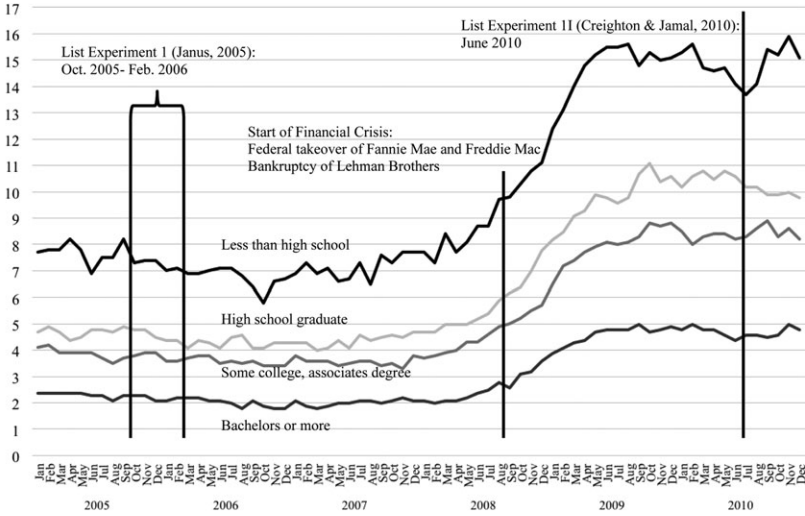
Although social explanations could operate independently and concurrently with those rooted in economic competition, this work focuses on the theoretical trend in anti-immigration sentiment implied by a rapid deterioration in the U.S. economy. The research presented here cannot offer a causal link between the economic crisis and the observed trend in public opinion, but the experimental approach does offer an unbiased assessment of whether attitudes toward immigration have indeed hardened after the 2008 economic crisis as the resultant increased economic competition would suggest.

POST-CRISIS U.S.

The U.S. economic context changed rapidly after the financial crisis of 2008. Provoked by a recent downturn in the subprime mortgage market, the Federal Housing Finance Agency (FHFA) placed the Federal National Mortgage Association (*i.e.*, Fannie Mae) and the Federal Home Loan Mortgage Corporation (*i.e.*, Freddie Mac) under federal conservatorship. This event, when coupled with the nearly simultaneous bankruptcy of Lehman Brothers, a 158-year-old holding company and investment bank, is often pointed to as the moment at which the financial crisis began (Taylor, 2009). Although cracks appeared in the mortgage market as early as August of 2007, September of 2008 offers marquee events and a clear cleavage between “before” and “after” that has ingrained itself into the public psyche (Taylor, 2009).

The financial crisis did not affect all equally. Figure I shows the monthly trend in the seasonally adjusted unemployment rate by level of completed education. Although stratification by education is a fixture of unemployment in the U.S., the difference between groups in terms of unemployment increases substantially in the post-crisis period. Unemployment among the least educated (less than high school) rises from about 10 percent in the 2005–2007 period to about 15 percent in the 2009–2010 period. Unemployment among the most educated (bachelors degree or higher), in contrast, never exceeds 5 percent. Unemployment among the middle educational levels (high school and some college) experiences a sharper increase, but never exceeding 11 percent and 9 percent, respectively.

Figure I. Unemployment by level of education – U.S. adults age 25+. Source: Current Population Survey 2005–2010



Source: Current Population Survey 2005-2010

We do not suggest that the economic crisis is the only relevant factor. Admittedly, events that occurred subsequent to our pre-crisis measure such as a contested effort at immigration reform and the mobilization of large rallies in favor of immigrant rights (Balz and Fears, 2006) have implications for attitudes toward immigrations independent of the economic context. Nor do we suggest that these conditions only apply to the U.S. In terms of unemployment, some European contexts (*e.g.*, Ireland and Spain) exceed what was observed in the post-crisis U.S.⁶ What this work offers is an unbiased assessment of the trend in anti-immigration sentiment in the post-crisis U.S.

HYPOTHESES

We offer four straightforward and testable hypotheses to assess expectations in the trend in opposition to immigration overall and by level of education, employment status, and income.

⁶In 2010, 24.7 percent and 19.4 percent of the least educated (lower-secondary and below) were unemployed in Spain and Ireland, respectively (Eurostat, 2013; table tps00066).

H1: After the financial crisis, opposition to immigration increased.

H2: After the financial crisis, opposition to immigration increased more among the less educated than the more educated.

H3: After the financial crisis, opposition to immigration increased more among the unemployed than the employed.

H4: After the financial crisis, opposition to immigration increased more among those with a lower household income than those with a higher household income.

SOCIAL DESIRABILITY BIAS

A core concern of recent efforts to assess trends in anti-immigration sentiment is the measurement of opposition. A growing literature suggests that the desire to appear tolerant can lead to a significant and substantial underreporting of opposition to immigration (Janus, 2010; Malhotra, Margalit, and Mo, 2013). Termed “social desirability bias,” this desire to appear tolerant refers to the need to be seen in a favorable light by others (Kuklinski *et al.*, 1997; Presser and Stinson, 1998; Kuran and McCaffery, 2008). Due to pressures to appear tolerant, people might tend to conceal their racism and prejudices. Work by Mendelberg (2001) underscores the consequences linked to these “implicit” forms of discrimination. The implications are profound. In the presence of social desirability bias, little credibility can be assigned to responses that would leave the respondent vulnerable to appearing intolerant. An experiment conducted in 2005 by Janus (2005), which is in part reproduced in the following analysis, finds that estimates that do not take social desirability bias into account underestimate support for a closed border by nearly 20 percent (Janus 2010). The work of Janus (2010), which demonstrates the substantive and significant social desirability bias in direct estimates of opposition to immigration, provides both an estimate of pre-crisis opposition and a methodological model to ascertain underlying, indirectly measured opposition – the list experiment.

In work that considers similarly controversial topics that require respondents to articulate intolerance on such issues as immigration policy (Knoll, 2013), affirmative action (Kuklinski *et al.*, 1997b), opposition to a female president (Streb *et al.*, 2008) and race attitudes (Kuklinski, Cobb, and Gilens, 1997a), significant underestimation is attributed to social desirability bias. It should be noted that there are other effective approaches to reduce social desirability bias such as the implicit association test (IAT), which has been successfully employed to measure the link

between nativism (Knoll, 2013) and anti-Hispanic preferences (Pérez, 2010) and immigration policy preferences.

THE LIST EXPERIMENT

Social desirability bias is reduced primarily by offering respondents absolute anonymity. One approach, termed the list experiment,⁷ offers the advantage of guaranteeing respondents permanent anonymity, as individual responses are not directly observable and cannot be known. The logic of the list experiments is as follows. To be consistent with the pre-crisis experiment, which successfully measured significant social desirability bias, the wording of the list experiment described below is identical to that of Janus (2005, 2010). A representative sample of the U.S. population is divided into a control group and a treatment group. The control group is asked a single question about the following list of items (L1–L3).

Below you will read three things that sometimes people oppose or are against. After you read all three, just tell us *HOW MANY* of them you *OPPOSE*. We don't want to know which ones, just *HOW MANY*.

- (L1) the federal government increasing assistance to the poor
- (L2) professional athletes making millions of dollars per year
- (L3) large corporations polluting the environment

The treatment group is asked an identical question, but of a list that includes the original three items⁸ and a fourth item (L4) that queries opposition to closing the U.S. border.

- (L4) cutting off all immigration to the U.S.

In its most basic incarnation, the comparison of the mean of the responses to the control list question with the mean of the responses to the treatment list question offers an estimate of the proportion opposed to the additional list item. Recent work on the list experiment has pointed out that minimizing the variation in the response pattern for the control

⁷For a recent assessment of the list experiment, see Glynn (2013).

⁸To maintain comparability over time, the number of items used in 2010 is identical to that used in 2005 (*i.e.*, three). Varying the number of list items in the control to assess whether the number of items affects the observed response pattern would be ideal, but it is beyond what we can accomplish in this work given our need to preserve comparability.

list (L1–L3) or introducing negative correlation improves the accuracy of estimates (Glynn, 2013). Even if Glynn (2013) had been published prior to fielding the experiment, we were limited to the wording of the 2005 list question that measured opposition to a closed border, a relatively pro-immigration stance, to maintain comparability across time. To avoid confusion, we consistently refer to decreases in opposition to a closed border as increases in opposition to immigration.

One important assumption of a list experiment is that there is no design effect. The addition of the controversial question (L4) should not change the response pattern of the three non-controversial questions (L1–L3). Blair and Imai (2012) have recently proposed a test to detect the presence and magnitude of the design effect, testing the null hypothesis of no design effect. We cannot reject the null hypothesis of no design effect in 2005 ($p \geq 0.77$) or 2010 ($p \geq 0.19$), which suggests that for both experiments the assumption of no design effect holds.⁹

In both experiments, the control group is asked the following direct question (D1) about their opposition to a closed border.¹⁰

(D1) Do you support or oppose cutting off all immigration to the U.S.?

When the proportion opposed derived from this direct question is compared to the proportion estimated from the list experiment, the difference is interpreted as the size of the social desirability bias.

Data

To assess changes in attitudes toward immigration before and after the financial crisis of 2008, we compare a list experiment conducted in 2010

⁹The reported p -value is the Bonferroni-corrected minimum p -value estimated using the command `– ict.test` in the R package `list` developed by Blair and Imai (2010).

¹⁰The response categories for the direct question changes slightly between 2005 and 2010. In 2005, respondents could respond “support” or “oppose.” In 2010, respondents could respond “strongly support,” “somewhat support,” “neither support nor oppose,” “somewhat oppose” or “strongly oppose.” To compare responses across time, we consider the 2010 responses “somewhat oppose” and “strongly oppose” to be equivalent to the 2005 response category “oppose.” As a result, the proportion not opposed could include some of the 2010 neutral (*i.e.*, “neither support nor oppose”) responders who would have directly expressed support if a neutral option had not been offered.

(Creighton and Jamal, 2010) to a similarly designed list experiment collected in 2005 (Janus, 2005). The 2005 experiment, fielded between October 2005 and February 2006 (*see*, Figure I) by the Indiana University Center for Survey Research, employs random-digit dialing (Janus 2010). The fieldwork for the 2010 experiment uses respondents to the Knowledge-Panel[®], which is a probability-based online panel managed by Knowledge Networks (Knowledge Networks, 2011). All sampled individuals in 2010 who are in need are provided laptops and access to the internet. Some work finds that web-based data collection reduces social desirability bias when the pressure is positive (*i.e.*, over-reporting; Holbrook and Krosnick 2010). However, estimates of attitudes affected by negative social pressure are still subject to social desirability bias even when the mode of collection is web-based (Tsuchiya, Hirai, and Ono, 2007; Heerwegh, 2009). For a discussion of the implications of the change in the mode of the data collection between 2005 and 2010, please see Appendix 2. The design and implementation of both experiments is overseen by Time-Sharing Experiments for the Social Sciences (TESS), a multi-investigator data collection managed by the Indiana University Center for Survey Research and funded by the National Science Foundation, via a peer-reviewed application process.

Analytic Samples

The analysis consists of a total of four random samples – a treatment and control group for the experiment conducted in 2005 and in 2010 (*i.e.*, before and after the financial crisis of 2008). The first experiment consists of 866 respondents, 473 of whom are in the control group and 393 of whom are in the treatment group (Janus, 2010).¹¹ The reported response rate for the entire telephone instrument was 30 percent, which is notably low. Janus (2010) compares the sample to the 2006 American Community Survey and finds respondents were more likely to be older, non-Hispanic white, highly educated and economically affluent relative to the general population. The second experiment, conducted in June of 2010 (*see*, Figure I), is collected

¹¹The data and survey instruments are publicly available at <http://www.tessexperiments.org/data/janus297.html>.

using a mixture of random-digit dialing.¹² The resulting sample consists of 1,609 respondents, 793 of whom are in the control group and 816 of whom are in the treatment group (Creighton and Jamal, 2010).¹³ Calculating metrics analogous to a response rate in a standard cross-sectional survey is complicated for online panels as the sample used in a given experiment is a fraction of the overall panel (*see*, Callegaro and DiSogra, 2009). Knowledge Networks estimates that for the KnowledgePanel[®] the within survey response rate is approximately 65 percent (Knowledge Networks, 2011). Implications of the low response rate for the first experiment and differences in the mode of data collection between the first and second experiment are discussed in some detail in Appendix 2.

Measures

Table 1 reports the sample characteristics of the four independent, population-level random samples used – a treatment and control in 2005 and 2010, respectively. We consider four levels of education – less than high school, high school or less, some college, and college or more. To be comparable across time, we recode a number of response categories in the original questionnaires. In the 2005 samples, we label respondents with 0–11 years of school as “less than high school.” In the 2010 samples, “less than high school” consists of those with no formal education and respondents with completed schooling of less than high school. In 2010, respondents directly report having a high school degree and are labeled as such. In the 2005 samples, “high school” refers to those who report a high school diploma/GED. In the 2010 samples, the category “some college” includes those who completed some college, but did not receive a degree and those with an associate’s degree. Respondents in 2010 with an education level of “college or more” include those who have a bachelor’s degree,

¹²Two additional treatment groups were included in the 2010 data collection, which are not relevant for the research presented here but are factored into the response rate described above. The data and survey instruments are publicly available at <http://www.tessexperiments.org/data/creighton022.html>.

¹³The difference between the sample sizes in the 2005 and 2010 experiments is not attributable to differences in the response rate. Instead, it emerges from tradeoff in the TESS application process between the number of questions that could be asked and the size of the sample. Janus (2005) included additional questions that were not included in the Creighton and Jamal (2010) experiment resulting in a smaller overall sample.

TABLE 1
DESCRIPTIVE STATISTICS

	Percentage or mean (SD)			
	Control 2005	Treatment 2005	Control 2010	Treatment 2010
List	1.80 (0.71)	2.19 (0.91)	1.91 (0.74)	2.23 (0.94)
Not opposed (direct)	39.75		57.39	
Opposed (direct)	60.25		42.61	
Less than high school	6.55	7.38	11.80	12.86
High school	26.64	26.72	32.80	32.50
Some college	32.56	30.28	28.70	27.26
College or more	34.25	35.62	26.71	27.38
Employed	53.28	54.20	53.91	53.69
Unemployed/not in labor force	9.09	5.85	17.27	20.00
Other	37.63	39.95	28.82	26.31
Less than \$25,000	18.39	16.28	18.88	21.43
\$25,000–\$49,999	29.60	34.35	27.83	26.90
\$50,000–\$74,999	24.10	18.58	22.36	21.43
\$75,000 or more	27.91	30.79	30.93	30.24
<i>n</i>	473	393	793	816

Source: TESS/Knowledge Networks[®]; Janus (2005); Creighton and Jamal (2010).

a master's degree or professional degree. Both "some college" and "college or more" are original response categories in the 2005 questionnaire.

The variable for employment status consists of three categories – "employed," "unemployed/not in labor force," and "other." As with education, we need to recode some of the original response categories to best maintain comparability across time. We label as "employed" all individuals doing work for pay in the 2005 samples. In 2010, "employed" refers to those who identify themselves as paid employees or self-employed. Respondents who identify as temporarily unemployed and engaged in endeavors other than working in the 2005 samples are considered "unemployed/not in labor force." The 2010 "unemployed/not in labor force" are those temporarily laid-off, not working and looking for work and not working for other reasons. Therefore, our unemployment measure is not directly comparable with estimates from the National Bureau of Labor Statistics shown in Figure I, as we cannot distinguish those who are not in the labor force, but are seeking employment, from those that are no longer seeking employment.

Unfortunately, there are a number of employment statuses that are not consistently identified in the 2005 and the 2010 samples. In 2010, we are unable to separately identify students and respondents keeping house, which are distinguishable in the 2005 experiment. Similarly, the 2005 samples do not distinguish the self-employed, who are identifiable in the 2010 samples. As a result, it is possible that students and those keeping home could be mislabeled as employed or unemployed in 2010 and the

self-employed could be mislabeled as unemployed or other in 2005. To avoid further reduction of an already small sample, we elect to create an admittedly heterogeneous employment category labeled “other” that includes students, the retired, those unable to work for reasons of disability and those who identify themselves as keeping house. We should emphasize that the measures of support for a closed border (both directly and indirectly estimated) as well as the presence and magnitude of social desirability bias for a given year are unaffected by inconsistencies in the available response categories across time. We return to the issue of comparability of the measure of employment status in the section on limitations in Appendix 2.

We divide income at the household level into four categories – under \$25,000, \$25,000 to \$49,999, \$50,000 to \$74,999 and \$75,000+. The selection of these categories results from the need to consistently measure household income in the 2005 and 2010 experiment. In 2010, respondents could select one of 19 separate brackets. However, in 2005, only six categories are permitted, requiring the construction of a simplified variable, consisting of the four categories described above, to maintain consistency across samples. A more refined income measure would be ideal, but the variable used does accurately identify those with low incomes, who are the focus of the fourth hypothesis (H4), as the weighted average poverty threshold for a four-person household is \$19,971 and \$22,314 in 2005 and 2010, respectively. This is in line with our coding of the poorest category at under \$25,000.¹⁴

The Model

As described above, the basic analysis of the list experiment is a difference in means where the average response to the list question in the control (L1–L3) is compared to the average response to the list question in the treatment group (L1–L4). The difference in these means is the proportion attributable to the question of interest (L4). Recent work by Imai (2011) and Blair and Imai (2012), using a maximum-likelihood estimator, has extended the traditional difference in means approach (Appendix 1; equation 1). The primary advantage over the difference in means and an alternatively proposed non-linear least squares approach is that the maximum-likelihood estimation uses

¹⁴Poverty thresholds are released annually by the United States Department of Commerce. The historical time-series can be accessed at <http://www.census.gov/hhes/www/poverty/data/threshld/index.html>

all information from the joint distribution in the treatment and control (Imai, 2011). Please see Appendix 1 for a formal introduction to the modeling strategy. The predicted proportion expressing opposition to the question of interest (L4) is derived from a comparison of the list question in the treatment group (L1–L4) to the list question in the control (L1–L3).

To estimate the trend in opposition over time (*i.e.*, before and after the financial crisis of 2008), the same estimation strategy described by equation 1 in Appendix 1 is used, and the estimated proportion opposed to a closed border in 2010 is subtracted from the estimated proportion in 2005. To understand the size of the social desirability bias and any implications for assessing the pre- and post-crisis trend in anti-immigration sentiment, we compare the indirect estimates (*i.e.*, the treatment) to the direct estimates (*i.e.*, the control) across time (Appendix 1; equation 2). This allows us to distinguish changes in underlying opposition, once the social desirability bias is taken into account, from changes in overt opposition, which can be effected by the desire to appear tolerant. Overt, directly measured opposition (D1) is analogous to what one would find in non-experimental cross-sectional survey data.

Social Desirability and Overall Opposition to a Closed Border

The values reported in Table 2 are the estimated proportion opposed to “cutting of all immigration to the United States” as derived from the direct question (D1), labeled “Direct, and the list experiment (L1–L4), labeled “List,” for the pre-crisis (columns a and b) and post-crisis period (columns c and d).¹⁵ Lower values, meaning fewer people opposed to closing the border, are interpretable greater opposition to immigration.¹⁶ The proportions estimated for the overall sample (*i.e.*, the U.S. general population) are reported in the first row, labeled “no covariates.” Each additional row reflects estimates derived from separate models that only include respondents of that subgroup (*e.g.*, high school) without the use of additional controls.

¹⁵The Table 2 reports the proportion, but to facilitate interpretation, when appropriate, the reported proportion will be converted to a percentage and described as such in the text.

¹⁶The 2005 list experiment (Janus, 2005) asked about opposition to a closed border rather than opposition to immigration so, to compare across time the original wording had to be maintained, which is reflected in the reported proportions. That said, we refer to a decline in opposition to a closed border as an increase in opposition to immigration to avoid the need for a double negative and to facilitate the communication of the findings.

TABLE 2
DIRECT AND LIST EXPERIMENT ESTIMATES OF THE PROPORTION OPPOSED TO CUTTING OFF ALL IMMIGRATION TO THE U.S. – PRE-CRISIS (2005) AND POST-CRISIS (2010)

	Direct 2005 (a)	List 2005 (b)	Difference 2005 (b–a)	Direct 2010 (c)	List 2010 (d)	Difference 2010 (d–c)
No covariates	0.603*	0.319*	–0.284*	0.425*	0.305*	–0.120*
Less than High school	0.677*	0.294	–0.384	0.344*	0.479*	0.135
High school	0.548*	0.224*	–0.323*	0.313*	0.255*	–0.057
Some college	0.519*	0.291*	–0.228*	0.386*	0.328*	–0.058
College or more	0.710*	0.487*	–0.223	0.638*	0.289*	–0.350
Employed	0.627*	0.361*	–0.266*	0.435*	0.301*	–0.134*
Unemployed/Not in labor force	0.558*	0.277	–0.282	0.478*	0.322*	–0.156
Other	0.579*	0.283*	–0.296*	0.374*	0.306*	–0.069
Less than \$25,000	0.552*	0.301	–0.250	0.340*	0.389*	0.049
\$25,000–\$49,999	0.586*	0.304*	–0.281	0.386*	0.358*	–0.028
\$50,000–\$74,999	0.640*	0.311*	–0.329*	0.363*	0.218*	–0.145*
\$75,000 or more	0.621*	0.377*	–0.244	0.555*	0.286*	–0.269*
<i>n</i>	473	393		793	816	

* $p \leq 0.05$.

Source: TESS/Knowledge Networks[®]; Janus (2005); Creighton and Jamal (2010).

The overall pattern, which is consistent with previous work using the same data (Janus 2011), shows that under direct questioning (Table 2; column a), almost 60 percent of the Christian, adult (age 18+) U.S. population is opposed to a closed border. The proportion derived from the list experiment (Table 2; column b) is almost exactly half (60 percent versus 32 percent) of that estimated via direct questioning, and the difference is significant. The results suggest that respondents mask their opposition and underlying anti-immigration sentiment is far higher than direct estimates suggest even before the financial crisis.

In the post-crisis period, 43 percent of the U.S. public is overtly opposed to a closed border, showing that the majority is opposed to immigration. Moreover, at about 12 percent, the observed social desirability bias is only a third of the 32 percent observed in the pre-crisis period (Table 2; column b–a versus column d–c). In other words, hiding opposition to immigration is becoming less desirable.

RESULTS

Pre- and Post-Crisis Opposition to a Closed Border

Row 1 of Table 3, labeled “no covariates,” reports the trend in direct and indirect overall opposition to a closed U.S. border, which speaks directly

TABLE 3
DIRECT AND LIST EXPERIMENT ESTIMATES OF THE TREND IN OPPOSITION TO CUTTING OFF ALL IMMIGRATION TO THE U.S. – PRE-CRISIS (2005) AND POST-CRISIS (2010)

	Direct difference 2010–2005 (c–a)	List difference 2010–2005 (d–b)
No covariates	–0.178*	–0.014
Less than High school	–0.333*	0.185
High school	–0.235*	0.031
Some college	–0.134*	0.036
College or more	–0.071	–0.199
Employed	–0.192*	–0.060
Unemployed/not in labor force	–0.080	0.046
Other	–0.204*	0.023
Less than \$25,000	–0.212*	0.088
\$25,000–\$49,999	–0.199*	0.054
\$50,000–\$74,999	–0.277*	–0.093
\$75,000 or more	–0.067	–0.091

* $p \leq 0.05$.

Note: The letters in the Table 3 column headings refer to Table 2.

Source: TESS/Knowledge Networks[®]; Janus (2005); Creighton and Jamal (2010).

to the first hypothesis (H1). The letters in the column headings (*e.g.*, “c–a” or “d–b”) refer to the column headings in Table 2, and the reported values are the estimated change in the proportion opposed to a closed border between 2005 and 2010, which are labeled “Difference” for the pre- and post-crisis estimates.

Direct opposition to a closed border declines by about 18 percentage points between the two periods of observation (Table 3, column c–a), which implies that the financial crisis is followed by a significantly hardened attitude toward immigration. However, the difference between the two time periods in the list estimates (Table 3, column d–b) is effectively zero (–0.01) with the percentage opposed at holding steady at about 31 percent in both 2005 (Table 2, column b) and 2010 (Table 2, column d).

The substantive and significant difference between the direct and indirect (*i.e.*, list) estimates is one of the most striking results to emerge from the experiment. Despite an observed increase in anti-immigration sentiment in the direct estimates, the underlying opposition, derived from the list experiment, remains constant. Although people overtly express greater opposition to immigration, after the financial crisis of 2008, there is little evidence that this true opposition increases during both time periods. The only difference is that after the financial crisis people became less likely to conceal their preferences about their opposition to immigration.

Opposition to Closed Border by Level of Education

We return to Table 2 and Table 3 to assess whether opposition to immigration increased among the least educated after the financial crisis as the second hypothesis (H2) predicts. Before the financial crisis, a majority of those with less than a high school degree (68 percent), a high school degree (55 percent), or some college (52 percent) directly state a relatively favorable attitude toward immigration (Table 2; column a). Among the most educated (*i.e.*, college or more), nearly two-thirds (71 percent) oppose a closed border and the observed percentage is significantly higher than that observed for the two middle educational levels (high school and some college).¹⁷ As has been found elsewhere, the highest levels of education are associated with a relatively pro-immigration stance (Scheve and Slaughter, 2001; Mayda, 2006; McLaren and Johnson, 2007; Hanson, Scheve, and Slaughter, 2007).

The post-crisis story is somewhat different. A favorable attitude toward immigration is a position overtly held by about a third of respondents (34 percent among those with less than high school, 31 percent among those with only high school and 39 percent among those with some college) indicating that it is no longer a majority position (Table 2, column c). As in the pre-crisis estimates, the most educated in 2010 are relatively pro-immigration with opposition to a closed border at 64 percent, which is significantly greater than the three lower levels of completed schooling.

What sets 2010 apart relative to the pre-crisis estimates is the size of the observed social desirability bias for some of the educational levels. The differences between the list and the direct estimates for the two middle levels of education (high school and some college) are in the single digits and not significant (Table 2, column d–c), which contrasts with the large and significant difference observed for these groups in the pre-crisis period (Table 2, column b–a). In other words, social desirability pressure has declined for those with a high school degree or some college education. No significant masking of opposition among the most educated is observed in the pre-crisis or post-crisis period although other work has demonstrated systematic bias among the most educated (Chandler and Tsai, 2001).

¹⁷ Respondents with less than high school are only 7 percent of the total pre-crisis sample ($n = 30$), which leads to less reliable within-group estimates reflected in the relatively large confidence interval.

Additionally, it is often argued that respondents with high levels of education may be more inclined to claim they hold attitudes seen as socially desirable even when this is not the case (Heerwig and McCabe 2009). We suggest caution in the interpretation of our results as strong evidence that the most educated do not mask their attitudes. The confidence interval is relatively large and even substantial differences between the list and direct estimates for the most educated might not be detectable.

Table 3 directly compares the direct (column c–a) and indirect (column d–b) estimates over time by level of education. The least educated (*i.e.*, less than high school) report the greatest increase in anti-immigration sentiment with an estimated decline in opposition to a closed border of 0.33 (Table 3, column c–a), which appears to support H2. The estimate for those with a college degree is 0.07, which is not a significant difference. In contrast, no educational level reports a significant decline in opposition to a closed border once social desirability bias is taken into account, suggesting that the observed decline in direct opposition is attributable to social desirability bias.¹⁸

Opposition to Closed Border by Employment Status

Our third hypothesis (H3) predicts an increase in opposition to immigration among the unemployed or those not in the labor force after the financial crisis. Assessing the difference is complicated as the percentage unemployed, albeit nearly doubling in the post-crisis samples (Table 1), characterizes <10 percent of the pre-crisis samples, which are quite small to begin with. In addition, our measure includes all those not in the labor force, regardless of their desire or ability to participate. That said, before the crisis, a majority or near majority of the employed and unemployed are relatively pro-immigration (Table 2, column a). Additionally, social desirability results in significant underreporting of the level of tolerance by about 27 percent for the employed (Table 2, column b–a). The “unemployed/not in the labor force” suggest a similar pattern (*i.e.*, a difference of approximately 28 percentage points), but the estimated

¹⁸To assess the sensitivity of our results given the limited sample of respondents with less than a high school degree, we generated separate estimates for the combined group of less than high school and high school. The estimates are notably similar to what is presented in Table 2 for high school alone with 53.5 percent (2005) and 31.8 percent (2010) expressing direct opposition and 27.8 percent (2005) and 30.4 percent (2010) expressing indirect opposition (results available by request).

proportion is not significant, reflecting the relatively few unemployed observed in the pre-crisis samples.

The unemployed, for both direct and indirect estimates, do not show a significant decline in opposition to a closed border (*i.e.*, greater anti-immigration sentiment). Overall, we find that the results offer little evidence that those unemployed/not in the labor force are increasingly anti-immigration as the third hypothesis (H3) would predict.¹⁹

Opposition to Closed Border by Income

Our fourth hypothesis (H4) predicts that those with lower incomes will be more opposed to immigration in the post-crisis period. Before the crisis, the majority of respondents are relatively pro-immigration across all income levels (Table 2; column a). The list estimates in 2005 (Table 2, column b) indicate that opposition derived from the list experiment is lower, although only the middle-income bracket, \$50,000–\$74,999, records a significant difference. Notably, the point estimates for the estimates of social desirability bias (Table 2; column b–a) approach significance for bottom and top income brackets as well.

The trend over time, reported in Table 3 (column c–a), shows a significant decline in direct opposition to a closed border for the bottom three income brackets. While it is true that individuals in the lowest income households (under \$25,000) report a decline in direct opposition of 21 percentage points as H4 predicts, they are not alone. The decline among those earning \$25,000–\$49,999 and \$50,000–\$74,999 is similar. Moreover, the trend estimated from the list experiment suggests that there is no increase in opposition to immigration by level of income with no point estimate for the change in the proportion exceeding 0.09 (Table 3, column d–b).

CONCLUSION

This work set out to test four hypotheses. The first hypothesis (H1) expects overall opposition to a closed border to decline after the 2008 economic crisis. We offer two conclusions. The first is that directly

¹⁹The category “Not working/Other” is heterogeneous and includes respondents that we did not want to drop from the analysis (*e.g.*, students and the disabled), but were too few to analyze separately and the results are not interpreted.

expressed anti-immigration sentiment does indeed increase after the economic crisis. Succinctly put, we see less support for immigration after the financial collapse. The second conclusion, derived from the indirect (*i.e.*, list) estimates, is that opposition to immigration, although higher than that estimated directly, does not increase after the economic crisis. Instead, the post-crisis period is marked by greater tolerance to overtly expressed anti-immigration sentiment, despite little change in the underlying true levels of opposition.

This reduction in the bias attributable to social desirability in the post-crisis period suggests that the U.S. general population of reference sees appearing tolerant as less favorable/important. The use of a list experiment serves the purpose of correcting underreporting of opposition, which persists in the post-crisis period, but exploring the conditions under which social desirability changes is of independent interest. As described in Appendix 2, some of the change may be attributable to the mode of data collection in the post-crisis period, but the results do indicate that an exploration of social desirability levels as a dependent variable is of potential explanatory value. Our work is focused on the economic context, but the theory underlying economic deterioration and public opinion is based on market competition, whether real or perceived. A next step should better capture a broader set of factors that could plausibly change the level of public acceptance of the expression of anti-immigration sentiment.

For example, exposure to the debate over immigration, which has been a fixture of national politics for decades, can influence individual perception of the immigration as a problem (Dunaway, Branton, and Abrajano, 2010). As early as 2006, diverse actors, broadly representative of the immigrant community, organized coordinated demonstrations in support of immigration reform in numerous cities in the U.S. (Balz and Fears, 2006), which raised public awareness of the issue and put a face on the immigrant population. Discourse about the legality of certain types of immigration, the racialization of immigrants, and access to welfare benefits has been linked to anti-immigrant mobilization in the U.S. (Brown, 2013). The results presented here focus on the specific expectation that underlying anti-immigration sentiment is positively correlated with an economic downturn overall and among specific socioeconomic strata. Therefore, this work can offer little insight into broader changes in public discourse and acceptance of intolerance, but, given these results, these additional explanations certainly merit further exploration.

Additionally, we consider three hypotheses that target groups differentially affected by the financial crisis, namely the least educated (H2), the unemployed/not in the labor force (H3), and the lowest earners (H4). Similar to the overall pattern, we conclude that, when present, the observed increase in opposition to immigration by education, employment status, and income only describes direct opposition. For instance, the larger increase in opposition to immigration by the least educated, needed to confirm the second hypothesis (H2), is only observed when measured directly. Indirect estimates of the trend in education show that no educational group records a significant or substantive decline.

Of interest, direct estimates reveal that it is the employed, not the unemployed, are increasingly more openly anti-immigration. This finding is not predicted by the third hypothesis (H3). A possible interpretation is that those who still have a job but are worried about losing it are the most overtly reactant to an economic downturn, which would be akin to studies using measures of job security and fear of job loss (McLaren, 2003; Dustmann and Preston, 2007). Admittedly, our measure of employment masks a lot of heterogeneity in the potential competition immigration may present.²⁰ For example, Malhotra, Margalit, and Mo (2013) suggest that one must account for direct competition, termed “conditional impact,” as this is the most relevant for specific subpopulations (*e.g.*, high-tech workers and H1b visa holders). That said, Hainmueller and Hiscox (2010) and Hainmueller, Hiscox, and Margalit (2011) find that direct competition, such as low-skilled workers’ perception of low-skilled immigrants, is not clearly related to the formation of negative attitudes toward immigrants as Malhotra, Margalit, and Mo (2013) suggest. This follows earlier work that considers competition to be present only when distinct groups’ economic niches overlapped (Olzak, 1992). Recent international comparative work finds that workers assess the desirability of immigration by considering the impact of migrant labor on the specific industry in which they are employed (Dancygier and Donnelly, 2013). Unfortunately, we lack a measure of occupation refined enough to pursue this issue in more detail.

The test of the fourth hypothesis (H4), which predicts that lower income leads to greater anti-immigration sentiment, reveals that variation in income is a very poor predictor of anti-immigration sentiment both in direct and indirect tests. Direct estimates do not support H4 in that all

²⁰ See, Appendix 2 for a more detailed description of the measure of employment.

income groups report a decline in opposition to a closed border with no gradient observed. When social desirability is taken into account, opposition is uniformly stable, also offering little support for H4.

To our knowledge, this is the first effort to compare a list experiment from distinct periods to assess change in the level of social desirability bias over time for a single underlying attitude. Although we show that the social desirability pressure to mask anti-immigration sentiment has declined, we offer no evidence that it has gone away. Moreover, these results offer little insight into the magnitude or trend in social desirability in contexts outside the U.S. where immigration in more recent years has become the subject of increasing scrutiny.

Despite the limitations of this work, articulated in more detail in Appendix 2, we implore future efforts to measure anti-immigration sentiment to be cautious about direct measurement of opposition, as these measures not only underestimate anti-immigration sentiment, but the magnitude of the bias can change over time. To the extent that economic factors offer a viable explanation, we suggest a greater focus on more refined measures such as immigrant competition in specific occupations (Malhotra, Margalit, and Mo, 2013) and economic sectors (Dancygier and Donnelly, 2013) and longitudinal models of individual-level change in economic circumstances (*see*, Lancee and Pardos-Prado, 2013).

Has the U.S. become less tolerant of immigration after the economic crisis? The answer is more complex than a simple “yes” or “no.” On the one hand, directly queried and overtly expressed opposition to immigration, both overall and among the least educated, increases after the economic crisis. These explicit estimates are largely consistent with some work focused on economic completion and attitudes toward immigrants both inside (Chandler and Tsai, 2001; Haubert and Fussell, 2006) and outside (Mayda, 2006; McLaren and Johnson, 2007) the U.S.

However, this evidence is tempered by the fact that the least biased estimates, derived from the list experiment, show opposition to immigration to be stable over time. Given that substantial investment has been made in directly assessing attitudes toward immigrants and immigration, including a recent, repeated cross-sectional approach comparing a special module of the European Social Survey in 2002 to a similar module to be fielded in 2013, we suggest that this work offers an important methodological way forward. Despite the limitations described in Appendix 2, we

implore future efforts to measure anti-immigration sentiment to be cautious about direct measurement of opposition, as these measures underestimate anti-immigration sentiment both before and after the financial crisis. In addition, the results for employment and income show no increase in anti-immigration sentiment regardless of whether the responses are directly or indirectly revealed.

APPENDIX 1

Consistent with the notation of Imai (2011), the proportion opposed to a closed border can be derived from the list question in the treatment and control group using the following equation,

$$\begin{aligned} g(x, \delta) &= \Pr\left(Z_{i,J+1}^* = X_i = x\right), \text{ and } h_z(y; x, \psi_z) \\ &= \Pr\left(Y_i(0) = y | Z_{i,J+1}^* = z, X_i = x\right) \end{aligned} \quad (1)$$

where for individual i , j is equal to the number of list items and $\left(Z_{i,J+1}^*\right)$ represents the truthful answer to the sensitive item (L4). The functions $g(x, \delta)$ and $(h_z(y; x, \psi_z))$ represent the conditional expectation for the control and sensitive items given the covariates X . The term y is equal to the number of items $(0, \dots, J)$ and z is an indicator that can take a value of 0 or 1. The proportion opposed derived from equation 1 is estimable for the experiment conducted in 2005–2006 and 2010 and is comparable across time as the first three items (L1–L3) in the list question are repeated in each experiment. Therefore, the $(g(x, \delta))$ need not be assumed to be constant across time.

The magnitude of the social desirability bias $B(x)$, which is the difference between the direct question (D1) and the predicted proportion derived from equation 1, is calculated using the following equation,

$$B(x) = \Pr(Z_{i,J+1}(0) = 1 | X_i = x) - \Pr\left(Z_{i,J+1}^* = 1 | X_i = x\right) \quad (2)$$

where $(Z_{i,J+1}(0))$ is the respondents response to the question of interest when asked directly (D1) and the first term can $(\Pr(Z_{i,J+1}(0) = 1 | X_i = x))$ can be estimated using the observed value of the response to the sensitive question when asked directly, using a logistic regression. The proportion opposed derived from the direct question $\Pr(Z_{i,J+1}(0) = 1 | X_i = x)$ was estimated using *glm* and the proportion

opposed derived from the list experiment $\Pr(Z_{i,J+1}^* = 1 | X_i = x)$ was estimated using the package *list* in R.²¹

APPENDIX 2

Population-level list experiments are increasingly used to measure attitudes that are seen as socially desirable to mask. However, little is known about their comparability over time. We are fully aware that a number of shortcomings in sampling, the mode of collection and comparability of measures between surveys could limit the generalizability and external validity of our results.

First, the response rate for the 2005 survey is much lower than that estimated for the 2010 data collection (30 percent versus approximately 65 percent). Although the 2005 experiment has been peer-reviewed (Janus, 2005) and published (Janus 2010), relative to the general population, there are a number of differences in observed characteristics (*e.g.*, age, ethnicity, income and education) that imply the comparison with the 2010 sample is problematic. Given the observed relationship between income and education, the fact that respondents in the 2005 samples are more affluent and better educated could imply that we are underestimating the overall level of direct and indirect opposition to a closed border. As the observed (*i.e.*, direct) opposition is greater in 2005 than 2010, the difference between the two is unlikely to disappear, but could be underestimated. Given that non-respondents could differ from sampled respondents on unobserved characteristics as well, the results could be biased by differences beyond those that can be assessed by comparison with an alternative survey of the general population (*e.g.*, the American Community Survey). Given that the 2005 sample is the only pre-crisis source for estimates of anti-immigration sentiment that take into account social desirability bias, the comparison with the 2010 estimates is not without merit. That said, the results from the 2010 experiment, which offer a much higher response rate, are interpretable independent of the 2005 estimates. We are aware that this does not allow a pre- versus post-crisis comparison, but it does offer substantive insight into the presence and level of social desirability bias in the post-crisis period that is not affected by concerns about the 2005 sample.

²¹The package *list* is a free, open-source software developed by Blair and Imai (2010) and available through the Comprehensive R Archive Network (CRAN; <http://cran.r-project.org/package=list>).

Second, the mode of the data collection changes between the 2005 and 2010 surveys. The 2005 data collection uses telephone-based random-digit dialing, which involves indirect interaction between the survey taker and respondent. The 2010 survey uses an online panel, which involves no interaction at the time of the data collection. Given that the 2010 survey offers greater anonymity via less interaction, social desirability bias could be lower relative to the 2005 survey simply due to the mode by which the respondents were queried as has been suggested in work on election turnout (Holbrook and Krosnick, 2010). The direction of this mode effect would be consistent with the observed decline in the level of social desirability bias. That said, some work has shown that web-based surveys relative to face-to-face surveys show comparable levels of social desirability bias (Heerwegh, 2009).

For our particular experiment, we feel that social desirability bias remains a problem for three reasons. First, opposition to immigration is subject to negative social desirability bias (*i.e.*, underreporting) as opposed to a desirable behavior such as civic participation. Estimates of attitudes affected by negative social pressure are still subject to social desirability bias even when the mode of collection is web-based (Tsuchiya, Hirai, and Ono, 2007; Heerwegh, 2009), which was pointed out by Krosnick and Holbrook (2010). Surveys conducted in Japan (Tsuchiya, Hirai, and Ono, 2007), Belgium (Heerwegh, 2009), Norway, Sweden, the U.S. and the UK (Strabac, Aalberg, and Valenta, 2014) find that social desirability bias remains even if a web-based survey is used. Second, research on the specific topic of attitudes toward immigrants and immigration shows that social desirability bias is not eliminated by web-based administration. Recent list experiments studying attitudes toward immigrants of different religious affiliations (Strabac, Aalberg, and Valenta, 2014) and the work presented here show that social desirability bias remains even when the experiment is conducted online.

Third, there are a number of differences between the original response categories in the 2005 and 2010 survey that threaten the comparability of some measures over time. In particular, the inability to identify the self-employed in 2005 potentially miscategorizes some employed respondents as unemployed or “other.” Notably, the percentage employed in the 2005 and the 2010 samples (treatment and control) remain almost unchanged despite a large increase in the unemployed (*see*, Table 1). In addition, students and respondents “keeping house” are not identifiable in 2010. As they are unlikely to self-identify as retired or disabled, with some exceptions, these

respondents could be miscategorized as employed or unemployed. Although there is no way to indirectly distinguish these respondents, similar issues for comparability are not present in the measures of education and income. As a result, although we cannot assume perfect comparability in the measure of employment status, we do feel that the income and education levels are consistently identifiable, and therefore, the results are comparable between the pre- and post-crisis experiments.

REFERENCES

- Baker, J.
2008 "Obama Draws Contrast with Romney in His Turn before Hispanics." *The New York Times* June 22, 2012. Accessed on August 13, 2012.
- Balz, D., and D. Fears
2006 "'We Decided Not to Be Invisible Anymore' Pro-Immigration Rallies are Held Across Country." *The Washington Post* April 11, 2006. Accessed on September 3, 2013.
- Bauer, T. K., M. Lofstrom, and K. F. Zimmerman
2000 "Immigration Policy, Assimilation of Immigrants, and Natives' Sentiments towards Immigrants: Evidence from 12 OECD-Countries." IZA Discussion Paper No. 187, Institute for the Study of Labor (IZA).
- Blair, G., and K. Imai
2010 "List: Statistical Methods for the Item Count Technique and List Experiment." available at The Comprehensive R Archive Network (CRAN). <<http://cran.r-project.org/web/packages/list/index.html>>. Accessed on March 28, 2014.
- _____, and _____
2012 "Statistical Analysis of List Experiments." *Political Analysis* 20(1):47–77.
- Brader, T., N. A. Valentino, and E. Suhay
2008 "What Triggers Public Opposition to Immigration? Anxiety, Group Cues, and Immigration Threat." *American Journal of Political Science* 52(4):959–978.
- Brown, H. E.
2013 "Race, Legality, and the Social Policy Consequences of Anti-Immigration Mobilization." *American Sociological Review* 78(2):290–314.
- Callegaro, M., and C. DiSogra
2009 "Computing Response Metrics for Online Panels." *Public Opinion Quarterly* 72(5):1008–1032.
- Ceobanu, A. M., and X. Escandell
2010 "Comparative Analyses of Public Attitudes Toward Immigrants and Immigration Using Multinational Survey Data: A Review of Theories and Research." *Annual Review of Sociology* 36(1):309–328.
- Chandler, C. R., and Y. Tsai
2001 "Social Factors Influencing Immigration Attitudes: An Analysis of Data from the General Social Survey." *Social Science Journal* 38(2):177–188.
- Citrin, J., D. P. Green, C. Muste and C. Wong
1997 "Public Opinion toward Immigration Reform: The Role of Economic Motivations." *Journal of Politics* 59(3):858–881.

- Creighton, M. J., and A. Jamal
 2010 "Perceptions of Islam, Migration, and Citizenship in the United States: A list Experiment." *Time-Sharing Experiments in the Social Sciences (TESS)* <<http://www.tessexperiments.org/data/creighton022.html>>. Accessed on March 28, 2014.
- Dalton, M.
 2011 "The EU's Anti-Immigrant Shift." *The Wall Street Journal* July, 25 2011. Accessed on May 22, 2012.
- Dancygier, R. M., and M. J. Donnelly
 2013 "Sectoral Economies, Economic Contexts, and Attitudes toward Immigration." *Journal of Politics* 75(1):17–35.
- DeParle, J.
 2008 "Spain, like the U.S., Grapples with Immigration." *The New York Times* June 10, 2008. Accessed on May 22, 2012.
- Donadio, R., and D. Bounias
 2012 "Hard Times Lift Greece's Anti-Immigrant Fringe." *The New York Times* April 12, 2012. Accessed on May 22, 2012.
- Dunaway, J., R. P. Branton, and M. A. Abrajano
 2010 "Agenda Setting, Public Opinion, and the Issue of Immigration Reform." *Social Science Quarterly* 91(2):359–378.
- Dustmann, C., and I. Preston
 2007 "Racial and Economic Factors in Attitudes to Immigration." *The Journal of Economic Analysis & Policy* 7(1):1–39.
- Espenshade, T. J., and K. Hempstead
 1996 "Contemporary American Attitudes Toward U.S. Immigration." *International Migration Review* 30(2):535–570.
- Eurostat
 2013 "Unemployment rates of the population aged 25-64 by level of education" table tps00066 <http://epp.eurostat.ec.europa.eu/portal/employment_unemployment_lfs/data/main_tables>. Accessed on March 28, 2014.
- Fetzer, J. S.
 2000 *Public Attitudes Toward Immigration in the United States, France, and Germany*. Cambridge: Cambridge University Press.
- Fitzgerald, J.
 2012 "Social Engagement and Immigration Attitudes: Panel Survey Evidence from Germany." *International Migration Review* 46(4):941–970.
- Gang, I. N., F. L. Rivera-Batiz, and M. Yun
 2002 Economic Strain, Ethnic Concentration and Attitudes towards Foreigners in the European Union. IZA Discussion Paper No. 578, Institute for the Study of Labor (IZA).
- Glynn, A. N.
 2013 "What Can We Learn with Statistical Truth Serum? Design and Analysis of the List Experiment." *Public Opinion Quarterly* 77(Special Issue):159–172.
- Hainmueller, J., and M. J. Hiscox
 2007 "Educated Preferences: Explaining Attitudes Toward Immigration in Europe." *International Organization* 61(2):399–442.
- , and ———
 2010 "Attitudes Toward Highly Skilled and Low-Skill Immigrants: Evidence From a Survey Experiment." *American Political Science Review* 104(1):61–84.

- , ———, and Y. Margalit
 2011 “Do Concerns about Labor Market Competition Shape Attitudes toward Immigration? New Evidence.” *MIT Political Science Department Research Paper* No. 2011-20 <<http://dx.doi.org/10.2139/ssrn.1900149>>. Accessed on March 28, 2014.
- , and D. J. Hopkins
 2014 “Public Attitudes toward Immigration.” *Annual Review of Political Science* 17 forthcoming.
- Hanson, G. H., K. Scheve, and M. J. Slaughter
 2007 “Local Public Finance and Individual Preferences over Globalization Strategies.” *Economics and Politics* 19(1):1–33.
- Haubert, J., and E. Fussell
 2006 “Explaining Pro-Immigrant Sentiment in the U.S.: Social Class, Cosmopolitanism, and Perception of Immigrants.” *International Migration Review* 40(3):489–507.
- Heerwegh, D.
 2009 “Mode Differences Between Face-to-Face and Web Surveys: An Experimental Investigation of Data Quality and Social Desirability Effects.” *International Journal of Public Opinion Research* 21(1):111–121.
- Holbrook, A. L., and J. A. Krosnick
 2010 “Social Desirability Bias in Voter Turnout Reports: Test Using the Item Count Technique.” *Public Opinion Quarterly* 74(1):37–67.
- Ilias, S., K. Fennelly, and C. M. Federico
 2006 “American Attitudes toward Guest Workers.” *International Migration Review* 42(4):741–766.
- Imai, K.
 2011 “Multivariate Regression Analysis for the Item Count Technique.” *Journal of the American Statistical Association* 106(494):407–416.
- Janus, A. L.
 2010 “The Influence of Social Desirability Pressures on Expressed Immigration Attitudes.” *Social Science Quarterly* 91(4):928–946.
- Janus, A. L.
 2005 “List Experiment as an Unobtrusive Measure of Attitudes toward Immigration and Same-Sex Marriages.” *Time-Sharing Experiments in the Social Sciences (TESS)*. <<http://www.tessexperiments.org/data/janus297.html>>. Accessed on March 28, 2014.
- Kinder, D. R., and C. D. Kam
 2009 *Us Against Them: Ethnocentric Foundations of American Opinion*. Chicago, IL: University of Chicago Press.
- Knoll, B. R.
 2013 “Implicit Nativist Attitudes, Social Desirability, and Immigration Policy Preferences.” *International Migration Review* 47(1):132–165.
- Knowledge Networks
 2011 “Knowledge Panel Design Summary.” <[http://www.knowledgenetworks.com/knpanel/docs/KnowledgePanel\(R\)-Design-Summary-Description.pdf](http://www.knowledgenetworks.com/knpanel/docs/KnowledgePanel(R)-Design-Summary-Description.pdf)>. Accessed on March 28, 2014.
- Kuklinski, J. H. *et al.*
 1997 “Racial Prejudice and Attitudes Toward Affirmative Action.” *Political Science* 41(2):402–419.
- , M. D. Cobb, and M. Gilens
 1997 “Racial Attitudes and the ‘New South’.” *The Journal of Politics* 59(2):323–349.

- Kuran, T., and E. J. McCaffery
2008 "Sex Differences in the Acceptability of Discrimination." *Political Research Quarterly* 61(2):228–238.
- Lancee, B., and S. Pardos-Prado
2013 "Group Conflict Theory in a Longitudinal Perspective: Analyzing the Dynamic Side of Ethnic Competition." *International Migration Review* 47(1):106–131.
- Malhotra, N., Y. Margalit, and C. H. Mo
2013 "Economic Explanations for Opposition to Immigration: Distinguishing between Prevalence and Magnitude." *American Journal of Political Science* 57(2):391–410.
- Mayda, A. M.
2006 "Who is Against Immigration? A Cross-Country Investigation of Individual Attitudes Toward Immigrants." *Review of Economics and Statistics* 88(3):510–513.
- McLaren, L. M.
2003 "Anti-Immigration Prejudice in Europe: Contact, Threat Perception, and Preferences for the Exclusion of Migrants." *Social Forces* 81(3):909–936.
———, and M. Johnson
2007 "Resources, Group Conflict, and Symbols: Explaining Anti-immigration Hostility in Britain." *Political Studies* 55(4):709–732.
- Mendelberg, T.
2001 *The Race Card: Campaign Strategy, Implicit Messages, and the Norm of Equality*. Princeton, NJ: Princeton University Press.
- Olzak, S.
1992 *The Dynamic of Ethnic Competition and Conflict*. Stanford, CA: Stanford University Press.
- Parker, A.
2013 "Immigration Overhaul Proposal Likely to Ignite Fierce Debate," *The New York Times* April 16, 2013. Accessed on June 7, 2013.
- Pérez, E.
2010 "Explicit Evidence on the Import of Implicit Attitudes: The IAT and Immigration Policy Judgments." *Political Behavior* 32(4):517–545.
- Pew Research Center
2013 "But Little Agreement on Specific Approaches: Most Say Immigration Policy Needs Big Changes." <<http://pewrsr.ch/146qEbm>>. Accessed on March 28, 2014.
- Pichler, F.
2010 "Foundations of Anti-Immigrant Sentiment: The Variable Nature of Perceived Group Threat across Changing European Societies, 2002–2006." *International Journal of Comparative Sociology* 51(6):445–469.
- Presser, S., and L. Stinson
1998 "Data Collection Mode and Social Desirability Bias in Self-reported Religious Attendance." *American Sociological Review* 63(1):137–145.
- Robertson, C.
2012 "Alabama Gets Strict Immigration Law as Governor Relents." *The New York Times* May 18, 2012. Accessed on May 22, 2012.
- Rustenbach, E.
2010 "Sources of Negative Attitudes toward Immigrants in Europe: A Multi-Level Analysis." *International Migration Review* 44(1):53–77.
- Scheve, K. F., and M. J. Slaughter
2001 *Globalization and the Perceptions of American Workers*. Washington, DC: Institute for International Economics.

- Sides, J., and J. Citrin
2007 "European Opinion About Immigration: The Role of Identities, Interests, and Information." *British Journal of Political Science* 37(3):477–504.
- Sniderman, P. M., and E. G. Carmines
1997 *Reaching Beyond Race*. Cambridge, MA: Harvard University Press.
- , L. Hagendoorn, and M. Prior
2004 "Predispositional Factors and Situational Triggers: Exclusionary Reactions to Immigrant Minorities." *American Political Science Review* 98(1):35–50.
- Strabac, Z., Aalberg, T., and M. Valenta
2014 "Attitudes towards Muslim Immigrants: Evidence from Survey Experiments across Four Countries." *Journal of Ethnic and Migration Studies* 40(1):100–118.
- Streb, M. J., B. Burrell, B. Frederick, and M. A. Genovese
2008 "Social Desirability Effects and Support for a Female American President." *Public Opinion Quarterly* 72(1):76–89.
- Taylor, J. B.
2009 "The Financial Crisis and the Policy Responses: An Empirical Analysis of What Went Wrong." NBER Working Paper Series; Working Paper 14631. <<http://www.nber.org/papers/w14631>>. Accessed on March 28, 2014.
- Tsuchiya, T., Y. Hirai, and S. Ono
2007 "A Study of the Properties of the Item-Count Technique." *Public Opinion Quarterly* 71:253–272.
- Ward, C., and A. Masgoret
2008 "Attitudes Toward Immigrants, Immigration, and Multiculturalism in New Zealand: A Social Psychological Analysis." *International Migration Review* 42(1):227–248.