

Brexit, uncertainty, and migration decisions

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Abstract

We leverage the British Brexit referendum decision to leave the European Union, to demonstrate how changes in uncertainty about a country's future socio-political condition can impact migratory behaviour. Using official bilateral migration statistics, we report an excess increase in migration from the UK to the EU of approximately 16% post-referendum, compared to movements between the remaining EU countries over the same period. In addition, we analyse in-depth interviews conducted with UK migrants in Germany to show that uncertainty about future bilateral relations, a negative economic outlook, and perceptions of negative social consequences in the UK have been by far the most dominant drivers of migration in the post-referendum period. We further corroborate the effect of changes in uncertainty on migration-related behaviour with exceptional spikes in naturalisations, indicating that UK citizens living in other EU member states are actively taking decisions to mitigate the negative impact that Brexit is having on their livelihoods.

INTRODUCTION

Exploring the drivers of migration has been at the centre of research across the social sciences. People move for numerous reasons, such as escaping conflict or climate change, seeking economic improvement, or pursuing other personal and family goals (Black et al., 2011; Carling & Collins, 2018; Massey & Espinosa, 1997; Van Hear et al., 2018). One aspect that has been found to significantly influence migration decisions is subjective beliefs, in particular perceptions of the future and the uncertainty attached to them (Harris & Todaro, 1970; Stark & Bloom, 1985). Several micro-level studies have shown that uncertainty about the political, economic, or social state of a home country can trigger migratory behaviour (Akgüc et al., 2016; Baláz et al., 2016).

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We leverage the UK Brexit referendum and its subsequent period of political negotiations as a turning point that altered people's perception of a future life in Britain. That is, the decision by the British voters to leave the European Union constituted a sudden and isolated shift in the UK's socio-political landscape that altered both the relationship to the remaining EU member states and the domestic socio-economic prospects. This significantly increased the uncertainty about the country's future economic performance and social cohesion.

Already prior to the referendum on 23 June 2016, the British public debate was marked by widely differing forecasts about the economic and political impact of leaving the EU. This was fuelled by negotiations about border patrols, free trade zones, and regulations, which failed, even to this day, to produce any clear consensus. The long-term impact of Brexit remains unclear with substantial outstanding issues such as the Northern Irish Protocol.

This study combines qualitative and quantitative findings showing that changes in migration patterns are driven by an altered perception of future socio-economic and political conditions. Based on official migration statistics in the United Kingdom and the remaining states of the European Union (EU) and the European Free Trade Association (EFTA), we show that the vote has led to an annual increase in migration from the UK to the EU by approximately 24,000 persons in the years 2016–2019 (EUROSTAT, 2020). Over the same period, non-UK EU/EFTA migrations – the natural control group within the free movement area – did not change significantly. Panel regressions allow us to account for the within-EU migration trend to show that the Brexit referendum has led to an excessive increase in migration of UK citizens to the EU of approximately 16%. Additional findings show an exceptional impact of the Brexit vote on naturalisations of British citizens, with a more than 600% increase across continental Europe. To provide more information on the probable mechanisms at play, we conducted 46 in-depth semi-structured interviews with British citizens who migrated to Germany between 2007 and 2019. The uncertain implications of the referendum were shown to be the main driving force behind most post-2016 migration events, while personal motivations dominated prior to the vote. We infer that changes in uncertainty triggered by a national policy change are powerful enough to alter migratory behaviour at a level that is comparable to economic crises or major political shifts, such as the EU enlargement of 2004 (Dustmann et al., 2010).

Our study contributes to the literature in several ways: First, to the best of our knowledge, no other study has so far examined the impact of the referendum on uncertainty-driven migration and naturalisation patterns at the pan-European level. Second, we combine robust quantitative migration flow data with qualitative interview data to increase the external validity of probable mechanisms. Third, we answer the call for longitudinal analyses to provide a more robust picture of changes in migration behaviour. Fourth, we analyse intra-EU mobility of EU/EFTA citizens outside the UK as a natural control group to account for general trends in European migration, that may otherwise go unnoticed.

UNCERTAINTY, RISK AND MIGRATION

We draw on two strands of the literature on migration and its drivers. First, most empirical research on the movement of people has its foundation in standard gravity models of migration. These models assume that (rational) individuals weigh their utility of staying against the utility of emigrating, whereby the expected pay-off in the destination location is lowered by the – monetary and non-monetary – cost of (voluntary) migration (Williams & Baláz, 2012). This is expressed in the function

$$N_{srt} = v_{rt}\tau + u_{st}\delta + x_{srt}\beta \quad (1)$$

where the (log) number of individuals N who migrate from source country s to destination country r in time t is a function of destination characteristics, v_{rt} (employment opportunities, quality of life, etc.), source characteristics u_{st} (wages at origin, social and economic outlook, etc.), and destination-by-source characteristics x_{srt} (costs of migrating from s to r ; see Grogger & Hanson, 2011; Ortega & Peri, 2013). Importantly, push-and-pull factors are not limited to

economic aspects (Carling & Collins, 2018; Van Hear et al., 2018). Indeed, studies have highlighted the importance of non-monetary drivers of migration, such as ideological leaning (Motyl et al., 2014), or location-specific social capital (Haug, 2008). Moreover, these gravity models allow for migration decisions being taken at the family or group level (Dustmann et al., 2020); that is, Equation (1) is not bound to decision-making by single individuals. These approaches also remain agnostic about individual differences in terms of personality traits (Dequiedt & Zenou, 2013; Katz & Stark, 1987). If the discounted – monetary and non-monetary – utility of another country is higher, and if this net present utility remains positive after deducting the cost of migration, people will migrate. Such assumptions typically allow for assessing economic or political shocks and their effect on migration flows. For instance, Becker et al. (2005) and McKenzie et al. (2014) find that changes in the economic performance of (potential) destinations (v_{rt} in Equation 1) almost equivalently alter migration flows. Similarly, migration flows react to changes in the home country's utility (u_{st} , while v_{rt} remains constant), for instance through local natural disasters (Gröger & Zylberberg, 2016), violence (Tolnay & Beck, 1992), or a combination thereof (Abel et al., 2019). Another commonality of macro-level gravity models of migration is that – in a parsimonious scenario – individuals possess complete information about the situation in the country of origin and the potential destination country (Baláž et al., 2016).

A second strand of literature focusses on individual variation in information, analysing the impact of uncertainty perceptions and risk preferences on migration decisions (Harris & Todaro, 1970; Todaro, 1969). Jaeger et al. (2010) use panel data to demonstrate that individuals who report a higher willingness to take risks are also more likely to migrate within Germany. This finding has been corroborated by Akgüc et al. (2016) for rural-to-urban migration in China. Dustmann et al. (2020) use the same longitudinal household data from China to show that, within households, the least risk-averse members are more likely to migrate. Burda (1993) and O'Connell (1997) advance these static models by adding uncertainty about future conditions in the origin and destination countries. Relatedly, Saarela and Rooth (2012) leverage linked registry data from Sweden and Finland to compare labour market outcomes of Finnish immigrants prior and after migration, finding that return migration probabilities are higher among those who faced a loss of earnings. The authors interpret this as evidence that uncertainty (incomplete information) drives migration, as individuals try to correct lower realised earnings by returning to Finland. Dustmann (1997) analyses migration from the former Soviet Union to Western Europe, arguing that uncertainty positively affects migration (duration) in two scenarios: if the wage differentials between sending and receiving country are large or if the perceived labour market risk in the country of origin is larger than in the host country (see also DaVanzo, 1983). Eventually, Czaika (2015) proposes a “migration prospect theory.” Using bilateral migration flows between 26 EU countries and 16 German Federal States, he finds that a negative economic outlook in the origin country's labour market has a stronger effect on migration flows than an equally sized positive outlook in the country of destination. We build on these studies, arguing that an uncertain social and economic outlook in the United Kingdom as a result of the Brexit vote led to greater migration willingness among British citizens.

BREXIT AS A SOURCE OF UNCERTAINTY

For the first time, a member country has decided to leave the European Union (see Table S1 in Appendix S1 for a short chronology of events). This is also the first time a state has seceded from a free movement area comprising several nation states that continues to exist. Recent case studies have assessed the impact of Brexit on people's perceptions of social, political, and economic developments in the UK. Most investigations focus on the rising insecurity for EU nationals living in the UK (Duda-Mikulín, 2019; Gawlewicz & Sotkasiira, 2019; Guma & Jones, 2019; Hall et al., 2020; Lulle et al., 2019). Observe an increased level of uncertainty among Polish interviewees in the UK, labelling the Brexit vote together with the European enlargement of 2004 and the economic crisis of 2008 as an “unsettling event.” Very few studies specifically look at the role of Brexit-induced uncertainty among British nationals living in continental EU and the effect on British citizens' future migration aspirations to the EU. Benson (2019) finds that UK citizens in France started taking precautionary measures to avoid negative Brexit-induced consequences. For eligible

UK immigrants, the obvious insurance mechanism against unfavourable regulations for third-country nationals is to obtain an EU passport through naturalisation. This impact on migration decisions, living arrangements, but also on the sense of belonging, has similarly been foreshadowed by Barwick and Le Galès (2020), who argue that the impact of the vote on British citizens in Paris “is a disaster and it will likely make their life more difficult.”

Based on these qualitative accounts, we argue that the decision to leave the European Union is equivalent to an indiscriminate shock, affecting the people of an entire nation – independent of where they live in the UK and whether they supported Brexit or not. That is, the referendum has substantially increased the uncertainty over future socio-economic conditions in the UK (Vargas-Silva, 2016). We acknowledge other psychological factors that can influence migration, such as mental health and stigmatisation and these factors are also reflected in our qualitative accounts. Changes in hostility against migrants living in the UK (but not against certain native social groups) have been reported, for instance, by Rzepnikowska (2019) or Guma and Jones (2019). From these accounts, we can infer that migration decisions are directly influenced by different psychological factors. In addition, changes in stigmatisation and hostility may also contribute indirectly to migration decisions if they are anticipated or expected (Auer & Ruedin, 2019), and therefore, can also be regarded as part of the broader concept of perceptions of, and uncertainty about the future.

With few exceptions, most empirical studies looking at the impact of uncertainty on migration focus on the individual level. We contribute to the literature by using a macro-level approach and highlight the effect of aggregate shifts in uncertainty. Specifically, we hypothesise that a shift in uncertainty about the future socio-economic environment in the United Kingdom post-Brexit has led to higher emigration from the UK. The fact that the socio-economic environment did not change immediately after the Brexit referendum (to a measurable extent, as we indicate below) allows us to disentangle uncertainty-driven perceptions from actual changes. Moreover, to disentangle the Brexit effect from general business cycle changes, we leverage intra-EU migration as a reference category, arguing that the citizens of the remaining EU countries faced similar temporal trends, but retained free intra-European mobility rights. This allows us to observe the relationship between uncertainty and migration patterns from a comparative perspective and to leverage intra-EU migration patterns of EU/EFTA citizens as a natural control group.

By construction, we cannot quantify perceptions of the future at the aggregate level, but instead, provide qualitative evidence of this likely mechanism. Thereby, our study also relates to the literature on the relationship between migration and exogenous events that indiscriminately affect people in a country or region, such as economic (McKenzie et al., 2014), political (Moore & Shellman, 2004), or climatic shocks (Abel et al., 2019).

DATA AND METHODS

Aggregate data

The empirical evidence we provide draws on two different approaches: First, we demonstrate the change in migration and naturalisation patterns using official migration statistics. Second, we leverage encompassing interview data to shed light on the underlying mechanisms.

To capture the effect of the Brexit referendum on migration patterns, we formulate a simple migration model following Equation (1) based on the theoretical consideration elaborated above and estimate this model for two separate samples. First, we estimate the change in migration flows from the UK to EU member states (by taking the number of UK citizens who migrate to an EU country in a given year) comparing flows before and after the referendum. Second, we estimate the same change for migration flows from one EU country (excl. The UK) to another EU member state (by taking the number of citizens from a given EU country who migrate to another EU country in a given year). The intra-EU flows serve as the natural control group for UK-to-EU flows. In other words, if we were to observe changes in intra-EU flows as well, we could not rule out that (unobserved) structural breaks occurred

simultaneously to the referendum, which would also explain potential changes in UK-to-EU migration flows. Therefore, we perform two parsimonious fixed effects OLS regressions of the following form:

$$Y_{srt} = U_{srt} + B_t + \mu_r + \varepsilon_{srt} \quad (2)$$

where the UK (EU/EFTA) inflow Y to a specific receiving country r in a given year t is a function of the EU/EFTA (UK) inflow of that same year U , a dummy B that takes the value 1 for post-Brexit years and 0 otherwise, and receiving country fixed effects μ . Because migration flows are count data, we will assess the robustness of the – easy-to-interpret – linear regression model by applying a fixed effects Poisson regression using Equation (2). As an alternative specification, we replace the receiving country fixed effects with a vector of controls X (population size, GDP, GNI per capita, trade value, and a dummy for EU membership of the receiving country) and estimate the following linear model:

$$Y_{srt} = U_{srt} + B_t + X_{rt} + \varepsilon_{srt} \quad (3)$$

Both estimation models should identify the changes in migration patterns after the referendum from the UK to EU and within the EU countries, respectively, while cancelling out country-specific differences through fixed effects or country-level controls.

Accurate figures on migration and naturalisation are scarce. For the period 2008–2019, we rely on annual flow data as of December 31, provided by EUROSTAT (2020), measuring immigration¹ by nationality for the EU member states including the EFTA countries Iceland, Norway, and Switzerland. We aggregate immigration numbers to each country in a given year into two groups based on their citizenship: UK immigrants and EU/EFTA immigrants. The latter comprise citizens from all countries in our sample except for the UK and citizens of the receiving country itself (i.e. native return migrants). This allows us to compare migration patterns over time between affected UK citizens and non-affected EU/EFTA migrants. As for naturalisation numbers, in the absence of accurate disaggregated information, the two groups consist of British citizens naturalised in one of the EU/EFTA countries and all other non-British citizens (including non-EU countries; EUROSTAT, 2020).

The resulting panel consists of $N = 324$ annual country-to-country flows and naturalisation figures from 27 countries between 2008 and 2019.² We address missing data in a two-step process: First, we complete missing information on the inflow of UK citizens for 47 country-year observations with data from the International Migration Database (OECD, 2020) after checking for comparability of the Eurostat and OECD data for non-missing cases (correlation of Eurostat/OECD flows = 0.997). Second, for the remaining 18 country-year observations for which neither Eurostat nor OECD data on flow/naturalisations are available, we follow the approach by Abel (2010) and estimate the average predicted flow/naturalisation number based on 100 imputations, identified with an economic gravity model of migration ($\hat{Y}_{rt} = \text{pop}_{rt}\tau + \text{gdp}_{rt} + \text{gnipc}_{rt} + \text{trade}_{rt} + \varepsilon_{rt}$), where the imputed outcome (immigration and naturalisations) is a function of the receiving country's population in the same year, its gross domestic product, gross national product per capita (all Worldbank, 2020), and its total commodity trade volume (United Nations, 2020). We performed all analyses without imputed values, which produced substantively identical results. The summary statistics comparing pre- and post-Brexit migration flows and naturalisations for each country are shown in Appendix S1: Tables S2 and S3. Figure 1 shows local polynomial regressions.

Interviews

To expand our knowledge about probable mechanisms that could explain changes in migration and naturalisation patterns, we draw on 46 in-depth semi-structured interviews conducted with British migrants living in Germany. Germany provides a strong case study to assess the impact of Brexit on migration drivers for several reasons: First, it has been receiving British migrants at relatively stable numbers for several decades. Second, the German economy has dominated the European Union's economy, hence, for the most part, the country has presumably been an equally

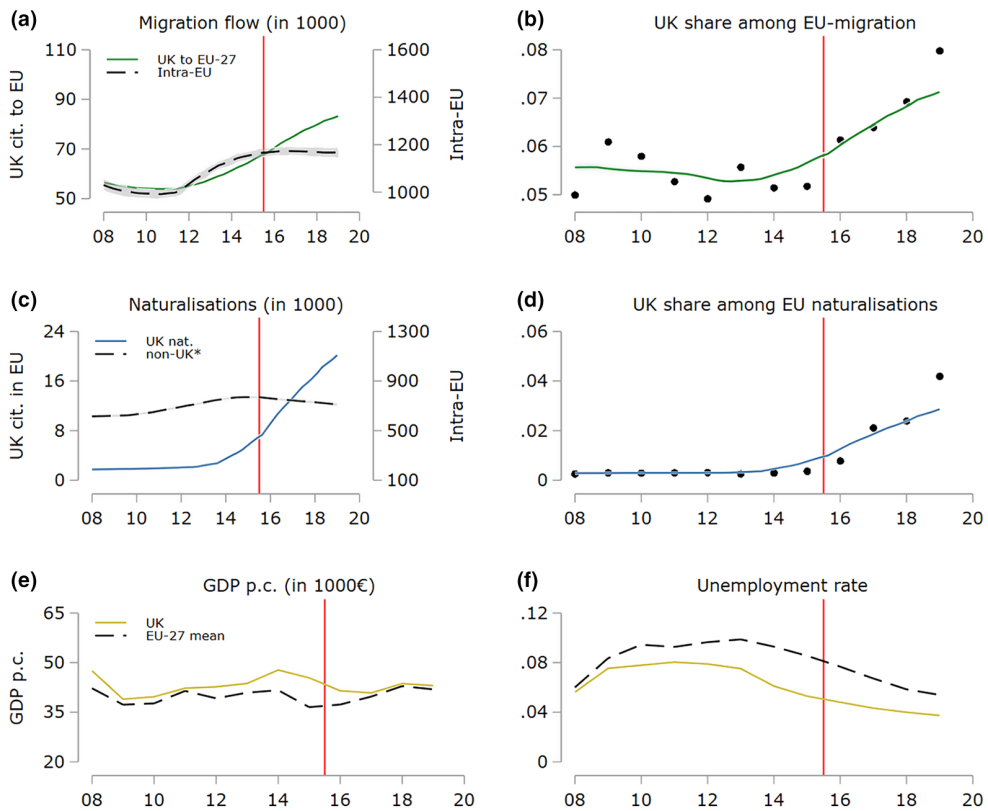


FIGURE 1 Migration and naturalisation trends.

attractive destination for other EU citizens in economic terms. Third, Germany hosts British citizens who migrated for a wide variety of reasons, such as employment, education, family, retirement, military service; that is, the British immigrant population is more diverse compared to other countries, such as France or Spain, where specific demographics, such as retirees, are over-represented. Eventually, while our data only covers one – albeit important – country, it is reassuring that related studies researching British migrants in other EU countries observe largely similar responses to the uncertain situations surrounding the referendum (Barwick & Le Galès, 2020; Benson, 2019; Sredanovic, 2020b).

We focus on the difference between British migrants who arrived in Germany before and those who arrived after the Brexit vote in June 2016. A key challenge to identify the effect of the Brexit vote is post-migration bias in interviewees' perceptions. This form of confirmation bias likely affected direct responses on whether Brexit played a role in their decision to migrate (Bergen & Labonte, 2020). We address this issue by relying predominantly on indirect questions, such as regarding preparations for the migration and their duration, or questions with more objective assessments, such as whether the interviewee had a job offer in Germany prior to the move.³ The interviews were conducted in 2019 across all 16 German federal states with an average duration of 90 min and transcribed to construct a thematic database, which subsequently enabled keyword search. We applied a thematic analysis of the transcribed interviews. The sampling was further defined following a quasi-thematic inductive saturation logic, stopping the collection of additional data once new topics ceased to appear (Saunders et al., 2018).

Particular attention was paid to the recruitment of interviewees that are typically more difficult to sample, such as those without any further education qualification, ex-army veterans, and the elderly. Access was facilitated via direct approaches to British cultural, military-veteran, sports, and working men's clubs. Importantly, we used chain sampling, that is, we only conducted interviews with informants whose contact information has been provided by at least one intermediary informant (Noy, 2008). The sampling criteria applied to both groups of migrants – those

who arrived prior to 2016 and those who arrived after the referendum – were as follows: (a) We aimed for gender balance,⁴ (b) all interviewees migrated to Germany within the last 12 years, (c) a minimum of 10% of the sample resided in villages with <10,000 inhabitants, (d) a minimum of 20% resided in towns not above 100,000 inhabitants (the intention here being to access the non-metropolitan, often less mobile and potentially less privileged/cosmopolitan British citizens). In addition, we stratified the sample so that € around 20% of interviewees were school leavers, that is, with no higher education experience and (f) around 20% classified themselves as from a British working-class background; (g) 10% of interviewees came from a non-white British heritage and (h) 50% of the interviewees originated from a geographical region outside of southern Britain – that is, Scotland, Wales, Central, and Northern England. This was done to obtain a more balanced cross-section of interviewees, particularly since support for Brexit varied considerably across regions (Benson & Lewis, 2019).

A considerable amount of preparation was put into the methodology applied and although we did not expect our interviewees to experience particular discomfort (as for instance when talking to forcibly displaced persons) the interviewer was trained in dealing with subjects that could cause emotion and discomfort. Before the interview, the interviewer gained the participants' trust by openly explaining in person, or by video call, the research aims and approach, the anonymity of their answers and the freedom to not give answers or terminate the interview at any time. This facilitated the full consent given by the participants. Moreover, the chain sampling approach allowed us to build trust via the link person acquainted with the prospective interviewees. The interviews were funded, supervised, and reviewed for ethical appropriateness and reflexivity by the interviewers' host institution.

BREXIT-INDUCED CHANGES IN MIGRATION

In 2014, approximately 59,000 British citizens migrated to one of the 26 EU/EFTA countries in our sample (Figure 1a). This number rose sharply in subsequent years. Over the same period, we observe a levelling out of EU citizens migrating to other EU/EFTA member states (excl. UK) at approximately 1.21 million in 2015 (Favell & Recci, 2009). Note that the panels in Figure 1 contain two different axes to plot both intra-EU and UK-to-EU flows. The scales of the two axes, however, are identical. To illustrate the divergence between the two flows, we plot the UK-to-EU migration flow as a share of the intra-EU flow. Despite some variation prior to Brexit (shares between 5% and 6%), the post-Brexit shares of UK migrants clearly stand out with 6%–8% in 2019 (Figure 1b).

Furthermore, we find robust evidence that British citizens try to protect themselves from any potential negative impact of Brexit by acquiring citizenship of their EU/EFTA host country in unprecedented numbers (Figure 1c). Here, the numbers increased by more than 800%, reflecting an increase in the share of UK naturalisations relative to intra-EU naturalisations from 0.5% to 4% (Figure 1d). Importantly, the majority (17) of EU countries accept dual citizenship in principle, providing a strong incentive for British nationals to obtain a second passport without significant cost. Moreover, other country-specific regulations may provide extra incentives to pursue naturalisation. For instance, in Germany, naturalisation without being required to give up native citizenship was granted to eligible British citizens only while the UK was still an EU member state, creating a strong incentive to apply for the German passport up to the end of 2020, when the UK officially left the European Union.

In sum, both the migration flows and the naturalisation numbers of UK citizens migrating to continental EU and EU citizens migrating to another EU/EFTA country, show very similar trends between 2008 and 2014. In 2015, when the Brexit referendum entered the public debate in the UK (Table S1), the corresponding UK figures started to diverge from the EU/EFTA trend line. This was further emphasised in 2016, the year of the referendum vote, and the numbers have continued to diverge in all the subsequent years of our observation period. We also plot two indicators of economic performance, GDP per capita and unemployment, in Figure 1e,f, respectively. Both variables indicate that the (negative) economic impact of Brexit until the end of 2019 was indeed relatively small (Hantzsche et al., 2019; Portes & Forte, 2017; Ramiah et al., 2017). This, in turn, suggests that changes in migration

and naturalisation patterns were not driven by actual socio-economic changes in the immediate aftermath of the referendum, but rather by perceptions of and beliefs about future negative consequences.

To corroborate the descriptive evidence of Figure 1, we perform two parsimonious fixed effects regressions estimating the coefficient of the post-Brexit period for the UK and the remaining EU countries respectively, while cancelling out country-specific effects. Table 1 demonstrates that the post-Brexit indicator is substantial in magnitude and statistically significant for UK-to-EU migration in both specifications, whereas we find no effects for the corresponding intra-EU flows. Our preferred model with receiving country fixed effects – which is less likely to suffer from omitted variable bias – predicts an average annual increase per country of 834 UK citizens who migrate to an EU/EFTA country and an additional 340 internal EU/EFTA migrants (Models 1 and 3 in Table 1). To put these increases into perspective, the respective average pre-Brexit inflow of UK migrants is 2000 per country and year, versus 40,000 intra-EU/EFTA migrants per year. According to the covariate-adjusted model (Models 2 and 4), the effect of Brexit on UK immigration to the EU/EFTA increased by more than 1400 annual migrants per country, whereas the effect for intra-EU/EFTA migration of EU/EFTA citizens (the control group) is negative and statistically insignificant. The Poisson regression results in models 2 and 4 similarly show a significant increase in the incident rate ratio of UK-to-EU migration by a factor of 1.38 and no change among intra-EU migration. These results already

TABLE 1 Effect of Brexit on migration flows

	UK to EU			Intra-EU		
	(1)	(2)	(3)	(4)	(5)	(6)
Post-Brexit period	834.49*** (175.72)	1.38*** (0.06)	1438*** (548.14)	344.57 (2126.30)	1.02 (0.05)	-14,463 (10455)
EU 26 inflow ^a	0.02*** (0.00)	1.00** (0.00)	0.03*** (0.01)			
UK inflow				3.96*** (0.92)	1.00*** (0.00)	6.65*** (1.13)
Population			-1304 (916.06)			19,404 (18751)
GDP			3506*** (1047)			-23,357 (18314)
GNI per capita			-3371* (1781)			52,545 (35753)
Trade values			-1661*** (545)			28,898*** (5636)
EU member			786.12** (314.72)			-20,373*** (4274)
Constant	-63.53 (296.27)	884.18*** (59.08)	6128 (8956)	51,591*** (3835)	53296*** (3421)	-930,307*** (196028)
Observations	312	312	312	312	312	312
Country FE	Yes	Yes	No	Yes	Yes	No

Note: Models 1, 2, 4, and 5 estimate Equation (2), and models 3 and 6 estimate Equation (3), respectively. Models 2 and 5 are fixed effects Poisson regressions, showing incident rate ratios; the rest estimate OLS regressions. The dependent variable is the number of migrants in a given year, whereby models 1–3 estimate changes in migration flows from the UK to EU member states and models 4–6 estimate changes in average migration flows from one EU country to another. Robust SE in parentheses. * $p < 0.10$, ** $p < 0.05$ and *** $p < 0.01$.

^aEU 26 denotes all EU/EFTA countries in the sample minus UK and the respective destination country. Own calculations.

provide strong indication that the Brexit referendum has had a major impact on migration patterns that is confined to UK citizens, suggesting that perceptions about future developments in the UK were the driving force.

To further capture the effect of Brexit on those who had already migrated, we apply Equations (2) and (3) on naturalisations of UK and EU/EFTA citizens in another EU/EFTA country. According to Table 2, the estimated increase relative to the sample mean is even more striking and unprecedented in Europe over the last decades. Prior to the vote, 78 Britons on average naturalised in an EU/EFTA country per year. We estimate an additional 390–560 naturalisations per country-year after the referendum. Again, the coefficient of the EU/EFTA control group is statistically insignificant and small in magnitude (pre-Brexit sample mean = 26,000). The Poisson regression coefficients in models 2 and 4 of Table 2 show that EU naturalisations did not react to the referendum, while UK naturalisations increased by a factor of 8.32 post-Brexit. As we elaborate below, naturalisation is an integral aspect of migration and integration trajectories (Gathmann & Keller, 2017; Sajons, 2019) and determines possibilities for onward or return migration (Sredanovic, 2020a). Table 2 shows that naturalisation has emerged as a viable channel for British citizens to retain their current residence and free movement rights within the EU (Sredanovic, 2020b). In that sense, changes in naturalisation patterns are arguably the cleanest observable response to uncertainty of existing British migrants and thus a good proxy for the overall level of uncertainty surrounding Brexit. Evidently, 23 June 2016 did not mark a turning point in the inner-European migration and naturalisation patterns of the EU/EFTA nationals.

TABLE 2 Effect of Brexit on naturalisations

	UK naturalisations			Non-UK naturalisations		
	(1)	(2)	(3)	(4)	(5)	(6)
Post-Brexit period	568.12*** (133.98)	8.32*** (1.21)	391.87*** (92.68)	1869.68 (1832.92)	1.09 (0.08)	6100 (5210)
Non-UK nat.	0.00 (0.00)	1.00 (0.00)	0.01** (0.00)			
UK naturalisations				0.59 (0.47)	1.00 (0.00)	4.41*** (1.18)
Population			146.59 (244.81)			-8780 (9440)
GDP			-385.51 (292.14)			46535*** (9082)
GNI per capita			602.77 (491.23)			-31246* (17207)
Trade values			369.82*** (108.72)			-17997*** (4624)
EU member			-107.88 (67.71)			3651 (3520)
Constant	-189.98** (94.33)	4.73*** (1.69)	-7822** (3125)	7574*** (683.59)	7971*** (379.51)	-277580*** (81607)
Observations	324	324	324	324	324	324
Country FE	Yes	Yes	No	Yes	Yes	No

Note: Models 1, 2, 4, and 5 estimate Equation (2), and models 3 and 6 estimate Equation (3), respectively. Models 2 and 5 are fixed effects Poisson regressions, showing incident rate ratios; the rest estimate OLS regressions. The dependent variable is the number of naturalisations in a given year, whereby models 1–3 estimate changes in UK naturalisations in EU member states and models 4–6 estimate changes in naturalisations of EU citizens in other EU countries. Robust SE in parentheses. * $p < 0.10$, ** $p < 0.05$ and *** $p < 0.01$. Own calculations.

Before we turn to qualitative evidence on the likely mechanisms, we perform a series of additional robustness checks. First, we analyse the number of UK citizens returning to their home country. Figure S1 shows that we are unlikely missing a major wave of return migration, as the number has stabilised since the end of the financial crisis. Second, we replicated our main model with alternative sample restrictions: Table S4 shows that the results remain substantively stable when dropping all imputed flows from the analysis and when dropping countries that have no registration requirements. All EU countries, except the Czech Republic, France, and Ireland, adopt a mandatory registration policy of newly arrived immigrants (typically within 90 days). It is possible that UK citizens were already living in these three countries without registration and, with Brexit on the horizon, were incentivised to register, which would bias our estimates. Panel A in Table S5 shows that this is not the case. A similar concern exists for Spain, a prominent destination country that requires registration, but where control mechanisms may not always be enforced. Panel B in Table S5 shows that the coefficient for UK flows is still positive, while the corresponding coefficient for EU flows remains negative, ruling out this potential bias, too. We find further corroboration in the estimated migration flows to and from the UK projected by the Office for National Statistics (2021). Acknowledging limitations of its estimation approach, the Office's projected change in post-referendum out-migration is largely comparable to our inflow-based data. This gives confidence that our results are not driven by migrants who have already been residing in an EU country and who only decided to register after the referendum. Eventually, in Table S6 we show that the effect of the Brexit referendum on naturalisations of British citizens in EU countries remains large in magnitude and statistically significant even when excluding Germany and Ireland from the sample. Both these countries have specific regulations that allow British citizens to naturalise even if they are not resident in the country. However, these minor exceptions as a means of British citizens obtaining an EU passport, cannot explain the overall change in behaviour.

Overall, we observe a strong increase in migration from the UK to the EU as response to the Brexit vote that is non-existent for flows between (non-UK) EU countries. However, as stressed above, such an aggregate analysis does not come without limitations. For example, it merely gives us an indication of why UK citizens were more likely to migrate to the EU.

MECHANISMS

In this section, we turn to our qualitative data in order to identify how changes in (uncertainty) perceptions might be able to explain the significant change in migration behaviour, which we observe in the aggregate data. We first briefly report responses to the perceived impact of Brexit on migration decisions and integration prospects based on questions related to the reasons for migration. Almost half of the respondents who arrived after the Brexit referendum reported that they would not have migrated but rather stayed in the UK if the referendum had not taken place:

The referendum happened in 2016 – and we immediately changed our minds about buying a house in Bristol. Our whole emigration decision hung on the referendum result.

(Academic. Male. 40 s. Migrated 2016)

We observed also that other areas of peoples' lives were affected by uncertainty. For instance, approximately one-third of respondents reported uncertainty causing direct mental health problems or depression, with some interviewees feeling forced to make impulsive decisions to migrate:

The whole move from Scotland was motivated by Brexit and the need for some certainty about my son's leukaemia treatment. We are real Brefugees.

(Housekeeper. Female. 40 s. Migrated 2018)

Despite the clear impact of the referendum our focus lies on prior questions that were framed to describe the migration process in general to indirectly capture the Brexit referendum's impact on uncertainty perceptions and the willingness to take risks. We thematically clustered and analysed the responses along four key channels: the willingness to take risks, the role of spontaneity in migration decisions, an altered sense of belonging after the referendum, and naturalisation as the natural insurance mechanism against Brexit-induced uncertainty. Table S7 in Appendix S1 provides an overview of the responses related to these four topics by the respondents' arrival period.

First, over twice the number of interviewees migrating after the referendum reported taking a "big risk" in their decision-making, whilst "no risk" was reported by almost three times as many respondents migrating before the referendum. It seems that post-Brexit, the trade-off in terms of migration risk shifted between the uncertainty of life in the UK in favour of the uncertainty of migrating to continental EU. According to the theory, migration decisions are based on a comparison of economic and social conditions between the origin and destination regions (Greenwood, 1985). And yet almost two-thirds of the respondents who migrated post-2016 referendum agreed to a pay cut as part of their migration decision. One respondent who had given up his well-paid job in the UK to move with his family in 2019 said:

I have still not found work, which is not what I expected [...] The cost of the move in personal and financial terms is always difficult to foresee and I'm starting to wonder if I under-estimated the risk involved. But I believe the advantages still outweigh the uncertainty that Brexit brought on my family.
(IT Consultant. 40s. Male. Emigrated in October 2019)

The interviews clearly reveal a structural break that has altered peoples' migration decision-making, often translating into the calculation that an increased level of risk-taking is required and necessary to deal with corresponding levels of uncertainty. Thereby, the qualitative data appears to corroborate the quantitative changes in aggregate migration flows. These statements also support the hypothesis that emigration from the UK to the EU/EFTA is more likely driven by a negative perception of the future in the UK rather than by a more positive perception of the living conditions in continental Europe (Czaika, 2015; Dustmann, 1997).

Second, a related finding from the interviews concerns the psychological impact on migration decision-making. Reduced levels of consideration and level-headedness when making (migration) decisions are reported, which increased impulsiveness, spontaneity, and risk-taking. This is indicated in the speed in which respondents made their migration decisions:

We took big risks – turning our lives around in 8 weeks with 5 children to get across to Germany. If we did it again, I wouldn't do it so quickly.
(Tech Firm Director. Female. 40s. Migrated 2018)

Half of the respondents who migrated after the referendum made their decision to migrate and acted on it within 12 weeks, while the majority of those who migrated before the referendum took their decisions over the course of 12 months, suggesting more considered, less risk-prone decision-making.

Third, we observed increased levels of social investment and anchoring in Germany. It is important to recognise migration decisions as not ending once the migrant has reached the destination country (Gathmann & Keller, 2017). However, the sense of belonging and willingness to invest in the host country appeared to have changed for those who arrived prior to the referendum. One proxy for social anchoring is the transformation of attitudes towards the German language, with many seeing it as a necessary investment as opposed to before the referendum, when most respondents had not felt the necessity to learn German.

At least Brexit has made me take the decision to push my own integration into German society and I am taking the language learning much more seriously now.

(Academic. Male. 30s. Migrated 2010)

Moreover, three-quarters of respondents stated they had made the decision to stay in Germany for the long term and to invest more in their social integration (Higgins, 2019; Trabka & Pustulka, 2020). Along with a perceived increase in solidarity from German neighbours, two-thirds of the sample reported a stronger sense of European identity. In contrast, interviewees frequently reported shame about the Brexit referendum result, which for many translated into an identity crisis:

Many Brits I speak with describe how they do not recognise Britain any longer, and feel ashamed to call themselves British, drawing instead on regional and local identities like Scottish, Welsh, Lancastrian, from Yorkshire.

(Translator. Female. 30s. Migrated 2015)

It is important therefore to note that other psychological factors could have altered migration behaviour either in addition to uncertainty or through changing perceptions of social cohesion in the future, and, thus, altering uncertainty.

There appears to be an irony that, despite what is often perceived as the long-term damaging impact of the UK's exit from the EU in diminishing ties between the two regions, UK citizens in Germany are now making a much greater commitment to integrate into their local communities. This phenomenon has previously been observed among British citizens in Berlin (Neumann, 2020) as well as in other EU destination countries (Benson, 2019).

Fourth, the uncertainty experienced by British citizens across the EU is prolonging migration spells, with many giving themselves long-term stay options by acquiring citizenship rights of their destination countries. In Germany, the number of British citizens obtaining a German/EU passport went up by over 2000% since the Brexit referendum, and 2019 government figures show British citizens just behind Turks and far ahead of Poles in gaining German citizenship – two substantially larger immigrant groups in Germany. The main motivation to obtain a German passport was to secure current living and working arrangements, while the above-mentioned sense of belonging versus alienation from their country of birth likely supported the motivation (Ranta & Nancheva, 2019). The uncertainty that their status may change and/or access to German citizenship may become more difficult (which it subsequently did), together with the prospect of dual citizenship, made naturalisation evidently a very attractive option (Neumann, 2020; Sredanovic, 2020b). Notably, all interviewees stated Brexit as the main reason to pursue an EU/German passport.

In sum, we find overwhelming evidence among our respondents that the Brexit vote substantially increased uncertainty over Britain's future socio-economic state, which considerably increased their willingness to take risks and speed up their migration (decisions). It is also striking that this change in migration behaviour occurred across all social strata in our sample. Not only has Brexit led to an increase in migration per se but it appears to have also changed the nature of decision-making, from considered long-term planning to more impulsive immediate short-term justification. Thereby, the qualitative findings corroborate both our theoretical assumption and the structural break observed in our quantitative analysis.

DISCUSSION

The UK's decision to leave the European Union created a unique structural break that altered levels of uncertainty about the future in the UK in contrast with otherwise comparable continental EU member states. This allowed us to analyse the effect of uncertainty over future economic and social conditions on migration flows among British citizens, thus complementing recent studies on Brexit migration and uncertainty from the perspective of EU nationals in the

UK (Guma & Jones, 2019; Hall et al., 2020). The surplus of UK-to-EU migration relative to intra-EU mobility amounts to approximately 16%. With this macro-level perspective, we contribute to the general literature on the role of uncertainty for migration decision-making. Furthermore, we complement the extant literature, which typically assesses the relationship from a micro-level perspective on individuals with differential risk preferences (Dustmann, 1997; Jaeger et al., 2010). The qualitative evidence supports our hypothesis that perceptions of and uncertainty about the future situation in the UK constitute a decisive driver of migration decisions. In addition, we observe psychological impact of the Brexit vote. Besides a substantive effect on migration, these psychological factors – in an anticipatory manner – might also affect uncertainty. With regard to naturalisations as a crucial continuation of the migration process, our qualitative interviews conducted in Germany support the quantitative results for the entire European Union; that UK citizens substantially increase their efforts to acquire EU citizenship, in order to secure their current living situation and ward against the threat of losing existing residency rights or experiencing discrimination.

Our composite approach of official EU-wide migration statistics and in-depth qualitative interviews across all 16 German states, shows, over the same period, substantial changes in migration and naturalisation patterns of emigrating UK citizens, compared to stable intra-EU/EFTA migration flows. Hence, this approach is less susceptible to estimation bias by general time trends, which are often not accounted for in the literature on Brexit migration. Moreover, our study also addresses recent calls for longitudinal investigations and adds to existing case studies (Barwick & Le Galès, 2020; Benson, 2019; Neumann, 2020), a finding that is generalisable to the entire European Union.

Our study does not come without limitations. First, we rely on official immigration statistics of EU/EFTA countries. This is the best information available to date, particularly because alternative data on out-migration has been under heavy critique in the recent past (Migration Observatory, 2019). We argue that official immigration statistics suffice for our purpose of demonstrating large supra-national shifts in migration trends, but we acknowledge that single-country evaluations of smaller groups likely suffer from measurement inaccuracies. Second, our qualitative analysis focusses on British migrants in Germany, whose emigration decisions could differ from British migrants in, for example, France, Spain, or Ireland. We have strong reason to believe that uncertainty induced by Brexit, does not affect self-selection into other destination countries. This is corroborated by the similarly strong increase in UK migration flows and naturalisations in other EU/EFTA countries as well as by related existing research (Benson, 2019). Third, while this study focuses on the impact of uncertainty as a motivational factor for migration, it is clear from our findings that there are other psychological effects of Brexit that might also influence migration decisions, such as stigmatisation (Frost, 2020; Teodorowski et al., 2021), discrimination (Rzepnikowska, 2019), alienation (Ranta & Ancheva, 2019; Teodorowski et al., 2021), or impaired mental health (Teodorowski et al., 2021). At the same time, anticipation of such factors could again exacerbate the salience of uncertainty (Auer & Ruedin, 2019). We acknowledge that providing further evidence would add to the scientific debate.

An accurate understanding of Brexit-induced migration patterns – and the motivations behind them – is crucial to guide and enhance future bilateral and multilateral migration policy across the European continent. We show from a comparative angle that a single national vote can alter an entire population's perceptions of the future social and economic conditions, with migration numbers reacting in significant magnitude. For destination countries within the European Union, Brexit-induced uncertainty has marked a significant rise in arrivals of British citizens. The uncertain situation also prolongs migration episodes, with many British citizens making their move permanent by increasingly acquiring citizenship rights in their destination countries. Undoubtedly, the Brexit experiment will continue to provide rich research opportunities in the social sciences, with ongoing changes in migration patterns calling for further analysis.

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CONFLICT OF INTEREST

The authors declare that they have no relevant or material financial interests that relate to the research described in this paper.

DATA AVAILABILITY STATEMENT

The data that support the findings of this study are openly available in Eurostat at <https://ec.europa.eu/eurostat/en/home>.

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ENDNOTES

- Immigration is typically defined as a permanent move from another country that lasts three or more months.
- Detailed information on migration flows is scarce for the time prior to 2008 and of extremely low quality. Moreover, data on disaggregated numbers are mostly or fully missing for Cyprus, Greece, Latvia, and Malta, so that we dropped these countries from our sample. We argue that these countries' migration patterns are marginal at the European level, so excluding them should not bias our findings.
- The advantage of this data is that these interviewees have already migrated instead of stating their intention to do so (Tjaden et al., 2018).
- Among post-referendum migrants, women were slightly underrepresented. However, this should – if anything – lower the observed impact of the referendum on risky behaviour in our sample (Andreoni et al., 2020).

REFERENCES

- Abel, G., Brotrager, M., Crespo-Cuaresma, J. & Mutarak, R. (2019) Climate, conflict and forced migration. *Global Environmental Change*, 54, 239–249.
- Abel, G.J. (2010) Estimation of international migration flow tables in Europe. *Journal of the Royal Statistical Society*, 173(4), 797–825.
- Akgüc, M., Liu, X., Tani, M. & Zimmermann, K.F. (2016) Risk attitudes and migration. *China Economic Review*, 37, 166–176.
- Andreoni, J., Girolamo, D., Amalia, L., John, A., Mackevicius, C. & Samek, A. (2020) Risk preferences of children and adolescents in relation to gender, cognitive skills, soft skills, and executive functions. *Journal of Economic Behavior & Organization*, 179, 729–742.
- Auer, D. & Ruedin, D. (2019) Who feels disadvantaged? Reporting discrimination in surveys. In: Steiner, I. & Wanner, P. (Eds.) *Migrants and expats: the swiss migration and mobility nexus*. Cham: Springer.
- Baláz, V., Williams, A.M. & Fifeková, E. (2016) Migration decision making as complex choice: eliciting decision weights under conditions of imperfect and complex information through experimental methods. *Population, Space and Place*, 22(1), 36–53.
- Barwick, C. & Le Galès, P. (2020) Work in London, love in Paris: middle class mobility over the channel tunnel. *Journal of Ethnic and Migration Studies*, 47, 4023–4039.
- Becker, C., Musabek, E., Seitenova, A.-G. & Urzhumova, D. (2005) The migration response to economic shock: lessons from Kazakhstan. *Journal of Comparative Economics*, 33(1), 47–74.
- Benson, M. (2019) Brexit and the classed politics of bordering: the British in France and European belongings. *Sociology*, 54(3), 501–517.
- Benson, M. & Lewis, C. (2019) Brexit, British people of colour in the EU-27 and everyday racism in Britain and Europe. *Ethnic and Racial Studies*, 42(13), 2211–2228.
- Bergen, N. & Labonte, R. (2020) “Everything is perfect, and we have No problems”: detecting and limiting social desirability bias in qualitative research. *Qualitative Health Research*, 30(5), 783–792.
- Black, R., Bennet, S., Thomas, S. & Beddington, J. (2011) Migration as adaptation. *Nature*, 478, 447–449.
- Burda, M. (1993) The determinants of east-west German migration: some first results. *European Economic Review*, 37(2–3), 452–461.
- Carling, J. & Collins, F. (2018) Aspiration, desire and drivers of migration. *Journal of Ethnic and Migration Studies*, 44(6), 909–926.
- Czaika, M. (2015) Migration and economic prospects. *Journal of Ethnic and Migration Studies*, 41(1), 58–82.

- DaVanzo, J. (1983) Repeat migration in the United States: who moves back and who moves on? *The Review of Economics and Statistics*, 65(4), 552–559.
- Dequiedt, V. & Zenou, Y. (2013) International migration, imperfect information, and brain drain. *Journal of Development Economics*, 102(1), 62–78.
- Duda-Mikulin, E.A. (2019) *EU migrant workers, Brexit and precarity: polish women's perspectives from inside the UK*. Bristol: Policy Press.
- Dustmann, C. (1997) Return migration, uncertainty and precautionary savings. *Journal of Development Economics*, 52(2), 295–316.
- Dustmann, C., Fasani, F., Meng, X. & Minale, L. (2020) Risk attitudes and household migration decisions. *The Journal of Human Resources*, 14.
- Dustmann, C., Frattini, T. & Halls, C. (2010) Assessing the fiscal costs and benefits of A8 migration to the UK. *Fiscal Studies*, 31(1), 1–41.
- EUROSTAT. (2020) *Migration database*. Available from: <https://ec.europa.eu/Eurostat/web/population-demography-migration-projections/data> [Accessed 12th June 2020]
- Favell, A. & Recci, E. (2009) Pioneers of European integration: in introduction. In: Favell, A. & Recci, E. (Eds.) *Pioneers of European integration*. Cheltenham: Edward Elgar.
- Frost, D. (2020) Hostile and harmful: structural stigma and minority stress explain increased anxiety among migrants living in the United Kingdom after the Brexit referendum. *Journal of Consulting and Clinical Psychology*, 88(1), 75–81.
- Gathmann, C. & Keller, N. (2017) Access to citizenship and the economic assimilation of immigrants. *Economic Journal*, 128, 3141–3181.
- Gawlewicz, A. & Sotkasiira, T. (2019) Revisiting geographies of temporalities: the significance of time in migrant responses to Brexit. *Population, Space, and Place*, 26, e2275.
- Greenwood, M. (1985) Human migration: theory, models, and empirical studies. *Journal of Regional Science*, 25(4), 521–544.
- Gröger, A. & Zylberberg, Y. (2016) Internal labor migration as a shock coping strategy: evidence from a typhoon. *American Economic Journal: Applied Economics*, 8(2), 123–153.
- Grogger, J. & Hanson, G. (2011) Income maximization and the selection and sorting of international migrants. *Journal of Development Economics*, 95(1), 42–57.
- Guma, T. & Jones, R. (2019) “Where are we going to go now?” European Union migrants' experiences of hostility, anxiety, and (non-)belonging during Brexit. *Population, Space, and Place*, 25, e2198.
- Hall, K., Phillimore, J., Grzymala-Kazłowska, A., Vershina, N., Ögtem-Young, Ö. & Harris, C. (2020) Migration uncertainty in the context of Brexit: resource conservation tactics. *Journal of Ethnic and Migration Studies*, 48(1), 173–191.
- Hantzsche, A., Kara, A. & Young, G. (2019) The economic effects of the UK government's proposed Brexit deal. *The World Economy*, 42(1), 5–20.
- Harris, J.R. & Todaro, M.P. (1970) Migration, unemployment and development: a two-sector analysis. *American Economic Review*, 60(1), 126–142.
- Haug, S. (2008) Migration networks and migration decision-making. *Journal of Ethnic and Migration Studies*, 34(4), 585–605.
- Higgins, K.W. (2019) National belonging post-referendum: Britons living in other EU Member States respond to “Brexit”. *Area*, 51(2), 277–284.
- Jaeger, D.A., Bonin, H., Dohmen, T., Falk, A., Huffman, D. & Sunde, U. (2010) Direct evidence on risk attitudes and migration. *The Review of Economics and Statistics*, 92(3), 684–689.
- Katz, E. & Stark, O. (1987) International migration under asymmetric information. *The Economic Journal*, 97(387), 718–726.
- Lulle, A., Morosan, L. & King, R. (2019) And then came Brexit: experiences and future plans of young EU migrants in the London region. *Population, Space, and Place*, 24(1), e2122.
- Massey, D.S. & Espinosa, K.E. (1997) What's driving Mexico-U.S. migration? A theoretical, empirical, and policy analysis. *American Journal of Sociology*, 102(4), 939–999.
- McKenzie, D., Theoharides, C. & Yang, D. (2014) Distortions in the international migrant labor market: evidence from Filipino migration and wage responses to destination country economic shocks. *American Economic Journal: Applied Economics*, 6(2), 49–75.
- Migration Observatory. (2019) *UK migration statistics lose their 'National Statistics' status as ONS confirms problems measuring EU and non-EU net migration*. Available from: <https://migrationobservatory.ox.ac.uk/> [Accessed 16th June 2020].
- Moore, W.H. & Shellman, S.M. (2004) Fear of persecution: Forced migration, 1952–1995. *Journal of Conflict Resolution*, 40(5), 723–745.
- Motyl, M., Iyer, R., Oishi, S., Trawalter, S. & Nosek, B.A. (2014) How ideological migration geographically segregates groups. *Journal of Experimental Social Psychology*, 51, 1–14.
- Neumann, M. (2020) *Recent Irish and British migration to Berlin. A case of lifestyle migration?*. Trier: WVT Wissenschaftlicher Verlag Trier.
- Noy, C. (2008) Sampling knowledge: the hermeneutics of snowball sampling in qualitative research. *International Journal of Social Research Methodology*, 11(4), 327–344.

- O'Connell, P.G.J. (1997) Migration under uncertainty: "try your luck" or "wait and see". *Journal of Regional Science*, 37(2), 331–347.
- OECD. (2020) *International migration database*. Available from: <https://stats.oecd.org/Index.aspx?DataSetCode=MIG> [Accessed 16th June 2020]
- Office for National Statistics. (2021) *Migration statistics quarterly report*. Available from: <https://www.ons.gov.uk/> [Accessed 28th August 2020]
- Ortega, F. & Peri, G. (2013) The effect of income and immigration policies on international migration. *Migration Studies*, 1(1), 47–74.
- Portes, J. & Forte, G. (2017) The economic impact of Brexit-induced reductions in migration. *Oxford Review of Economic Policy*, 33(S1), S31–S44.
- Ramiah, V., Pham, H.N.A. & Moosa, I. (2017) The sectoral effects of Brexit on the British economy: early evidence from the reaction of the stock market. *Applied Economics*, 49(26), 2508–2514.
- Ranta, R. & Nancheva, N. (2019) Unsettled: Brexit and European Union nationals' sense of belonging. *Population, Space and Place*, 25(1), e2199.
- Rzepnikowska, A. (2019) Racism and xenophobia experienced by Polish migrants in the UK before and after Brexit vote. *Journal of Ethnic and Migration Studies*, 45(1), 61–77.
- Saarela, J. & Rooth, D.-O. (2012) Uncertainty and international return migration: some evidence from linked register data. *Applied Economics Letters*, 19(18), 1893–1897.
- Sajons, C. (2019) Birthright citizenship and parental labor market integration. *Labour Economics*, 57, 1–22.
- Saunders, B., Sim, J., Kingstone, T., Baker, S., Waterfield, J., Bartlam, B. et al. (2018) Saturation in qualitative research: exploring its conceptualization and operationalization. *Quality & Quantity*, 52(4), 1893–1907.
- Sredanovic, D. (2020a) Brexit as a trigger and an obstacle to onwards and return migration. *International Migration*, 59, 93–108.
- Sredanovic, D. (2020b) The tactics and strategies of naturalisation: UK and EU27 citizens in the context of Brexit. *Journal of Ethnic and Migration Studies*, 48(13), 3095–3112.
- Stark, O. & Bloom, D. (1985) The new economics of labor migration. *The American Economic Review*, 75(2), 173–178.
- Teodorowski, P., Woods, R., Czarnecka, M. & Kennedy, C. (2021) Brexit, acculturative stress and mental health among EU citizens in Scotland. *Population, space and Place*, 27, e2436.
- Tjaden, J., Auer, D. & Laczko, F. (2018) Linking migration intentions with flows: evidence and potential use. *International Migration*, 57(1), 36–57.
- Todaro, M.P. (1969) A model of labor migration and urban unemployment in less developed countries. *American Economic Review*, 59(1), 138–148.
- Tolnay, S. & Beck, E. (1992) Racial violence and Black migration in the American south, 1910–1930. *American Sociological Review*, 57(1), 103–116.
- Trabka, A. & Pustulka, P. (2020) Bees and butterflies: Polish migrants' social anchoring, mobility and risks post-Brexit. *Journal of Ethnic and Migration Studies*, 46(13), 1–18.
- United Nations. (2020) *UN Comtrade database*. Available from: <https://comtrade.un.org/> [Accessed 15th June 2020]
- Van Hear, N., Bakewell, O. & Long, K. (2018) Push-pull plus: reconsidering the drivers of migration. *Journal of Ethnic and Migration Studies*, 44(6), 927–944.
- Vargas-Silva, C. (2016) EU migration to and from the UK after Brexit. *Intereconomics*, 51(5), 251–255.
- Williams, A.M. & Baláz, V. (2012) Migration, risk, and uncertainty: theoretical perspectives. *Population Space and Place*, 18(2), 167–180.
- Worldbank. (2020) *World Bank open data*. Available from: <https://data.worldbank.org/> [Accessed 15th June 2020]

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Additional supporting information can be found online in the Supporting Information section at the end of this article.

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