

## Letter

# Heterogeneous Naturalization Effects of Dual Citizenship Reform in Migrant Destinations: Quasi-Experimental Evidence from Europe

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**D**oes dual citizenship acceptance increase immigrants' propensity to naturalize and, if so, for whom does this matter most? We exploit exogenous variation in citizenship legislation in 200 migrant-origin countries to identify the effect of destination country policy reform. We hypothesize that the value of the origin country citizenship moderates the reform effect. We test our identification strategy in two West European countries with contrasting reforms: a canonical liberal reform in Sweden (2001) and an atypical restrictive reversal in the Netherlands (1997). We apply a staggered difference-in-differences model employing administrative data on complete migrant populations. We find reform effects remarkably similar in effect size and heterogeneity, with liberalizing reform increasing naturalization rates by 6.7 percentage points and restrictive change decreasing rates by 6.4 percentage points. The effect is concentrated among immigrants from EU and highly developed countries. Our quasi-experimental evidence informs naturalization scholarship and public debate on migrant political integration.

## INTRODUCTION

**D**ual citizenship restrictions are one of the key barriers to immigrants' naturalization and thus to their economic (Hainmueller, Hangartner, and Ward 2019; Peters, Schmeets, and Vink 2019), social (Leclerc, Vink, and Schmeets 2021; Peters 2020), and political integration (Hainmueller, Hangartner, and Pietrantuono 2015) in destination contexts. While the occurrence of such restrictions has diminished (Alarian and Goodman 2017; Vink et al. 2019), 51% of states worldwide still partially or fully restrict dual citizenship (Vink et al. 2023). Dual citizenship remains controversial in various European states such as Austria, the Netherlands, and Germany, where the center-left governing coalition in 2023 submitted a proposal to parliament for a major overhaul of the citizenship legislation, including dual citizenship liberalization.

How dual citizenship acceptance matters for immigrant naturalization has been addressed in various studies, yet few empirical strategies allow for a causal interpretation of the effect of dual citizenship reforms. Existing studies typically rely on a comparison of cohorts who are subject to different policy conditions (Labussière and Vink 2020) or of behavior in time

periods before and after the policy change (e.g., Jones-Correa 2001). Such approaches risk conflating policy effects with coinciding cohort or period effects, respectively. Other studies identify the effect of dual citizenship reform by utilizing legislative changes in selected origin countries to analyze naturalization behavior in a single destination country across periods (e.g., Latin American migrants in the US, Mazzolari 2009), but do not facilitate identifying heterogeneous origin effects or speak to debates on restrictions in a destination context.

Hence the question we ask in this letter: how do dual citizenship reforms in destination countries affect immigrant naturalization rates, and to whom do these reforms matter most? We hypothesize that the value of the origin country citizenship moderates the effect of dual citizenship reform and that migrants from other European Union (EU) and highly developed countries are affected more strongly than those from low to medium-developed origins.

We develop an original quasi-experimental approach that exploits exogenous variation in origin country dual citizenship regulation to identify the treatment effect of destination country policy change on migrants' naturalization behavior. To account for contemporaneous changes in origin country legislation, which affect the timing of treatment, we apply difference-in-differences (DiD) for staggered treatment (Callaway and Sant'Anna 2021). We test our DiD approach in two West European migration destinations that experienced contrasting policy changes: a canonical liberalizing change in Sweden (2001) and an atypical restrictive reversal in the Netherlands (1997). We link individual-level administrative data on complete migration populations to

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macro data on origin country citizenship law provisions on the consequences of naturalization abroad (Vink, De Groot, and Luk 2015).

Our letter adds to a growing number of studies that employ (quasi-)random treatment assignment to analyze the effects of institutional context such as discretionary decision procedures (Hainmueller, Hangartner, and Pietrantuono 2015), fee waivers (Yasenov et al. 2019), information nudges (Hotard et al. 2019), or access to voting rights (Slotwinski, Stutzer, and Bevelander 2023) on immigrant naturalization behavior.

## HETEROGENEOUS NATURALIZATION EFFECTS OF DUAL CITIZENSHIP

States have traditionally restricted dual citizenship to prevent ambiguous claims of diplomatic protection and divided loyalties in case of conflict (Spiro 1997, 1415), by demanding renunciation from individuals who voluntarily acquire another citizenship, or by withdrawing citizenship upon naturalization abroad. The main hypothesis (H1) is that migrants are more likely to acquire destination country citizenship if they are able to retain their original citizenship upon naturalization (Peters, Vink, and Schmeets 2016). This is explained by a cost-benefit calculation, in which having to renounce any other citizenship as a requirement to naturalize abroad constitutes a considerable cost (Yang 1994, 458). Immigrants are more likely to naturalize if the added value of acquiring destination country citizenship outweighs the costs of doing so. There are two sides to this argument, relating to costs and (relative) benefits. With regards to costs of naturalization, besides fees and investments necessary to navigate and overcome all requirements, there are practical and psychological costs to giving up the origin citizenship (Mazzolari 2009, 173). Practical concerns relate to being able to travel back visa-free to the origin country, maintaining or inheriting property, and keeping the right to vote in origin country elections. Psychologically, giving up the entitlement to a passport for yourself and your children may conflict with continued identification as a national of your country of birth. Hence, liberal dual citizenship reform should, *ceteris paribus*, result in higher migrant naturalization rates, whereas restrictive reform should result in lower naturalization rates.

But to whom does being able to hold on to the origin country citizenship matter most in predicting the likelihood to acquire destination country citizenship? Drawing on economic theories of citizenship ascension (DeVoretz and Irastorza 2017), we hypothesize (H2) that the effect of dual citizenship reform on migrant naturalization rates in the destination country is stronger among migrants from origin countries with a highly valued citizenship. The reasoning here is that the relevance of dual citizenship acceptance is moderated by the relative value of the original citizenship vis-à-vis the citizenship of the destination country (Vink et al. 2021). Hence, the symbolic costs of giving up one's origin citizenship may matter to all, but whether they pose an obstacle to naturalization is determined by the

variable “citizenship premium” within a world system that implies global inequality of opportunity and migration (Milanovic 2016).

We use EU membership and level of human development as proxies for the relative value of origin country citizenship vis-à-vis the citizenship of the Netherlands and Sweden. Hence we expect that the effect of the removal (Sweden) or re-imposition (the Netherlands) of dual citizenship restrictions will be more pronounced among migrants who already have near equal residence status to citizens due to the EU free movement regime, and those migrants from highly developed origin countries who hold comparable global mobility rights. By contrast, for migrants from less developed non-EU countries of origin, the benefits of acquiring Swedish or Dutch citizenship will outweigh the costs of having to give up the (globally) less valuable origin citizenship.

## RESEARCH DESIGN

### Two Contrasting Reforms

Both the Netherlands and Sweden have historically practiced restrictive policies on dual citizenship and moved toward liberalization in recent decades. Sweden fully liberalized its dual citizenship policy in July 2001, while the Netherlands did so already in the early 1990s, halfheartedly, and with a subsequent reversal in June 1997. In this paper, we study the effect of the canonical liberalization in Sweden (in the sense of being an early example of contemporary dual citizenship acceptance in Europe) and the atypical reintroduction of the renunciation requirement in the Netherlands (including an exemption for foreigners with a Dutch citizen partner, further details in Supplementary Material SM3).

These two countries are well placed to compare the effect of these changes in the renunciation requirement on immigrant naturalization rates for three reasons. First, the citizenship policies in both countries around the respective reforms are among the most inclusive in Western Europe with a residence requirement of five years, no formalized language or civic integration tests, and no economic conditions (see Supplementary Material SM1, cf. Schmid 2021). This shared inclusiveness provides a comparable institutional context where changing dual citizenship requirements are likely to have the largest marginal effect on migrant naturalization decision-making. Note that we restrict our observation period to exclude potential confounding by subsequent restrictive changes which were introduced in the Netherlands in 2003, see “Data”). Second, both countries are advanced economies where citizenship comes with access to highly developed welfare regimes, free movement within the European Union, and facilitated global mobility (Henley & Partners 2023). This provides a setting where demand for citizenship should be comparable. Third, the availability of detailed micro-level administrative data allow us to compare the before-after differences around the reform years in the two countries across complete migrant populations.

## Identification Strategy

We apply a DiD strategy to identify the effect of dual citizenship policy reform on naturalization rates among immigrants, by comparing rates among migrants from the treatment group, in the years before and after the respective reforms in Sweden and the Netherlands, compared to the before/after naturalization rates among migrants from the control group. The main intuition of our approach is that whether an immigrant is affected by dual citizenship reform in the destination country depends crucially on the type of citizenship legislation in the origin country. Given the dyadic nature of dual citizenship, if the origin country does not allow migrants to keep their citizenship when naturalizing abroad, the destination country reform is irrelevant to migrants from such countries. Since migrants' origin country is exogenous to their individual motivation to naturalize, they cannot self-select into either the treatment or the control group; hence treatment allocation is plausibly exogenous, allowing a causal interpretation of the statistical findings.

Based on the citizenship legislation of the origin country, we allocate migrants to one of three groups:

- *Control group*: migrants whose country of origin does not allow them to keep their country-of-origin citizenship if they naturalize in the destination country.
- *Treatment group*: migrants whose country of origin allows them to keep their country-of-origin citizenship if they naturalize in another country but does

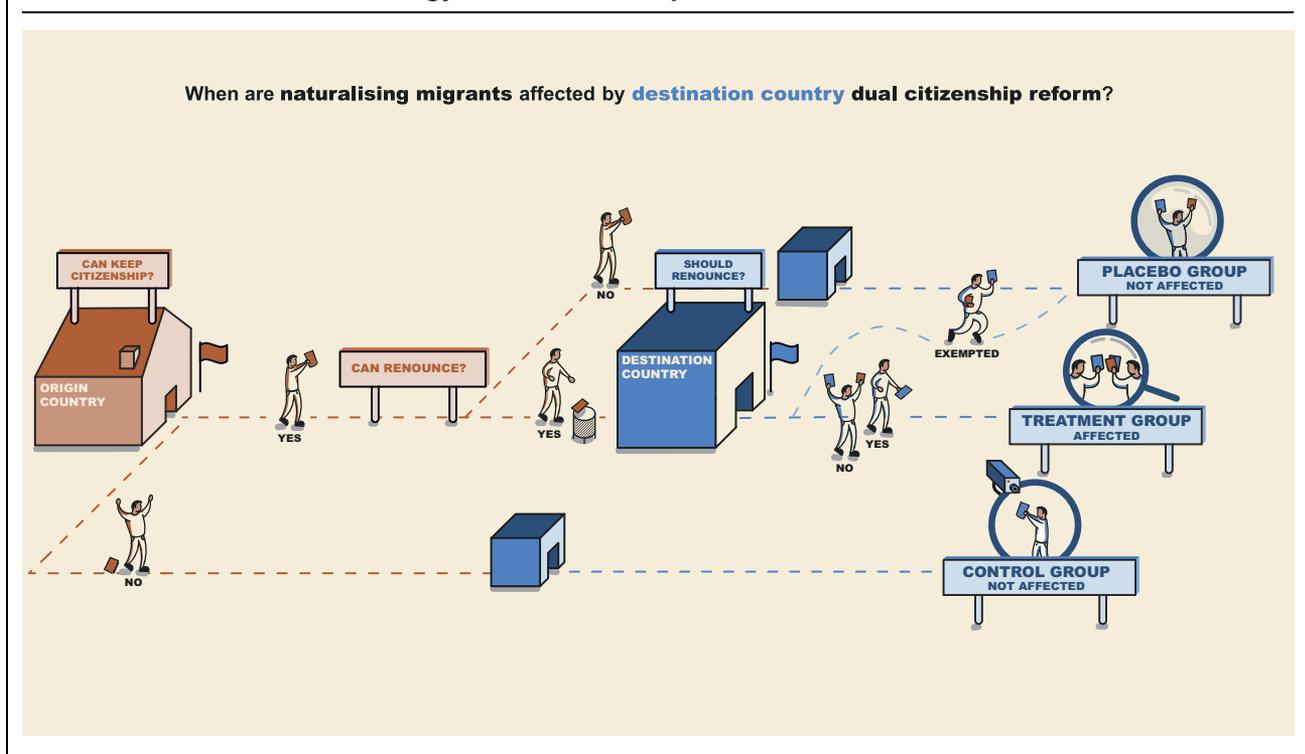
- allow them to renounce their country-of-origin citizenship if this is required by the destination country.
- *Placebo group*: migrants whose country of origin does not allow them to renounce their country-of-origin citizenship.

Figure 1 visualizes our treatment identification strategy.

Hence, only a subset of migrants are affected by destination country dual citizenship reform: those who (a) do not lose their citizenship due to restrictive country-of-origin legislation, and (b) can renounce their country-of-origin citizenship if this is required by the destination country (treatment group). Only these migrants were (Sweden, until the liberal reform of 2001) or are currently required (the Netherlands, since the restrictive reform of 1997), after having acquired the destination country citizenship, to demonstrate that they renounced their origin country citizenship. If migrants lose their origin country citizenship automatically by effect of the origin country law (control group) *or* if they cannot renounce it even if they wanted (placebo group), the destination country authorities did/do not require them to renounce it upon naturalization (see Supplementary Material SM3 for details on the implementation of the renunciation requirement in both countries).

Note that in 1960 around 74% of origin countries practiced a restrictive approach to dual citizenship whereas only 31% of countries did so in 2022; a smaller, but still significant share of around 7% of countries does not allow its citizens to renounce their citizenship (Vink et al. 2023). Those migrants that do not lose and

**FIGURE 1. Identification Strategy: Treatment Group Allocation**



can renounce the origin citizenship, but who are not required to do so due to destination country exemptions (as in the Netherlands, for migrants with a citizen partner) serve as an alternative placebo group, as illustrated in Figure 1.

## Data

We draw on administrative register data from Statistics Sweden and Statistics Netherlands. These data include all legally registered individuals in these countries over time and are accessed through remote access procedures (see “Data availability statement”). Hence the analyses of both samples are run separately.

The research population consists of all foreign-born residents registered between 1998 and 2006 in Sweden and between 1994 and 2002 in the Netherlands, that is, eight years surrounding the dual citizenship reform in both countries. We do so in light of two data constraints in the Dutch sample: (a) we have administrative data available from 1994 onward; and (b) in 2003 the Netherlands introduced mandatory civic integration, which risks confounding the effect of dual citizenship restriction from that year. We only include foreign-born individuals both of whose parents were born abroad and migrants who are 18 years or older at the moment of migration. To exclude major post-WWII return migration flows with, especially in the Netherlands, very high citizenship acquisition rates we include only those who resided less than 40 years in the host country. We observe migrants once they are eligible for naturalization (see Supplementary Material SM3). As in both countries the renunciation requirement during the restrictive observation periods does not apply to migrants who have refugee status or are entitled to subsidiary protection, in line with international law, we exclude those migrants with a high probability to be exempted on asylum grounds (see Supplementary Material SM2). In Sweden, the sample consists of 484,008 migrants (3,191,258 observations). In the Netherlands, due to the partner exemption to the reintroduced renunciation requirement, we restrict the main analyses to migrants without a citizen partner ( $N = 136,521$  individuals, 912,031 observations); we employ a sample based on migrants with a citizen partner in a placebo analysis ( $N = 148,511$  individuals, 931,413 observations).

We subsequently link individual-level register data to origin country-level information on dual citizenship acceptance (Vink, De Groot, and Luk 2015). This dataset charts the rules of 200 countries over time with regard to the loss or renunciation of citizenship after a citizen voluntarily acquires the citizenship of another state (see details and allocation of migrants across treatment groups in Supplementary Material SM4).

## Method

Since dual citizenship reforms do not affect all migrant groups at the same time, as also origin country policies change over time, our empirical strategy needs to deal with such staggered treatment. This problem has been

overlooked so far in the literature on immigrant naturalization. In particular, while the destination country reform takes place in a single year, the timing of origin country policy change varies between migrants from different countries. As treatment depends on the policy conditions in both the origin and host country, some migrants receive delayed treatment.

To incorporate staggered treatment in a robust manner we draw on the DiD model developed by Callaway and Sant’Anna (2021), which generalizes the canonical two-way fixed effects model by estimating the group-time average treatment effect reflecting the average treatment effect for group  $g$  at time  $t$ . The “groups” in our case represent units who, due to the citizenship policies of their origin countries, were first treated in a given year (see Supplementary Material SM5 for the trend in naturalization rates among these staggered treatment groups). In Sweden, this varies from 2001 (when the renunciation requirement was abolished) to the subsequent years 2002–2005 (there is no migrant group that becomes treated in 2006). In the Netherlands, there is only one group because there are no origin countries which abolished their “cannot renounce” provisions between 1998 and 2002 (which would cause migrants who were not affected by the restriction of 1997 to be affected later).

Under this specification, the conventional DiD design can be expressed as:

$$ATT(g, t) = E[Y_t(1) - Y_t(0) | G_g = 1], \quad (1)$$

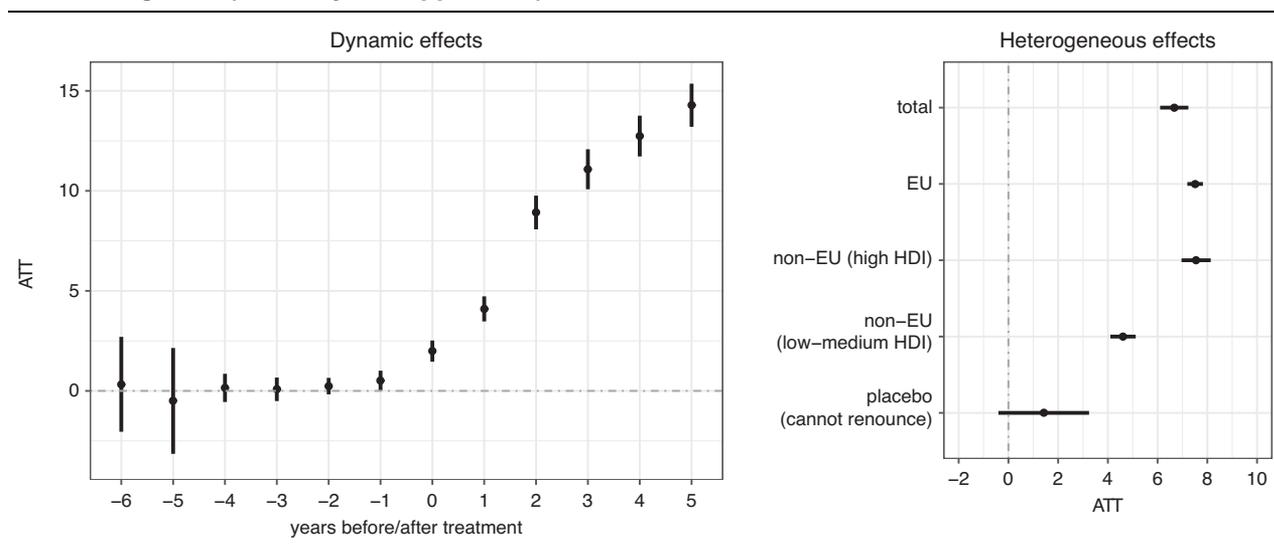
where the average treatment effect  $ATT$  for each group-time combination  $(g, t)$ , is the difference in the naturalization rate as a result of the respective policy reform between migrants from treatment groups  $g$  and never treated migrants at every time  $t$ . The  $ATT_{(g,t)}$  allows for the estimation of heterogeneous treatment effects, that is, treatment effects that increase or decrease over time, or treatment effects that differ based on adoption time. The effect on the overall  $ATT$  is weighted as a function of the time that each unit spends in the pre-period and post-period (details in Supplementary Material SM6). We interpret the  $ATT$  as the average difference in the naturalization rate among migrants from the treatment group as a result of the removal or reintroduction of the renunciation requirement, all else constant. We report both the average treatment effect, as well as the dynamic event study to test whether the pre-reform trends meet the parallel trend assumption that the difference in naturalization rates between control and treatment group is constant in the absence of treatment.

## RESULTS

### The Canonical Case: Liberal Reform in Sweden (2001)

Figure 2 displays the  $ATT$  of the abolishment of the renunciation requirement in Sweden on percentage

**FIGURE 2. The Average Treatment Effect on the Treated of the Abolishment of the Renunciation Requirement in Sweden in 2001 in Percentage Point Change of Naturalization Rates among Foreign-Born Immigrants (Excl Asylum Applicants)**



Note: Left panel: dynamic (pseudo-) ATT estimated with varying base period (changes from period  $t-1$  to  $t$ ), for total sample. Right panel: overall ATT for total sample, sub-samples by origin region, and placebo treatment group of immigrants from origin countries that do not allow voluntary renunciation of citizenship. Detailed output in Supplementary Material SM7.

point changes in naturalization rates. The left panel plots the dynamic effect to test the parallel trends assumption; the right panel plots the overall treatment effect. The trend reveals no differences between the control and treatment group prior to the policy change, with confidence intervals that cover zero. Relative naturalization rates diverge from the reform year ( $t_0$ ), ranging from an increase of 2 percentage points to 14.3 percentage points 5 years after treatment. Overall, the post-treatment ATT amounts to 6.7 percentage points. This effect is driven by migrants treated in 2001, 2002, and 2005 (see Supplementary Material SM8).

Analyses of impact heterogeneity (right panel), confirm the expectation that the effect of dual citizenship reform is moderated by the relative value of the original citizenship vis-à-vis the citizenship of the destination country. Effect sizes range from 7.5 and 7.6 percentage points for migrants from EU and other highly developed countries, respectively, to 4.6 percentage points for migrants from low to medium-developed countries of origin (see dynamic effects in Supplementary Material SM9).

When replacing the treatment group with the placebo group—who cannot renounce the origin citizenship and thus should not be affected by the dual citizenship liberalization—there is no longer a significant treatment effect (though we observe a minor spillover effect from 3 years after the reform, see Supplementary Material SM9). This confirms that the difference in the relative naturalization rate between the control and treatment group is driven by the change in institutional context.

We perform several checks to confirm the robustness of these findings. First, the inclusion of time-invariant covariates (gender, education, age at migration) does

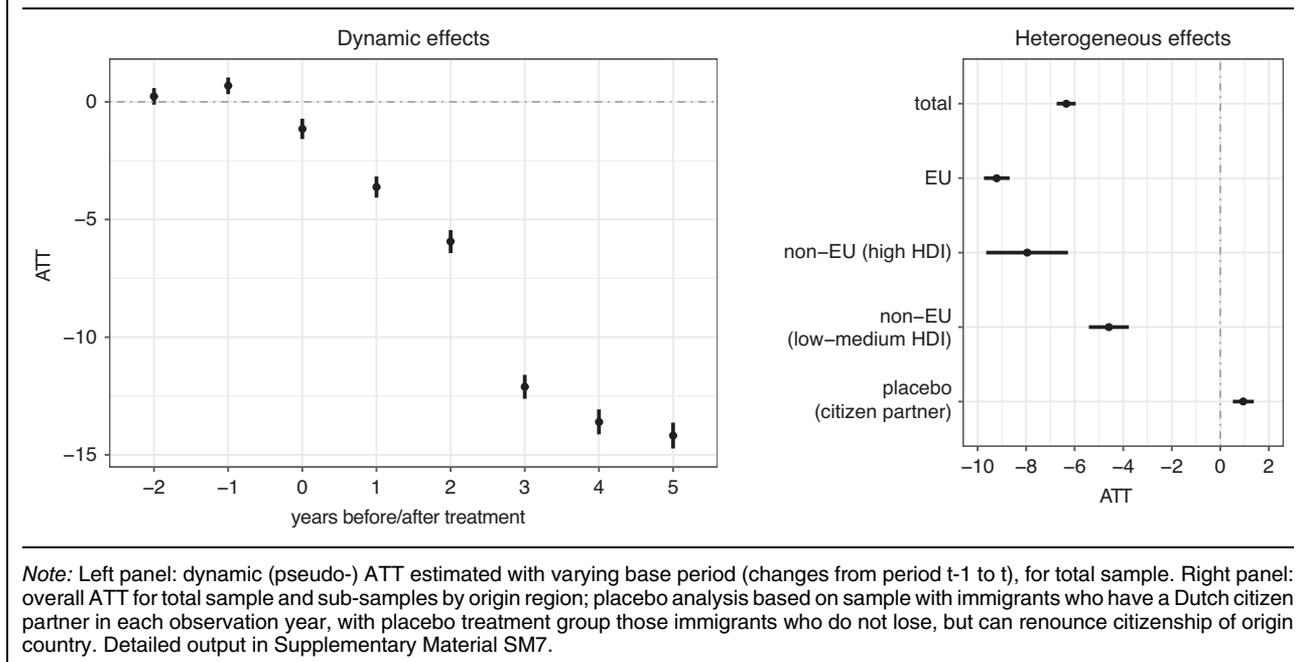
not alter the main results, indicating that our identification strategy successfully leverages the exogenous treatment of origin country legislation. Second, restricting our sample to migrants who remain in Sweden once they are eligible to naturalize results a marginally higher treatment effect, suggesting that we provide a conservative estimate that is robust to selective out-migration. Third, we find no evidence that migrants from the treatment group anticipated the dual citizenship reform by postponing their planned naturalization (Supplementary Material SM10, Figure S9).

### The Atypical Case: Liberalization Reversed in the Netherlands (1997)

Our analysis of the atypical restriction of dual citizenship policy in the Netherlands reveals a mirror image of the canonical Swedish case. The dynamic trend in Figure 3 (left panel) shows negligible differences in the relative naturalization rate between the control and treatment group prior to treatment, and a divergence afterward. As expected, the ATT is negative, ranging from 1.2 percentage points in the year of treatment to 14.2 percentage points five years after treatment. The aggregated ATT (right panel) amounts to 6.4 percentage points, which is remarkably similar in effect size to the Swedish case.

The same is true for the heterogeneity analyses, which confirm a stronger effect among migrants for whom the relative cost of renunciation is higher. Among migrants from EU and other highly developed countries, the post-treatment difference between the control and treatment group is 9.2 and 8.0 percentage points respectively, compared to 4.6 percentage points

**FIGURE 3. The Average Treatment Effect on the Treated (ATT) of the Reintroduction of the Renunciation Requirement in the Netherlands in 1997 in Percentage Point Change of Naturalization Rates among Foreign-Born Immigrants (Excl Asylum Applicants) Who Do Not Have a Dutch Citizen Partner in Any Observation Year**



Note: Left panel: dynamic (pseudo-) ATT estimated with varying base period (changes from period t-1 to t), for total sample. Right panel: overall ATT for total sample and sub-samples by origin region; placebo analysis based on sample with immigrants who have a Dutch citizen partner in each observation year, with placebo treatment group those immigrants who do not lose, but can renounce citizenship of origin country. Detailed output in Supplementary Material SM7.

among migrants from low and medium-developed countries of origin (see dynamic effects in Supplementary Material SM9).

When substituting the treatment group for the placebo group—migrants with a Dutch partner who are exempted from the renunciation requirement—the negative ATT disappears, suggesting that the main analysis captures the relevance of the restrictive reversal of dual citizenship policy in the Netherlands. Note that the pre-reform naturalization behavior among the “cannot renounce” group violates the parallel trends assumption and, in contrast with Sweden, is not a suitable placebo group here (see Supplementary Material SM7). We attribute this to a positive spillover effect of the liberal 1992–1997 (pre-reform) policy in the Netherlands, which encouraged higher naturalization even among those that strictly were not subject to the renunciation requirement (as they could not renounce their origin citizenship); by contrast, migrants from origin countries whose naturalization still came with the penalty of losing the origin citizenship (control group) were much less affected by this spillover effect. This finding suggests that placebo group identification requires attention to spillover effects of dual citizenship policies; this should be further explored in other contexts.

Given the institutional context in the Netherlands, we can only estimate the main reform effect for the subpopulation of immigrants without a Dutch citizen partner. However, a heterogeneity analysis of the reform effect by citizen status of the partner in Sweden indicates that dual citizenship reform affects migrants without a citizen partner (6.8 percentage points) only

marginally stronger than those with a citizen partner (6.5 percentage points, Supplementary Material SM7). These results remain stable when including time-invariant covariates, excluding right-censoring, and allowing for one-year anticipation. An additional robustness check based only on migrants who became eligible after the 1992 liberal reform indicates that the treatment effect of the 1997 reform is not driven by a “backlog” of immigrants who had been eligible to naturalize for some time but were deterred by the pre-1992 renunciation requirement (Supplementary Material SM10, Figure S10).

## DISCUSSION

Our analysis of the relevance of dual citizenship acceptance—a controversial topic across many European societies over the past decades—shows that allowing migrants to keep their origin citizenship when naturalizing in the destination country is a significant facilitator of immigrant naturalization and thus political inclusion. We provide causal evidence based on two contrasting policy reform: while the abolishment of the renunciation requirement in Sweden resulted in a substantial increase in the naturalization rate, its reintroduction in the Netherlands led to a significant decrease in the rate at which migrants acquire citizenship. Effect sizes are remarkably similar, with an overall increase in the naturalization rate of 6.7 percentage points in Sweden and decrease of 6.4 percentage points in the Netherlands. The treatment effect disappears in placebo

analyses in which the treatment group is replaced by migrants who are exempted from the renunciation requirement.

These findings contribute to our understanding of the relevance of dual citizenship legislation for immigrant naturalization in two important ways. First, whereas designs employing quasi-random treatment assignment are increasingly common in the citizenship acquisition literature, such studies frequently draw on unique circumstances for identification (e.g., discretionary decision procedures or idiosyncratic reforms) and are hard or impossible to replicate in other contexts. By contrast, our identification strategy leverages information on origin country legislation and can be readily applied across destination contexts where dual citizenship restrictions are implemented in a comparable manner. The external validity of our identification strategy is increased by applying the design not only to a common liberalizing case but also in an atypical restricting context. Hence, adding the atypical restrictive Dutch case to the typical liberal Swedish case allows generalizing our argument about the effects of dual citizenship reform.

Second, we provide a better understanding of the heterogeneous effect of such reforms. Consistent with our hypothesis that the perceived cost of renunciation is higher for migrants whose original citizenship is relatively valuable, dual citizenship reform affects the naturalization rate of migrants from EU and other highly developed countries more than their counterparts from low and medium-developed countries. Moreover, by accounting for staggered treatment our approach is more transparent about potential impact heterogeneity among those who have been subject to a policy condition for a shorter or longer period of time.

Finally, our findings have implications beyond scholarship of immigrant naturalization. By giving precise estimates of the naturalization effects of typically controversial dual citizenship reforms we inform public debate on the implications for political inclusion. By developing a strategy to identify migrant origin groups most likely affected, we provide a tool for policy-makers to forecast changing demand on administrative capacity for processing naturalization applications.

## SUPPLEMENTARY MATERIAL

To view supplementary material for this article, please visit <https://doi.org/10.1017/S0003055423001193>.

## DATA AVAILABILITY STATEMENT

Research documentation that supports the findings of this study is openly available at the American Political Science Review Dataverse: <https://doi.org/10.7910/DVN/LJPHFR>. Limitations on data availability: the analyses in this paper use administrative register data made available by Statistics Netherlands and Statistics Sweden. The use of these data is covered by data use agreements that do not allow us to disclose the

individual-level data. We provide code to replicate our analyses that can be used by those to whom data access has been granted. Information on access to microdata of Statistics Netherlands: <https://www.cbs.nl/en-gb/onzediensten/customised-services-microdata/microdata-conducting-your-own-research>. Information on access to microdata of Statistics Sweden: <https://www.scb.se/en/services/guidance-for-researchers-and-universities/>.

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## CONFLICT OF INTEREST

The authors declare no ethical issues or conflicts of interest in this research.

## ETHICAL STANDARDS

The authors affirm this research did not involve human subjects.

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