Overcoming Statelessness and Becoming a Citizen: Socioeconomic Evidence from the Shona in Kenya

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Abstract: What advantages does citizenship offer in developing countries? Although statelessness is a global phenomenon, there is little quantitative evidence on the benefits of citizenship in these settings. Focusing on the formerly stateless Shona population in Kenya, who obtained citizenship in 2020, we investigate the effect of citizenship on self-employment as the dominant economic activity in urban Kenya. Using eight waves of panel data from July 2020 to July 2022, we compare the economic trajectories of the Shona with those of urban refugees who do not have Kenyan citizenship. We find that citizenship improves self-employment opportunities, particularly for female-headed households. We complement this analysis with original household survey data that compare Shona perceptions before citizenship (2019) and after (2024). As the first empirical study to quantify the citizen premium in a developing country, we contribute new insights to the literature on migrant naturalization, citizen-state interactions, and the benefits of legibility for vulnerable populations.

Introduction

What are the benefits of citizenship in developing countries? Citizenship improves long-term earnings and the social integration of immigrants in Switzerland (e.g., Hainmueller, Hangartner and Ward, 2019; Hainmueller, Hangartner and Pietrantuono, 2017, 2015), yields a wage premium in Germany (Steinhardt, 2012), and may encourage greater human capital investment in the US (Bratsberg, Ragan and Nasir, 2002). However, little is known about the benefits of obtaining citizenship in developing contexts. This is an important research gap to fill: the benefits of citizenship may be different in contexts with lower provision of public goods by the state, with partial substitution of state services by humanitarian and development actors, with potential discrimination of citizens based on ethnic kinship, and lower legibility among citizens to claim their rights and access services.

We study the effect of citizenship acquisition in a unique setting: the formerly stateless Shona people in Kenya who obtained Kenyan citizenship in 2020. The Shona are a small population group, predominantly originating from Zimbabwe, who now mainly reside in Nairobi and Kiambu counties. Due to Kenya's nationality laws, the approximately 350 Shona households residing in Kenya remained stateless for generations until they received Kenyan citizenship in December 2020 (UNHCR, 2020).

Our empirical approach begins with a panel analysis of the COVID-19 Rapid Response Phone Surveys by the World Bank, the Kenya National Bureau of Statistics (KNBS), and the United Nations High Commis-

sioner for Refugees (UNHCR) (World Bank, UNHCR, KNBS, 2022). The main panel includes representative samples of Kenyan nationals and refugees, as well as one sampling stratum comprising of the entire known population of Shona in Kenya. In a difference-in-difference design, we contrast the change in the rate of self-employment of 215 Shona households that obtained citizenship in December 2020 (treatment group) with 492 urban refugee households that were not naturalized (control group). We demonstrate that self-employment in micro-enterprises and self-owned businesses — the primary means by which the urban Shona around Nairobi generate income — starts to increase 15 months after citizenship. This indicates that citizenship opens up economic opportunities for this vulnerable population, an effect that is especially evident for female-headed households.

We then analyze two original data collections from the full Shona population (350 households) — one from 2019 (before citizenship) and one from 2024 (after citizenship) — to understand the perceived impact of obtaining citizenship (UNHCR, 2021; Rahman et al., 2024). The Shona view the acquisition of citizenship as a transformative milestone; it strengthens their national identity, improves their income and quality of life, and reduces their experiences of discrimination.

Our study addresses the critical question of the benefits of citizenship in developing countries, providing the first socio-econometric evidence on overcoming statelessness in Africa. Importantly, while other studies focus on migrants switching from their origin nationality to their destination nationality or obtaining a second citizenship, we focus on a case in which individuals without nationality acquire citizenship. Globally, an estimated 4.4 million people are stateless, although this number is acknowledged to be an underestimate (UNHCR, 2023). Due to the lack of quantitative data on the scale, locations, and living conditions of stateless populations, we know little about how citizenship (or the lack thereof) shapes the socioeconomic reality of these individuals and communities.

Research on statelessness and citizenship in developing countries

The benefits of citizenship

In theory, citizenship, a legal status that defines the relationship between an individual and the state, confers legal rights, facilitates social and political participation, and fosters a sense of belonging (Bloemraad, Korteweg and Yurdakul, 2008). As such, citizenship is often regarded as a privilege (Gathmann and Garbers, 2023). Empirical research demonstrates that naturalization and the acquisition of citizenship yield positive outcomes in areas such as employment, wages (Bratsberg, Ragan and Nasir, 2002; Steinhardt, 2012), and health (Khuu, Van Hook and Lowrey, 2025). Naturalized migrants also tend to exhibit greater formal political participation, higher levels of political knowledge and efficacy (Hainmueller, Hangartner

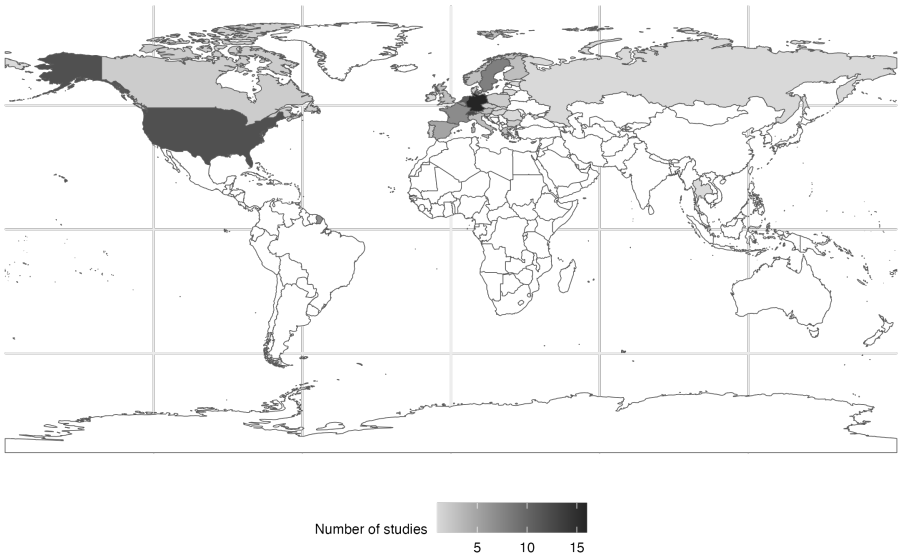

Figure 1: Geographical coverage of studies that quantitatively assess the impact of citizenship acquisition/naturalization on socioeconomic outcomes.

and Pietrantuono, 2015), and stronger social integration within the host country (Hainmueller, Hangartner and Pietrantuono, 2017). Several mechanisms may explain these benefits; for instance, individuals may be more inclined to invest in their human capital when they have the prospect of acquiring citizenship (Bratsberg, Ragan and Nasir, 2002).

One striking feature of the literature is that all evidence stems exclusively from developed contexts, such as Switzerland (Hainmueller, Hangartner and Ward, 2019; Hainmueller, Hangartner and Pietrantuono, 2017, 2015), Germany (Steinhardt, 2012), and the United States (Bratsberg, Ragan and Nasir, 2002). We identified quantitative studies examining the impact of citizenship/naturalization on various outcomes (e.g., health, employment, and voting) through a systematic Scopus search and literature review.[1] Based on our own systematic literature search, Figure 1 displays the geographical spread of studies that quantitatively assess the impact of citizenship acquisition on socioeconomic outcomes. The map illustrates the limited evidence on the benefits of citizenship in developing countries, particularly in Africa and most of the Global South.

Citizenship in developing countries

This lack of evidence is concerning, as there are several theoretical reasons to expect that the effects of citizenship and naturalization may differ in developing countries. On the one hand, citizenship may be

[1]Details on the search process can be found in the appendix.

particularly important in developing countries. Discrimination — for example based on ethnic kinship — might be particularly intense in such contexts and could be overcome with citizenship. Citizenship could act as a tool of inclusion for marginalized groups by providing protection and transferring rights. For instance, multiple studies document the positive benefits of civil documents as a way to prove citizenship for poor, elderly and female populations (Harbers and Hunter, 2025; Harbers, 2020; Dhiman and Harbers, 2023). Access to a nationality and citizenship also provides individuals with more agency and rights that have previously been inaccessible. In particular, the option to obtain passports and identity cards open up internal mobility and migration as a livelihood strategy.

On the other hand, citizenship effects may be weaker in developing countries for several reasons. First, the provision of public goods to citizens is often more limited in developing contexts than in high-income countries, potentially diminishing the advantages associated with citizenship. Second, in many developing countries, public goods and services are not exclusively delivered by the state, but also by international organizations and humanitarian actors. These non-state providers, operating in highly aid-dependent environments, may not differentiate between individuals based on citizenship status, effectively evening out the service provision to citizens and non-citizens. Third, many citizens in developing countries lack civil documentation, which prevents them from effectively claiming their citizenship rights. This suggests that citizens may assert fewer direct claims on the state, and the gap between long-standing citizens and newly naturalized individuals may be relatively small.

The special case of statelessness

We focus on the granting of citizenship to a 'stateless' population within the context of a developing country. A stateless person is someone who is not recognized as a national by any state under its laws, leaving them without the protection of a state and limiting their access to public goods and services. Statelessness can be classified as *de jure* — where individuals have been formally denied or stripped of nationality — or *de facto* — where individuals may technically hold a nationality but are unable to prove it or are denied rights typically granted to citizens (Goris, Harrington and Köhn, 2009). Importantly, statelessness must be distinguished from migration: stateless individuals can but do not have to be migrants or refugees that move to another country - they can be stateless at their location of birth - but they are similar to non-naturalized refugees and migrant in that they do not hold citizenship at their residence.

Statelessness can result from the dissolution of states, when individuals fail to acquire citizenship in any of the successor states, as seen in the breakup of the Former Socialist Federal Republic of Yugoslavia (Pejic, 1995). Both deliberate and inadvertent changes to laws, policy reforms, or legal gaps can also render certain groups stateless. For example, Israel has been described as institutionalizing statelessness

among Palestinians from East Jerusalem through active changes in citizenship and entry laws (Fiddian-Qasmiyeh, 2016). Additionally, ethnic minorities may be persecuted and actively denied citizenship, as in the case of the Rohingya in Myanmar (Kyaw, 2017). Furthermore, citizens can become stateless when living in frontier areas, where shifting borders or frequent cross-border movement can result in denied citizenship by states on either side of the boundary. Finally, some individuals may become stateless due to personal circumstances when legal differences between countries exist, when people renounce their nationality before acquiring another one, or when they fail to register children at birth (Goris, Harrington and Köhn, 2009).

The policy community has increasingly pushed to address statelessness through the *1961 Convention on the Reduction of Statelessness*, the UNHCR *#IBelong Campaign to End Statelessness* (UNHCR, 2020), the *Global Action Plan to End Statelessness: 2014-2024 and 2.0*, and the *2019 High-Level Segment on Statelessness*, assuming that this will induce more protection and social and economic benefits. Despite sustained advocacy on the issue, there remains a significant gap in quantitative evidence regarding the consequences of statelessness and the potential gains associated with resolving it through the acquisition of nationality.

Expected effect of citizenship on stateless populations in developing countries

What benefits can be expected from granting citizenship to a *stateless* population in a developing country? The general assumption is that stateless individuals face heightened vulnerability due to their lack of legal protection and access to state-provided services, often living at the invisible margins of society. Hannah Arendt has conceptualized the stateless as "in effect, the rightless" because of their loss of home (exile), their loss of state protection (basic rights), and their absence of a place in the world (political rights) (Arendt, 1973; Fiddian-Qasmiyeh, 2016). Geography, anthropology and migration studies highlight that stateless populations are more at risk of displacement and often face similar struggles as 'illegal' migrants and 'sans-papiers' (e.g., McNevin, 2006).

Conversely, contemporary anthropologists and sociologists caution against viewing stateless individuals solely as passive "victims," instead emphasizing their agency and capacity to shape their own lives (e.g., Bradley, 2014; Gündogdu, 2014). Stateless individuals can be seen as "political subjects" who actively claim individual and collective rights, seek political belonging, demand inclusion in human rights frameworks, and strive for participation in civic life (Fiddian-Qasmiyeh, 2016; McNevin, 2006). In the state's absence, stateless populations often develop community-based solutions to organize their social and economic lives. In many ways, populations that live in remote areas of developing states share many characteristics of the stateless because they have little experience interacting with the state and often do not register to

receive public benefits (e.g., Kruks-Wisner, 2018). It also remains uncertain how quickly benefits, such as wage gains or improved access to services, will emerge. In economies with constrained market growth and few livelihood opportunities, the full returns of citizenship may only become apparent over the course of generations.

The stateless Shona community in Kenya

Over the past decade, Kenya has made progress in reducing statelessness, with current estimates placing the number of stateless individuals at approximately 9,800 (UNHCR, 2025). Many of the (previously) stateless populations, including groups such as the Pemba, Shona, and Makonde, had inherited their stateless status from previous generations. This intergenerational exclusion was rooted in Kenya's first post-independence constitution, which denied citizenship to individuals not considered of Kenyan descent. The Shona community in Kenya traces its origins to missionaries who migrated from Zimbabwe and Zambia in the 1960s. At the time, both the Shona migrants and the Kenyan communities they joined were British subjects under Commonwealth citizenship. The Shona population in Kenya has been estimated at between 3,000 and 3,500 individuals, many of whom settled in Nairobi and its surrounding areas, which they regarded as their religious center. Today, the Shona live as tight community of around 350 households in urban Nairobi and their predominant economic activity is self-employed small business activities (e.g. informal construction work, basket weaving, carpentry).

Following Kenya's independence, the post-colonial constitution of 1963 lacked provisions for granting citizenship to individuals not of Kenyan descent. Although those who arrived after independence were initially issued registration certificates under the *Alien Restriction Act of 1973*, subsequent amendments introduced by the *Registration of Persons Act of 1978* barred the Shona from obtaining identity cards. As a result, most of the arrivals did not hold any legally valid identity documents. Their ancestral countries, Zimbabwe and Zambia, did not recognize them as nationals due to missing birth records or lost ancestral documentation, effectively rendering the Shona stateless. This status was passed on to later generations born in Kenya. The *2010 Kenya Constitution* introduced reforms to address this issue, including provisions that allow stateless individuals to acquire citizenship. Under the *Kenya Citizenship and Immigration Acts of 2011*, stateless persons and their descendants who have resided continuously in Kenya since 1963 became eligible for citizenship under specified conditions. Nonetheless, challenges such as proving continuous residency, limited awareness of the legal provisions, and unfamiliarity with the application process have continued to leave many Shona individuals *de facto* stateless.

In April 2019, the Government of Kenya, in collaboration with UNHCR, pledged to recognize the Shona

community as Kenyan citizens. Implementation began in August 2019, when the government started issuing birth certificates to members of the community (UNHCR, 2020). Full citizenship was officially granted on December 12, 2020. This recognition conferred a range of rights and opportunities that had previously been inaccessible to the Shona. With a nationality certificate, individuals can now apply for national identity cards and passports, enabling freedom of movement, access to formal employment, and eligibility for higher education. Citizenship also permits land ownership and broader participation in social groups. In the business context, Kenyan citizenship is particularly transformative; it enables individuals to open bank accounts, allowing them to save beyond informal savings groups, access credit, acquire mobile phones, and apply for business permits without relying on intermediaries or resorting to informal workarounds.

Research Design

We conduct two main analyses to assess the impact of citizenship in 2020 on the Shona population in Kenya. First, we implement a difference-in-differences analysis, comparing changes in self-employment among the Shona with those observed among urban refugees residing in Kenya's Nairobi across an eight-wave panel dataset spanning from July 2020 to July 2022. Second, we draw on two original surveys conducted by UNHCR with the entire Shona population — one in 2019 (prior to citizenship) and one in 2024 (four years after citizenship) — to descriptively assess the perceived impacts of Kenyan citizenship.

Difference-in-Difference analysis from 2020 to 2022

To monitor the impact of the COVID-19 pandemic on developing countries, the World Bank, UNHCR and KNBS conducted rapid phone surveys with a representative sample of Kenyans and refugee populations and the full Shona population in Kenya (World Bank, UNHCR, KNBS, 2022).[2] We use the publicly available panel dataset which contains eight waves of phone-surveys from July 2020 to July 2022. The interviewees were contacted every two months in the first five rounds and then every four months thereafter.[3] We focus on two populations: the full known Shona population in Kenya (215 households) who received citizenship on December 12, 2020 (ten days after the third survey wave), and urban refugee households in Nairobi and Kiambu counties (492 households) who remained non-citizens. We do not include the representative sample of Kenyans in this analysis as they hold citizenship throughout the analysis period ("always treated"), which may bias our results.[4]

[2]The sampling strata are: Kenyans, refugees in Kakuma refugee camp, refugees in Kalobeyei settlement, refugees in Dadaab refugee camp, urban refugees and the stateless Shona.

[3]On average, attrition reduces the sample by 4.5% per wave. See Appendix B.1 for details.

[4]We have explored the effect of citizenship for the Shona compared to Kenyan nationals and find that the Shona's self-employment also improves relative to the self-employment rate of Kenyans in the ana-

We use a difference-in-difference (DID) event study to assess the socioeconomic impact of citizenship for the Shona (Sun and Abraham, 2021). Since the treatment is not staggered, we also provide a two-way fixed-effect regression estimator.[5] We are interested in the effect of citizenship on the self-employment rate of household members between 18 and 65 years.

We focus on self-employment because 1) entrepreneurial activity and micro-enterprises are a dominant livelihood strategy in urban spaces and 2) self-employment is realistically achievable by both the Shona (treatment) and refugees (control group). Both urban refugees and the Shona community in Kenya can, in principle, obtain business permits; however, in practice, they face substantial bureaucratic hurdles. Instead of focusing on whether the Shona improve in formal employment, which is largely impossible for refugees by default, we focus on whether the citizenship status lifts the discrimination of Shona in obtaining business permits and registering as self-employed compared to refugees that do not obtain citizenship.

Figure 2 displays the self-employment rate during the panel period. Around 4.6% of urban refugees in Kiambu and Nairobi were self-employed in July 2020 compared to 14.1% of Shona. In 2022, 26.8% of refugees and 50.7% of Shona households reported having an open business or other enterprise.[6]

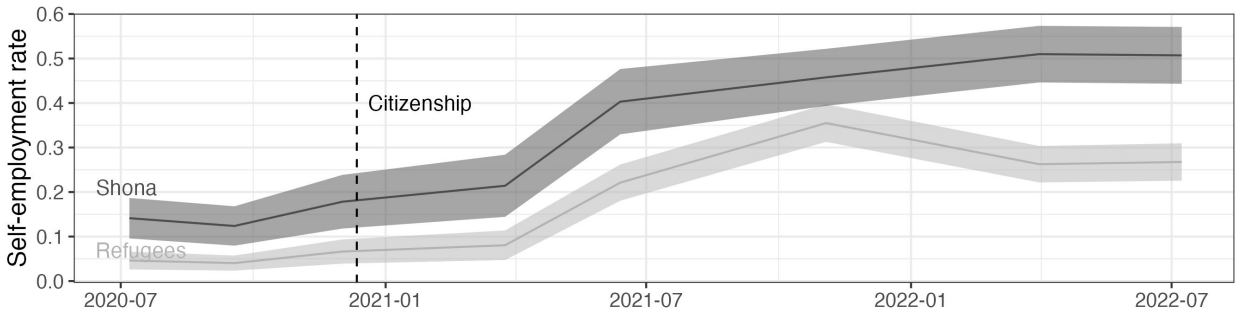

Figure 2: Self-employment rate for Shona and urban refugees in Nairobi and Kiambu county.

Descriptive analysis of the Shona between 2019 and 2024

We complement the difference-in-difference analysis with descriptive evidence on the perceived impact of citizenship. From May to July 2019, UNHCR, in collaboration with Kenya National Bureau of Statistics (KNBS), conducted a socioeconomic household survey of the full Shona community in Kenya (UNHCR, 2021). The

lyzed period.

[5]Modern DiD estimators like Callaway, Goodman-Bacon and Sant'Anna (2024) are particularly useful in the case of staggered treatment. We focus here on a simple event study given the non-staggered treatment.

[6]For more comparison of the Shona, Kenyans, and (urban) refugees, see Appendix B.

survey covered the counties Nairobi and Kiambu as the main habitual residence of the Shona. UNHCR followed a two-step enumeration: they first listed all households with the help of Shona community elders. Then, interviews were conducted through a snowball system, where each of the households listed in the first step was asked if they knew of any additional Shona households inside or outside the four main areas (Githurai, Hurlingham, Kiambaa, and Kinoo) to cover the universe of Shona households. This survey covered 350 households. In September 2024, UNHCR repeated this full population survey in the post-citizenship period, four years after obtaining citizenship. The sample size was 386 households and again covers the full population of Shona.

We use this original data to describe how the Shona perceived the acquisition of citizenship. We report on their changed identification with the Kenyan nationality, their perceived income changes, and their life quality. Finally, we assess whether the Shona experienced an improvement in their protection from discrimination. In 2024, respondents were asked to report how frequently they encountered discrimination both before and after December 2020, using a four-point Likert scale, which we rescale from 0 (never) to 1 (frequently). To estimate the change in perceived discrimination, we regress this measure on an indicator for the post-citizenship period using an ordinary least squares (OLS) specification.

Results

Figure 3 displays the main results of this study, showing DID regression estimates of the effect of citizenship on self-employment for the Shona compared to urban refugees in Nairobi and Kiambu over time. In Table 1, we provide the numeric estimates and the results from a two-way fixed-effect model (TWFE).

We find that the Shona, compared to refugees, identify more opportunities to run businesses and engage in self-employment starting from around 15 months after acquiring citizenship. The observed positive effects, ranging from 0.143 after 15 months to 0.129 after 18 months of citizenship, indicate that the citizenship opens up more channels for economic activity among the Shona. We also find a significant effect of citizenship on self-employment in the two-way fixed-effect (TWFE) model.

Our main analysis focuses on the comparison between Shona households and urban refugee households living near Nairobi and in Kiambu. In the appendix, we replicate the analysis between all Shona and all refugee households, yielding similar results (see Figure A5). We also present results filtered to households observed in all survey waves (Figure A6) and we construct a control group by matching Shona and refugee households on gender, household size, and rural/urban residence (see Figure A8) with consistent findings.

A notable subgroup analysis reveals that female-headed households experience more immediate and

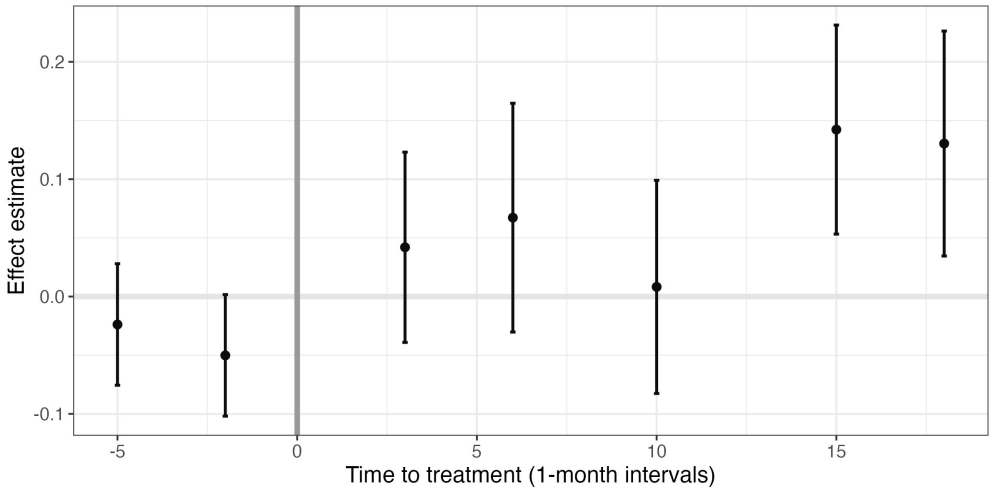

Figure 3: Effect of citizenship on self-employment. Panels display the DID regression estimates of the effect of citizenship for the Shona on the household self-employment rate after 2020 (treatment) compared to urban refugees in Nairobi and Kiambu.

The points denote estimates with 95% CI bars (n = 707 households)

Table 1: Difference-in-difference estimates of the effect of citizenship on self-employment (Nairobi and Kiambu counties only)

	Self-employment (TWFE)	**Self-employment (Event DiD)**
Citizenship	0.101*	
	(0.037)	
Month after citizenship = −5		−0.024
		(0.026)
Month after citizenship = −2		−0.050
		(0.026)
Month after citizenship = 3		0.042
		(0.041)
Month after citizenship = 6		0.067
		(0.050)
Month after citizenship = 10		0.008
		(0.046)
Month after citizenship = 15		0.142*
		(0.045)
Month after citizenship = 18		0.130*
		(0.049)
Num. Obs.	3227	3227
R^2	0.576	0.579

Note: * $p < 0.05$

consistent gains from citizenship acquisition. In Figure 4, we focus on self-employment outcomes for female-headed Shona households relative to their refugee counterparts. The results indicate that the positive effects of citizenship emerge as early as six months post-naturalization, persist throughout the post-treatment period, and are notably stronger for this group. This suggests that women, in particular, benefit from the formalization of legal status.

These findings resonate with the literature on statelessness (e.g., McNevin, 2006; Goris, Harrington and Köhn, 2009), which underscores the fundamentally gendered dimensions of the phenomenon. In many contexts, women are disproportionately affected by statelessness due to discriminatory nationality laws that prevent them from passing on their citizenship. Restrictive social norms and limited access to state institutions often confine stateless women to the domestic sphere, further reinforcing their marginalization. As a result, citizenship may open up outside options beyond the household and the local Shona community for women.

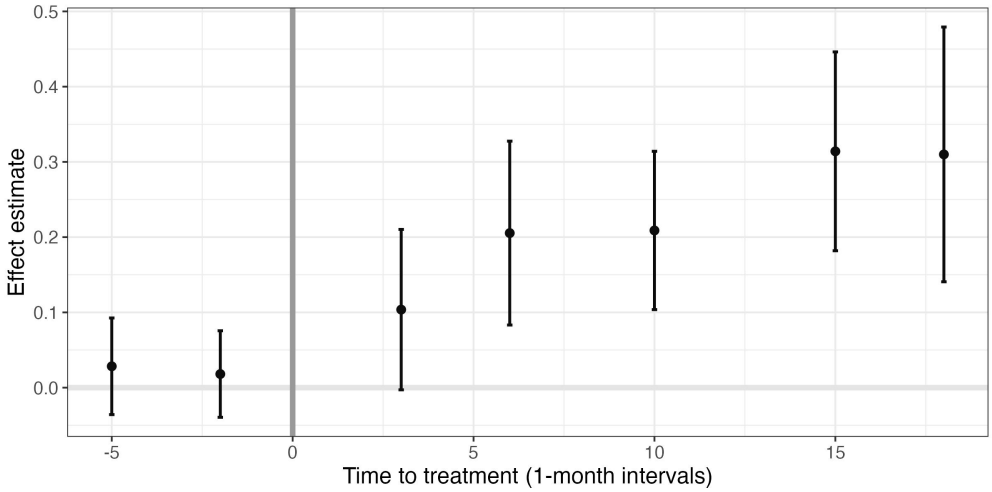

Figure 4: Effect of citizenship on self-employment for households headed by a woman.
Panels display the DID regression estimates with points denoting estimates and 95% CI bars (n=1377)

Our findings indicate that the positive effects of citizenship in developing country contexts may take time and potentially multiple generations to fully materialize. Among the Shona, improvements in self-employment outcomes emerge only after more than a year of acquiring citizenship. However, for other domains — particularly financial inclusion, which typically responds more quickly than employment — we observe substantial short-term gains. In 2019, only half of the Shona population had access to mobile wallets, a widely used method for financial transactions in Kenya. By 2024, this figure had surged to 97.2% (Rahman et al., 2024). Similarly, the share of Shona with bank accounts increased from just 8.6% in 2019 to 34.7% in 2024. Access to both mobile wallets and bank accounts requires a national identity

card, previously inaccessible to the Shona. By contrast, among Kenyan nationals, formal financial access was already high, and increased only 1.1 percentage points between 2021 (83.7%) and 2024 (84.8%), driven primarily by digital technology (Central Bank of Kenya, Kenya National Bureau of Statistics and Financial Sector Deepening Kenya, 2024). Although citizenship unlocks key opportunities, our results indicate that gains in responsive domains such as financial inclusion can be substantial within just a few years, whereas improvements in other socioeconomic outcomes emerge more gradually over time.

Perceptions of the impact of citizenship

Finally, we examine how the Shona perceive the impact of gaining citizenship. The left panel of Figure 5 presents descriptive survey data on the extent to which Shona respondents feel a stronger sense of identification with Kenyan nationality, perceive changes in their income, and report improvements in overall quality of life since acquiring citizenship. The results are strikingly positive: over 80% identify more strongly with being Kenyan and over 90% report an improvement in their quality of life. The survey also includes a question asking the Shona how often they experienced discrimination due to their stateless status, both before and after December 2020, when they obtained Kenyan citizenship. Prior to naturalization, most reported frequent experiences of discrimination. In contrast, by 2024, the majority indicated they had not experienced such discrimination at all (see right panel of Figure 5). Consistent with these patterns, we find a 0.4-point average reduction in perceived discrimination on a 5-point scale following citizenship acquisition (see Table A7 in the appendix).

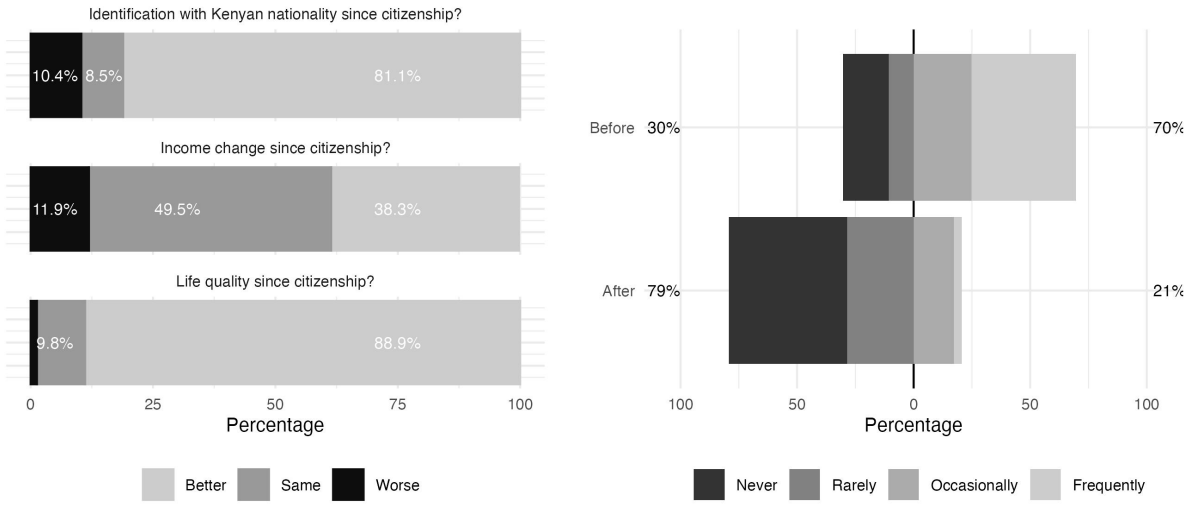

Figure 5: Perceptions of effect of citizenship: reported changes in identification with Kenyans, income and life quality in 2024 (left panel). Self-reported levels of discrimination as Shona before and after citizenship (right panel).

Conclusion

What advantages does citizenship offer in developing countries? Using the case of the Shona people in Kenya, who were granted citizenship in December 2020, we show that the benefits of citizenship tend to emerge slowly for formerly stateless populations. However, two years after acquiring citizenship, there is evidence that self-employment and economic opportunities are beginning to grow. In addition, we find that citizenship significantly helps women, improves the perceived quality of life, and reduces experiences of discrimination — all of which points to a positive effect on social inclusion and cohesion.

This study makes an important contribution to the literature on citizenship and naturalization by offering the first empirical analysis of naturalization among formerly stateless populations and by focusing on the experience of a developing country context. In doing so, it broadens a body of research that has primarily focused on high-income developed countries such as Switzerland, Germany, and the United States (e.g., Hainmueller, Hangartner and Ward, 2019; Hainmueller, Hangartner and Pietrantuono, 2017, 2015; Steinhardt, 2012; Bratsberg, Ragan and Nasir, 2002). The pronounced effect on women highlights the need for further research to better understand how citizenship unfolds in developing countries with limited public provision of goods, the dominance of non-state actors that may not differentiate between citizens and non-citizens, and the low registration and legibility of the local population.

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Supplementary Material: Overcoming statelessness and becoming a citizen: socioeconomic evidence from the Shona in Kenya

A Overview of studies on the impact of citizenship

A.1 Search terms

We conducted a systematic search of the literature to identify empirical studies that estimate the socioeconomic impacts of acquiring citizenship. The following search string was used in Scopus: (TITLE-ABS-KEY("citizenship acquisition" OR "naturalization" OR "naturalization")) AND (TITLE-ABS-KEY("effect" OR "impact" OR "outcomes" OR "consequences")) AND (TITLE-ABS-KEY(immigrant* OR migrant* OR "foreign-born")) AND PUBYEAR > 2009.

A.2 Search overview

This query was designed to retrieve studies published from 2010 onward that analyze the effects or consequences of acquiring citizenship among immigrant or migrant populations. From an initial pool of 260 results, we screened titles and abstracts for relevance, focusing on studies that employed quantitative methods to estimate the impact of citizenship acquisition. In addition to the studies identified through Scopus, we supplemented our search by drawing from the appendix of Hainmueller et al. (2023), which lists studies analyzing the naturalization premium. A total of 62 studies (Tables A1, A2) met the inclusion criteria and were retained to illustrate the geographical distribution of the literature, as shown in Figure 1.

Table A1: Studies on the Socio-Economic Effects of Citizenship Acquisition (Part 1)

Authors	Title	Year	Journal
Aparicio Fenoll A.	Naturalization and immigrants' health	2024	Health Economics (United Kingdom)
Azzolini D.; Guetto R.	The impact of citizenship on intermarriage: Quasi-experimental evidence from two European Union Eastern enlargements	2017	Demographic Research
Bevelander P.; Hutcheson D.S.	Voting Behavior of Immigrants and Their Children in Sweden	2022	Journal of Immigrant and Refugee Studies
Bevelander P.; Pendakur R.	Citizenship, Co-ethnic Populations, and Employment Probabilities of Immigrants in Sweden	2012	Journal of International Migration and Integration
Catron P.	The citizenship advantage: Immigrant socioeconomic attainment in the age of mass migration	2019	American Journal of Sociology
Corluy V.; Marx I.; Verbist G.	Employment chances and changes of immigrants in Belgium: The impact of citizenship	2011	International Journal of Comparative Sociology
Crown D.; Faggian A.	Naturalization and the productivity of foreign-born doctorates	2019	Journal of Geographical Systems
Cygan-Rehm K.	Estimating the effect of early-childhood citizenship on education using policy changes as instruments	2018	Applied Economics Letters
Dierckx K.; Politi E.; Valcke B.; van Assche J.; Van Hiel A.	The "ironic" fair process effect: A perceived fair naturalization procedure spurs anti-immigration attitudes through increased host national identification among naturalized citizens	2022	Group Processes and Intergroup Relations
Donnaloja V.	British and disengaged: national identification and political engagement before and after naturalisation	2020	Journal of Ethnic and Migration Studies
Enchautegui M.E.; Giannarelli L.	The Economic Impact of Naturalization on Immigrants and Cities	2015	Urban Institute
Engdahl M.	Naturalizations and the economic and social integration of immigrants	2014	Working Paper
Engdahl M.; Lindgren K.-O.; Rosenqvist O.	The Role of Local Voting Rights for Non-Naturalized Immigrants: A Catalyst for Integration?	2020	International Migration Review
Ersanilli E.; Koopmans R.	Rewarding integration? Citizenship regulations and the socio-cultural integration of immigrants in the Netherlands, France and Germany	2010	Journal of Ethnic and Migration Studies
Euwals R.; Dagevos J.; Gijsberts M.; Roodenburg H.	Citizenship and labor market position: Turkish immigrants in germany and the Netherlands	2010	International Migration Review
Felfe C.; Rainer H.; Saurer J.	Why birthright citizenship matters for immigrant children: Short- and long-run impacts on educational integration	2020	Journal of Labor Economics
Fellini I.; Guetto R.	Legal status and immigrants' labour market outcomes: comparative evidence from a quasi-experiment in Western and Southern Europe	2022	Journal of Ethnic and Migration Studies
Fick P.	Does naturalization facilitate integration?	2016	Zeitschrift fur Soziologie
Galeano J.; Pont A.; Wanner P.	A Longitudinal Analysis of Naturalization and International Migration in Switzerland, 2011–2017	2022	Journal of International Migration and Integration
Gathmann C.; Keller N.	Access to Citizenship and the Economic Assimilation of Immigrants	2018	The Economic Journal
Gathmann C.; Monscheuer O.	Naturalization and citizenship: Who benefits?	2020	IZA World of Labor
Govind Y.	Is naturalization a passport for better labor market integration? Evidence from a quasi-experimental setting	2021	PSE Working Paper
Hainmueller J.; Hangartner D.; Pietrantuono G.	Catalyst or crown: Does naturalization promote the long-term social integration of immigrants?	2017	American Political Science Review
Hainmueller J.; Hangartner D.; Pietrantuono G.	Naturalization fosters the long-term political integration of immigrants	2015	Proceedings of the National Academy of Sciences of the United States of America
Hainmueller J.; Hangartner D.; Ward D.	The effect of citizenship on the long-term earnings of marginalized immigrants: Quasi-experimental evidence from Switzerland	2019	Science Advances
Helgertz J.; Bevelander P.; Tegunimataka A.	Naturalization and Earnings: A Denmark–Sweden Comparison	2014	European Journal of Population
Hoxhaj R.; Vink M.; Breuer T.	Immigrant Naturalisation, Employment and Occupational Status in Western Europe	2020	Frontiers in Sociology
Hunger S.	No naturalization, no participation?: The influence of citizenship regimes and naturalization on immigrants' political participation; [Partizipation ohne Pass?: Der Einfluss von Staatsbürgerschaft und Einbürgerung auf die politische Partizipation von ImmigrantInnen]	2018	Zeitschrift fur Vergleichende Politikwissenschaft
Jarreau J.	Naturalization policy and the economic integration of immigrants: new evidence for France	2020	Technical Report
John M.	A study of race, class and naturalization: are Afro-Caribbean immigrants gaining higher degrees of assimilation than Cuban immigrants through voter registration?	2015	Ethnic and Racial Studies
Kaya A.; Kayaoğlu A.	Is national citizenship withering away?: Social affiliations and labor market integration of Turkish-origin immigrants in Germany and France	2012	German Studies Review
Khuu T.V.; Van Hook J.; Lowrey K.L.	Living with(out) Citizenship: The Impact of Naturalization on Mortality Risk among U.S. Immigrants	2025	Journal of Health and Social Behavior

Table A2: Studies on the Socio-Economic Effects of Citizenship Acquisition (Part 2)

Authors	Title	Year	Journal
Kilpi-Jakonen E.	Citizenship and Educational Attainment amongst the Second Generation: An Analysis of Children of Immigrants in Finland	2014	Journal of Ethnic and Migration Studies
Koning S.M.; Flaim A.; Baldiga L.; Feingold D.A.	Legal status as a life course determinant of health: parent status, adjudication stages, and HIV knowledge among highlanders in Thailand	2021	BMC Public Health
Labussière M.; Levels M.; Vink M.	Citizenship and education trajectories among children of immigrants: A transition-oriented sequence analysis	2021	Advances in life course research
Labussière M.; Vink M.	The intergenerational impact of naturalisation reforms: the citizenship status of children of immigrants in the Netherlands, 1995–2016	2020	Journal of Ethnic and Migration Studies
Leclerc C.	Immigrants' earnings and neighbourhood economic wealth: the conditioning role of citizenship	2022	Journal of Ethnic and Migration Studies
Leclerc C.; Vink M.; Schmeets H.	Citizenship acquisition and spatial stratification: Analysing immigrant residential mobility in the Netherlands	2022	Urban Studies
Lee M.; Kim Y.; Chesters J.	Does acquisition of formal citizenship have an impact on immigrant adolescents' perception of racial inequality and discrimination?	2022	Multicultural Education Review
Litovchenko A.M.; Chudinovskikh O.S.	On the impact of acquiring citizenship on some socio-economic characteristics of migrants and their position in the labor market	2022	Zhournal Novoi Ekonomicheskoi Associacii /Journal of the New Economic Association
Lobera J.; Pérez-Nievas S.; Rama Y.J.	Combined Effects of Cultural-linguistic Proximity and Naturalization on Political Integration of First-generation Immigrants	2021	Migraciones
Maasoumi E.; Zhu Y.	The wage premium of naturalized citizenship	2016	Advances in Econometrics
Minsart A.-F.; Englert Y.; Buekens P.	Naturalization of immigrants and perinatal mortality	2013	European Journal of Public Health
OECD	Naturalisation: A Passport for the Better Integration of Immigrants?	2011	OECD Publishing
Pastor M.; Scoggins J.	Citizen Gain: The Economic Benefits of Naturalization for Immigrants and the Economy	2012	Equity Research Institute
Pendakur R.; Bevelander P.	Citizenship, enclaves and earnings: Comparing two cool countries	2014	Citizenship Studies
Peters F.	Naturalization and the transition to homeownership: an analysis of signalling in the Dutch housing market	2020	Housing Studies
Peters F.; Schmeets H.; Vink M.	Naturalisation and Immigrant Earnings: Why and to Whom Citizenship Matters	2020	European Journal of Population
Peters F.; Vink M.; Schmeets H.	Anticipating the citizenship premium: before and after effects of immigrant naturalisation on employment	2018	Journal of Ethnic and Migration Studies
Politi E.; Chipeaux M.; Lorenzi-Cioldi F.; Staerklé C.	More Royalist Than the King? Immigration Policy Attitudes Among Naturalized Citizens	2020	Political Psychology
Politi E.; Roblain A.; Gale J.; Licata L.; Staerklé C.	If you want to be one of us, then become like us: The evaluation of naturalization applicants by host nationals	2020	European Journal of Social Psychology
Potarca G.; Bernardi L.	The (Un)Healthy Migrant Effect. The Role of Legal Status and Naturalization Timing	2018	Life Course Research and Social Policies
Riphahn R.T.; Saif S.	Naturalization and labor market performance of immigrants in Germany	2019	Labour
Sajons C.	Birthright citizenship and parental labor market integration	2019	Labour Economics
Shierholz H.	The effects of citizenship on family income and poverty	2010	Economic Policy Institute
Sow M.; Schoenborn C.; De Spiegelaere M.; Racape J.	Influence of time since naturalisation on socioeconomic status and low birth weight among immigrants in Belgium. A population-based study	2019	PLoS ONE
Steinhardt M.F.	Does citizenship matter? The economic impact of naturalizations in Germany	2012	Labour Economics
Steinhardt M.F.; Wedemeier J.	The Labor Market Performance of Naturalized Immigrants in Switzerland—New Findings from the Swiss Labor Force Survey	2012	Journal of International Migration and Integration
Street A.	The Political Effects of Immigrant Naturalization	2017	International Migration Review
Sumption M.; Flamm S.	The Economic Value of Citizenship for Immigrants in the United States	2012	Migration Policy Institute, Washington, DC
von Haaren-Giebel F.; Sandner M.	Naturalisation and on-the-job training: evidence from first-generation immigrants in Germany	2016	IZA Journal of Migration
Zhou H.; Lee S.	Effects of US citizenship on wages of Asian immigrant women	2013	International Journal of Social Welfare

B Summary statistics

Table A3 summarizes household size, and household head age, gender, and educational attainment in the first (July 2020) and last (July 2022) survey waves for Kenyan nationals, refugees, urban refugees (Nairobi, Kiambu, Meru), and the Shona population. Figure A1 complements this comparison by showing trends in both household size and the share of household heads completing primary and secondary/tertiary education across all survey waves for each population group.

Table A3: Household and household head characteristics by population and survey wave

Date	Population	HH size	HHH age	Female HHH (%)	Primary Ed (%)	Higher Ed (%)
2020-07-07	Kenyan	4.67 (2.65)	44.58 (14.16)	30.0	31.4	51.3
	Refugees	2.69 (1.62)	38.04 (11.86)	40.4	21.3	37.7
	Refugees (urban)	2.59 (1.58)	37.24 (12.02)	31.4	22.8	51.0
	Shona	2.44 (1.03)	43.65 (14.70)	20.5	43.4	28.3
2022-07-08	Kenyan	4.32 (2.37)	44.86 (13.86)	32.7	35.2	49.3
	Refugees	2.90 (1.73)	39.45 (12.25)	51.0	20.1	23.0
	Refugees (urban)	2.74 (1.48)	36.97 (11.06)	43.2	25.2	45.1
	Shona	2.61 (1.11)	42.98 (13.78)	26.1	41.2	22.7

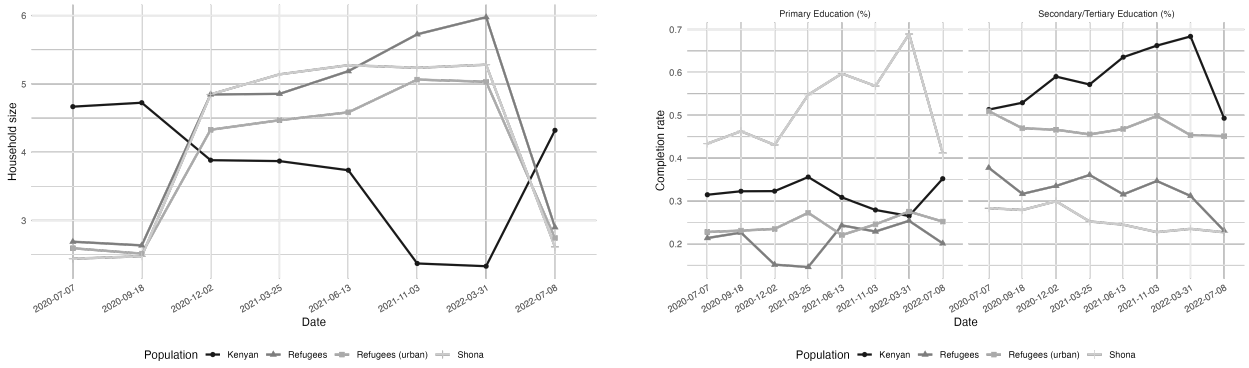

Figure A1: Trends in household size and education attainment across all waves

Figure A2 illustrates the household-level rates of self-employment, wage-employment, and combined wage, self, or agricultural employment. Kenyan households consistently show the highest levels of economic activity, which remain above 60% across all waves. The Shona have higher rates of self-employment, especially in 2021 and 2022, and their overall employment patterns closely resemble those of refugees.

Table A4 provides the average self-employment rate of Shona and urban refugees in the first and last wave.

Table A5 shows the country of birth composition for Shona and refugee stratum in the COVID-19 panel study (World Bank, UNHCR, KNBS, 2022).

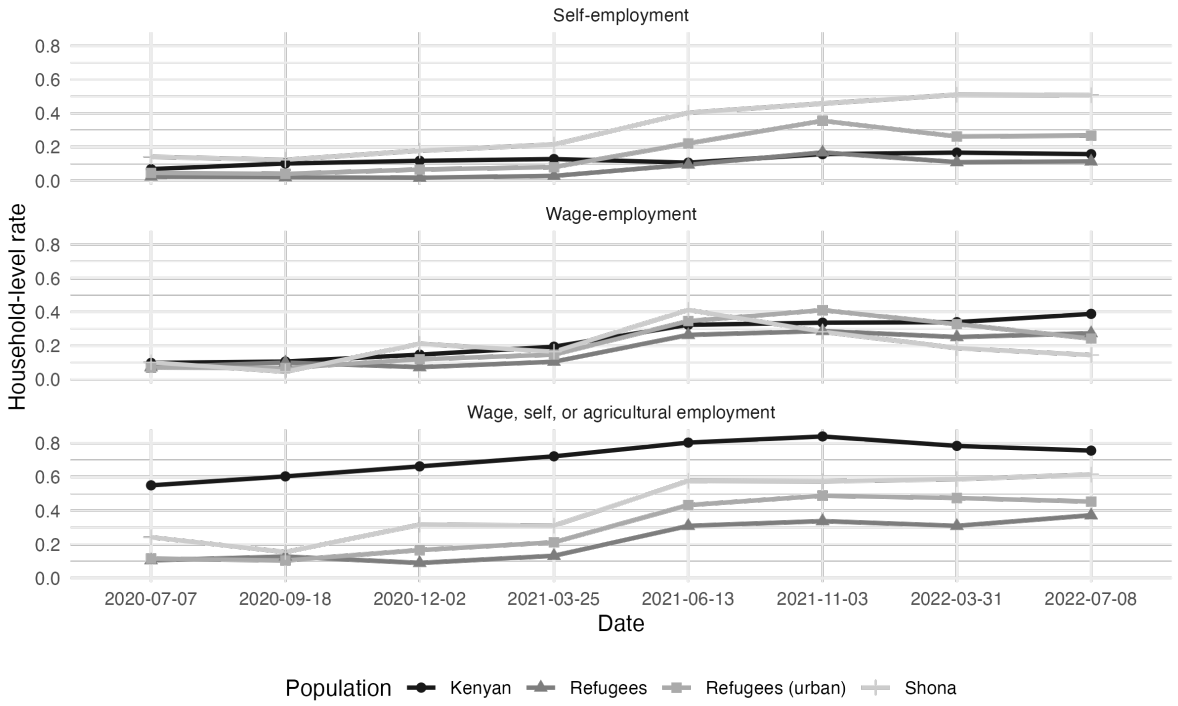

Figure A2: Household-level rates of employment by population

Table A4: Summary statistics for the core outcome (Panel)

date	population	Self-employment	Number of respondents
First wave	Refugees	0.05	312
First wave	Shona	0.14	166
Last wave	Refugees	0.27	266
Last wave	Shona	0.51	119

Table A5: Country of birth composition

Country of Birth	Shona (%)	Refugee (%)	Shona (n)	Refugee (n)	Total (n)
Stateless	86.5	77.6	532	4,982	5,514
Somalia	0.0	11.3	0	724	724
South Sudan	0.0	4.13	0	265	265
Ethiopia	0.0	3.24	0	208	208
Kenya	11.5	0.903	71	58	129
Democratic Republic of the Congo	0.488	1.71	3	110	113
Sudan	0.0	0.592	0	38	38
Burundi	0.325	0.452	2	29	31
Other	0.0	0.125	0	8	8
Zimbabwe	1.14	0.0156	7	1	8

B.1 Panel attrition

Figure A3 shows how often households are surveyed within the waves to provide information on panel attrition (see Figure A4). On average, households participated in 4.85 waves (SD = 2.53). Urban refugee households completed an average of 4.75 waves (SD = 2.59), while Shona households participated in 5.06 waves (SD = 2.28).

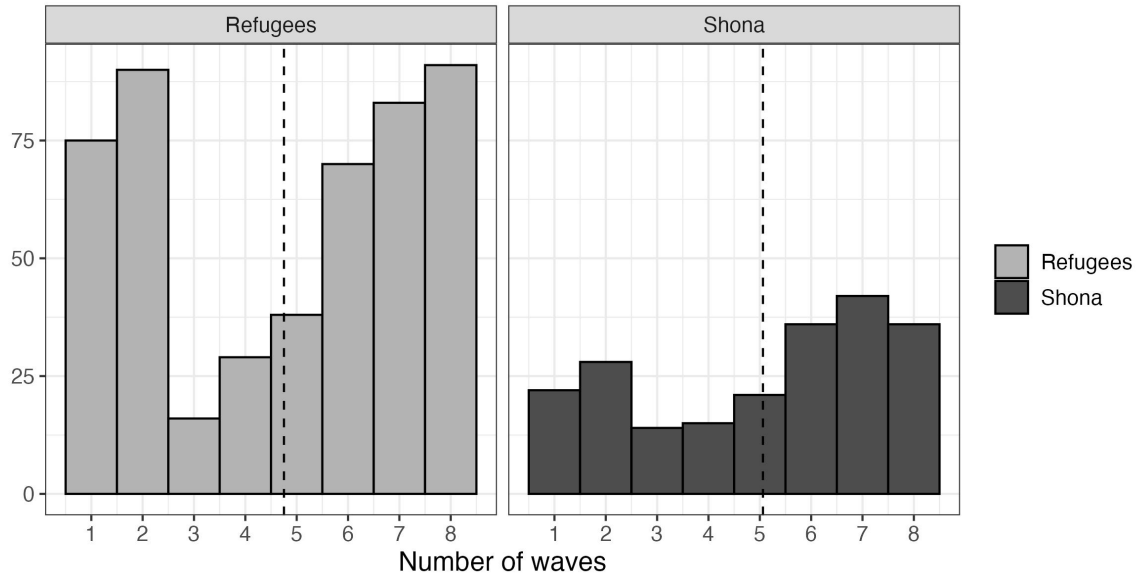

Figure A3: Number of survey waves completed per household.

C Full numeric results for figures in the paper

Table A6 provides the full numeric results for Figure 4. Table A7 provides the regression results of the effect of citizenship on perceived discrimination as discussed in the main paper.

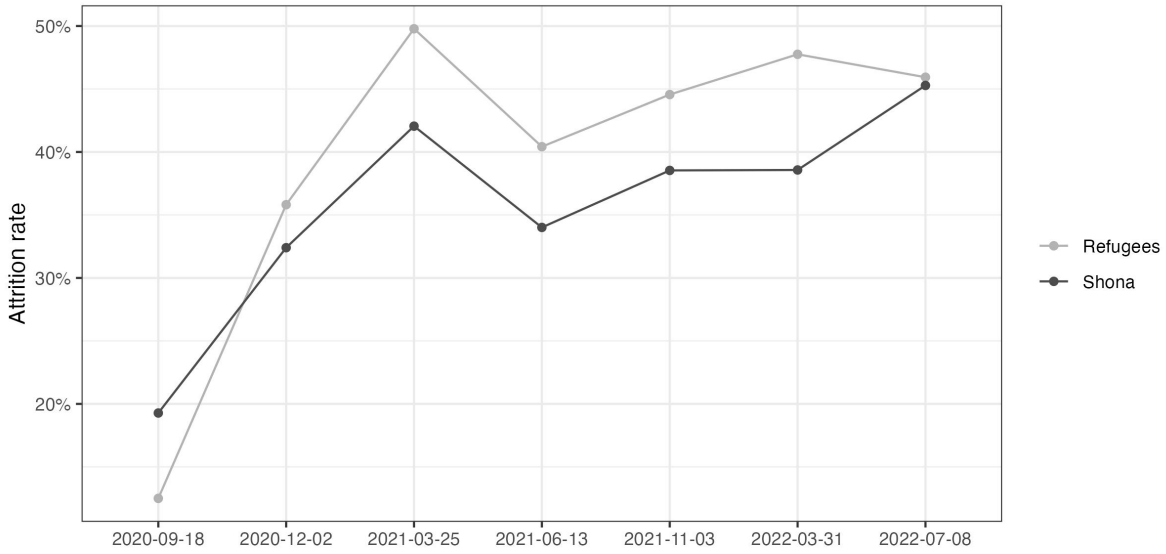

Figure A4: Cumulative attrition rate by panel wave. Attrition is calculated relative to the cumulative number of unique households that had participated up to the previous wave. Rates are shown separately for Shona and refugee households.

Table A6: Difference-in-difference estimates of the effect of citizenship on self-employment (female-headed households)

	Self-employment (TWFE)	**Self-employment (Event DiD)**
Citizenship	0.206*	
	(0.057)	
Month after citizenship = −5		0.028
		(0.033)
Month after citizenship = −2		0.018
		(0.029)
Month after citizenship = 3		0.104
		(0.054)
Month after citizenship = 6		0.205*
		(0.062)
Month after citizenship = 10		0.209*
		(0.054)
Month after citizenship = 15		0.314*
		(0.067)
Month after citizenship = 18		0.310*
		(0.086)
Num. Obs.	4809	4809
R^2	0.593	0.597

Note: * $p < 0.05$

Table A7: OLS estimate for the effect of citizenship on perceived discrimination. Perceived discrimination is coded from 0 (never) to 1 (frequently) based on a four-point Likert scale.

	Perceived discrimination
(Intercept)	0.649*
	(0.020)
Post-citizenship	−0.405*
	(0.025)
Num.Obs.	772
R2	0.262

* p < 0.05

D Additional difference-in-difference results

D.1 Results by subgroups

Figure A5 provides difference-in-difference results comparing all Shona and refugee households. Figure A6 provides results for households that participated in all eight waves of the panel survey.

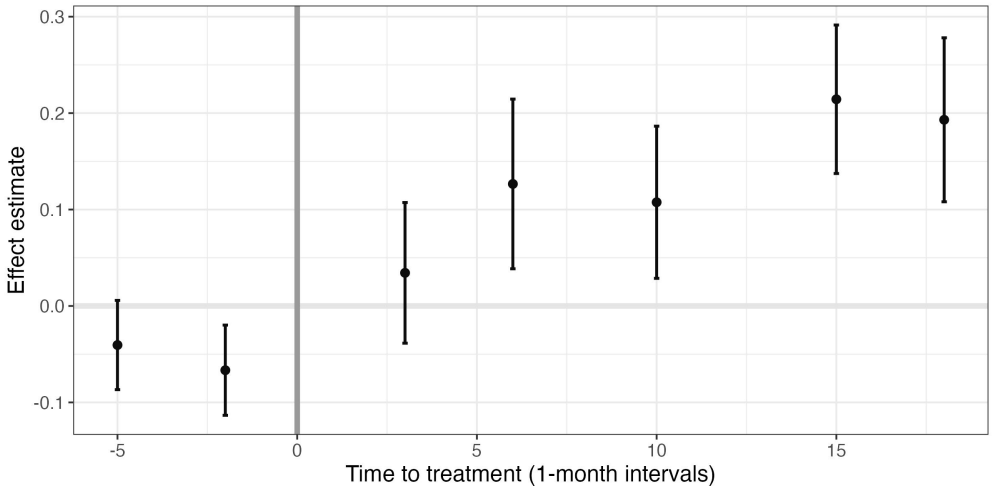

Figure A5: Effect of citizenship on self-employment for *all* Shona and refugees.

D.2 Matched difference-in-differences

Given underlying differences between Shona and refugee households, we replicated the main analysis using a matched sample to improve comparability across groups. Each Shona household was matched to its two most similar refugee households based on estimated propensity scores, using nearest-neighbor matching without replacement. Similarity was defined using three baseline characteristics: the gender of the household head, household size, and whether the household was located in a rural or urban area.

Figure A7 shows that this approach substantially improved balance across the matching variables. We

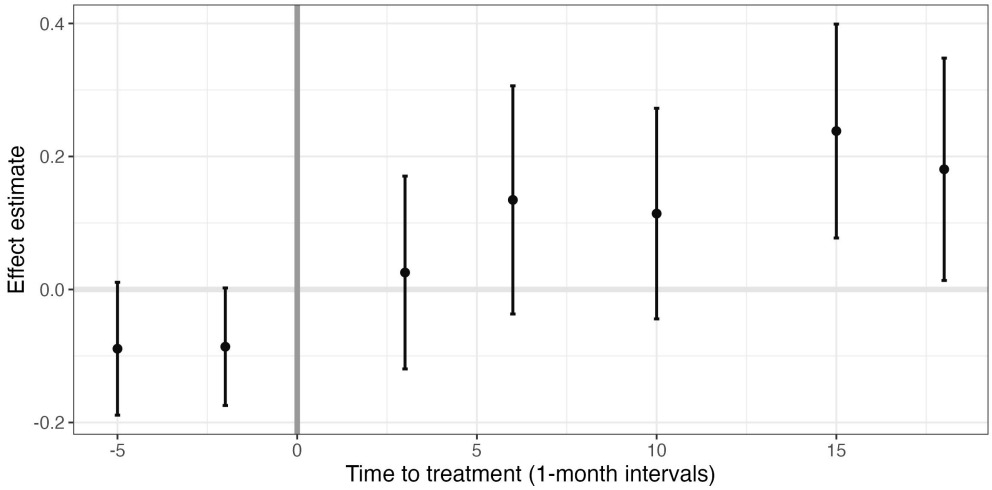

Figure A6: Effect of citizenship on self-employment for households that participated in all eight waves of the panel survey.

then used this matched sample to re-run our main difference-in-differences and event study models (see Figure A8).

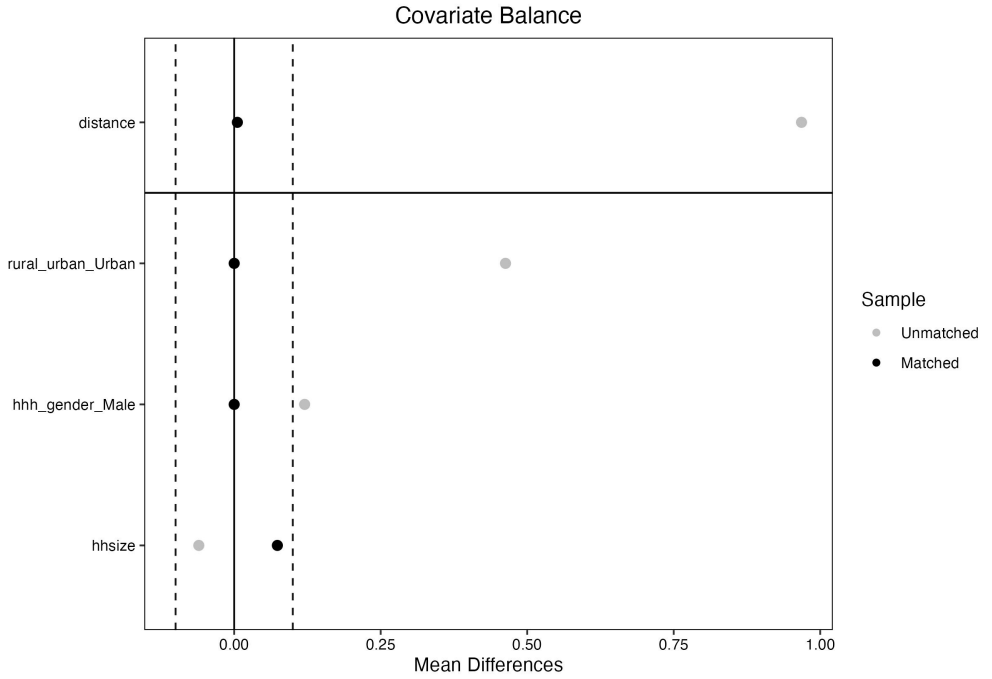

Figure A7: Covariate balance before and after matching.

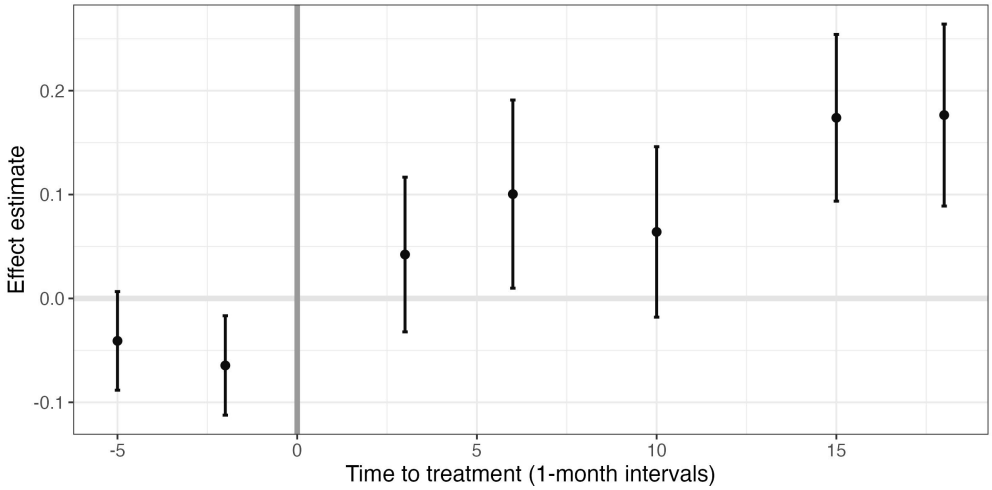

Figure A8: Effect of citizenship on self-employment for matched households.

E Shona Economic Activity by Citizenship Status (2024)

Table A8: Economic activity among Shona respondents by citizenship status in 2024

Citizenship Status	Economic Activity (%)	*n*
In process / pending	67.9	28
Received citizenship	75.6	837