Portable Legacies: Copperbelt Origins and Interethnic Marriage in Zambia

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Abstract

Can institutions create cross-ethnic ties that outlast the places that produced them? This article studies Copperbelt-born Zambian men after the restructuring of Zambia's mining economy. Using IPUMS census microdata from 2000 and 2010, we compare married Copperbelt-born husbands with other married men living in the same non-Copperbelt constituencies. The outcome is ethnic-block outmarriage adjusted for the local availability of out-group wives. Copperbelt-born husbands are more likely than otherwise similar destination residents to be in cross-block marriages, even after accounting for current marriage markets and standard observables. The results suggest that institutionally dense settings can leave social traces that remain visible after geographic mobility and institutional change, linking debates over ethnic boundaries to the durable social effects of place-based institutions. The article thus connects institutional legacies to a consequential form of boundary crossing.

Keywords: Copperbelt, privatization, migration, interethnic marriage, ethnic boundaries, Zambia

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1 Introduction

Can institutional environments make ethnic boundary crossing portable? Political scientists have long studied whether ethnic diversity undermines cooperation, when ethnic categories become salient, and how institutions organize relations across group lines. Less is known about whether dense institutional settings that repeatedly place people in cross-ethnic contact leave observable traces after people leave those settings. Mobility creates a demanding test. If cross-ethnic social ties are tied entirely to the local opportunity structure that produced them, they should fade once people enter new marriage markets. If institutions shape durable social relations, people exposed to those settings may continue to appear in cross-boundary unions elsewhere.

The Zambian Copperbelt offers a historically important setting for this question. Copper production drew workers from many language and ethnic communities into company towns beginning in the late 1920s. The Rhodes-Livingstone Institute made those towns central to classic arguments about urbanization, ethnicity, and social organization (Mitchell, 1956, 1957; Gluckman, 1960; Bates, 1976). Mine-town life repeatedly placed diverse residents inside shared workplaces, compounds, unions, schools, clinics, markets, and welfare institutions. The Copperbelt was a diverse region whose institutions organized daily life across ethnic lines.

This paper asks whether Copperbelt-born men who left the province are unusually likely to be in ethnic boundary-crossing marriages in their new local marriage markets. The outcome is ethnic-block outmarriage, defined as a marriage in which spouses come from different broad linguistic-regional blocks. The main comparison is among married men living outside Copperbelt Province: Copperbelt-born husbands are compared with non-Copperbelt-born husbands living in the same destination constituencies.

This design links the institutional question to a tractable estimand. Ethnic boundaries are structured by institutions, migration, and local opportunity. A Copperbelt-born outmigrant and a non-Copperbelt-born resident in the same destination constituency face the

same measured pool of marriageable-aged women. Comparing husbands within destination marriage markets therefore separates the portability question from simple differences in where Copperbelt-born and non-Copperbelt-born men live.

Privatization supplies the historical setting for observing Copperbelt-born adults after institutional restructuring. By the late 1990s, Zambia Consolidated Copper Mines (ZCCM) had been broken up and sold to private operators. The transition involved layoffs, subcontracting, retrenchment of mine-linked welfare, and a sharp sense among residents that the social obligations of the mining system had been withdrawn (Fraser and Lungu, 2007; Mususa, 2010; Human Rights Watch, 2011). Copper output and investment recovered unevenly in the 2000s, with some operations expanding while others remained weak or politically troubled (Department for International Development, 2012; World Bank, 2015). The census identifies birthplace and current residence after restructuring, although it does not identify individual migration motives.

The main finding is that Copperbelt origin predicts higher observed and exposure-adjusted outmarriage among husbands outside the Copperbelt. The difference remains within current constituencies after adjusting for birth cohort, age, schooling, literacy, labor-force status, and class of worker. A timing screen that retains husbands whose current-locality residence began before first marriage is not useful in 2000 because age at first marriage is not observed, but the 2010 screened estimate remains positive.

The interpretation is descriptive. The census records marriages; it does not record attitudes, migration motives, or the location where spouses met. The results are in line with a theory of portable institutional legacies: Copperbelt socialization may travel through durable cross-ethnic unions, Copperbelt-born out-migrants may be selected into such unions, and some boundary crossing may occur after arrival in destination markets. The evidence cannot distinguish these pathways. It can show whether Copperbelt birthplace is associated with cross-boundary marriage after holding destination marriage markets constant.

2 Theory

Research on ethnic diversity and collective life gives two starting points. One view argues that ethnic fractionalization can undermine public goods provision and cooperation (Easterly and Levine, 1997; Habyarimana et al., 2007). A second strand shows that ethnic categories become politically and socially salient under particular institutional conditions (Posner, 2004; Miguel, 2004). Related work on cross-cutting cleavages shows how social ties that span ethnic categories can reduce the political force of ethnic divisions (Dunning and Harrison, 2010). These arguments imply that ethnic demography alone cannot explain when group boundaries organize social life. Institutions shape which identities become meaningful, which cross-cutting ties are available, and which forms of interaction are repeated enough to matter.

The intergroup contact literature provides the mechanism connecting institutions to social relations. Contact can reduce prejudice when interaction is repeated, cooperative, and institutionally supported (Allport, 1954; Pettigrew and Tropp, 2006). The Copperbelt was not an experimental contact setting. Mine-town institutions created repeated exposure across ethnic lines. Mine employment, residential compounds, unions, hospitals, schools, markets, and ZCCM welfare tied local belonging to the mining system as well as descent. In boundary terms, these institutions created conditions under which ethnic distinctions could be crossed, blurred, or made less decisive in everyday social organization (Lamont and Molnar, 2002; Wimmer, 2008).

Interethnic marriage is a demanding outcome because it measures a consequential crossing of social boundaries. Work on assortative mating emphasizes that intermarriage reflects both preferences and opportunity: people can marry across groups only when they encounter plausible partners from other groups (Kalmijn, 1998). This is central in Zambia, where local marriage markets vary sharply in ethnic composition. Following the logic developed by Mitchell (1957) and the exposure-adjusted approach in Posner (2026), the main analysis uses exposure-adjusted ethnic-block outmarriage.

Migration turns this into a portability test. If Copperbelt institutions generated durable

cross-cutting ties, Copperbelt-born men should be overrepresented in cross-block marriages even after they are observed outside the Copperbelt. Following Posner (2026), the main analysis is husband-indexed: it compares Copperbelt-born and non-Copperbelt-born husbands within the same destination constituencies, and the exposure denominator is the share of marriageable-aged women outside the husband's ethnic block. This choice also fits a historical setting in which marital choice was strongly patriarchal. Unadjusted and census-category equivalents are reported in the appendix.

3 Historical Setting

Colonial and early postcolonial mining drew migrants into new Copperbelt towns organized around mine employment and mine-administered services. Under nationalization, ZCCM became a broader welfare institution, providing employment, housing, clinics, schools, recreation, and township services in ways that extended beyond formal workers (Mususa, 2010). Production declined sharply before privatization, and the state absorbed large costs to keep the mines operating (Fraser and Lungu, 2007). The social order remained locally meaningful because residents experienced the mine as an institution with obligations to the town.

Privatization changed those obligations. ZCCM assets were sold in stages in the late 1990s and around 2000. New operators restructured employment, used subcontracting, and narrowed the range of social services associated with the mines (Fraser and Lungu, 2007; Mususa, 2010). Later evidence from Chinese-owned operations also documents grievances around wages, safety, and threats of dismissal (Human Rights Watch, 2011). By the 2000s, private investment and higher copper prices helped revive national production, though the gains were uneven across companies and towns and did not restore the old labor-intensive welfare model (Department for International Development, 2012; World Bank, 2015).

This combination of social disruption and uneven recovery makes the post-restructuring location of Copperbelt-born adults central. Census birthplace and current residence do

not identify why someone left the Copperbelt or whether privatization caused the move. They separate Copperbelt-born adults who remained in Copperbelt Province from those enumerated elsewhere after the privatization period.

4 Data and Research Design

We use the IPUMS samples of the 2000 and 2010 Zambian censuses. The processed extract also contains 1990, where the current-constituency identifier is unavailable. Because this analysis defines marriage markets at the current constituency level, the controlled portability analysis is restricted to 2000 and 2010.

The analysis is restricted to married monogamous head-spouse pairs with valid ethnic-block codes for both spouses. Ethnic blocks aggregate Zambian census ethnic categories into five broader linguistic-regional groups: Bemba, Nyanja, Tonga, Lozi, and Northwestern. A marriage is coded as outmarried when the husband and wife belong to different ethnic blocks. The main text uses ethnic blocks, and the appendix reports census ethnic-category equivalents.

The main sample is married couples living outside Copperbelt Province, indexed by the husband. Treatment is an indicator for a husband born in a Copperbelt district; the comparison group is husbands born outside the Copperbelt who live in the same set of non-Copperbelt destination constituencies.

The primary models are weighted linear models:

$$Y_i = \alpha + \beta \text{CopperbeltBorn}_i + \gamma X_i + \delta_c + \epsilon_i, \tag{1}$$

where Y_i is the exposure-adjusted ethnic-block outmarriage index for couple i, X_i includes the husband's birth cohort, age, schooling, literacy, labor-force status, and class of worker, and δ_c is a current-constituency fixed effect. We estimate year-specific models and pooled models with a Copperbelt-born by 2010 interaction. Standard errors are clustered by current

constituency.

The exposure denominator is one minus the husband's ethnic-block share among women ages 18–65 in the current constituency. The adjusted quantity is an index that can exceed one in homogeneous markets. Models using observed outmarriage are reported before the exposure-adjusted results to show the raw pattern that motivates the adjustment.

Current residence is not necessarily the marriage location. To reduce the risk of assigning marriages formed elsewhere to the current destination market, we also estimate a marriage-location-screened specification. We calculate years since first marriage as current age minus age at first marriage. We then retain husbands only when years in the current locality is at least as large as years since first marriage. Age at first marriage is not observed in 2000 and is fully imputed for that census year; consequently, the 2000 screen is not a meaningful timing test. The 2010 screen is more informative because age at first marriage is observed.

5 Results

The raw outmarriage rates show the empirical pattern directly. Among husbands living outside Copperbelt Province, 22.6 percent of Copperbelt-born out-migrants were in ethnic-block outmarriages in 2000, compared with 12.7 percent of local non-Copperbelt-born husbands. In 2010, the corresponding rates were 32.5 percent and 17.1 percent. Figure 1 presents the same observed-rate contrast in the midpoint backwalk, where the Copperbelt-born line sits above the comparison line in the decades with adequate sample sizes.

Those observed differences are suggestive, but they are not sufficient for the main claim. Intermarriage is jointly shaped by preferences, social ties, and the local availability of potential partners from other groups. A husband living in a homogeneous constituency has fewer opportunities for ethnic-block outmarriage than a husband living in a more diverse constituency. The analysis therefore first estimates the observed-rate association within current constituencies and then adjusts the outcome for the local availability of out-group wives.

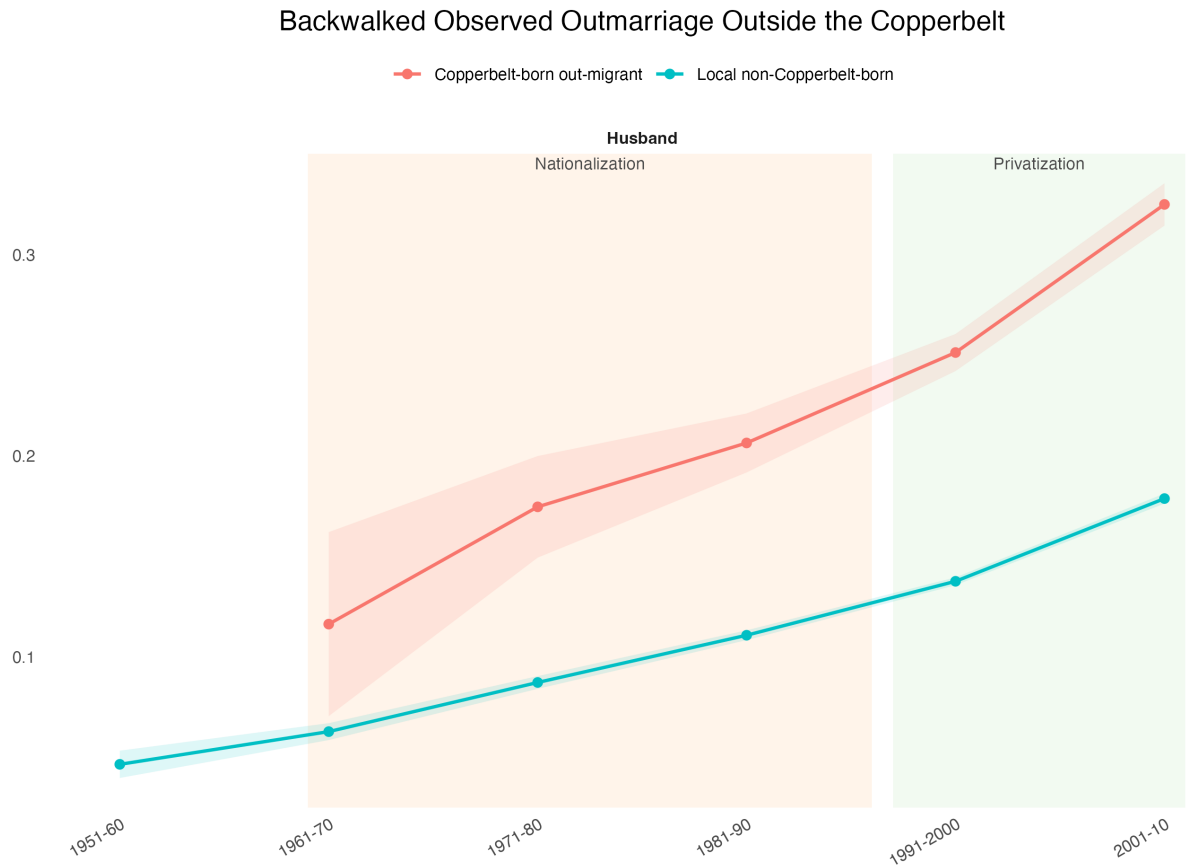

Figure 1: Observed ethnic-block outmarriage outside Copperbelt Province, comparing Copperbelt-born husbands with non-Copperbelt-born destination husbands. Shaded bands are 95 percent confidence intervals.

Figure 2 reports the observed-rate models. Within current constituencies, and after adjusting for birth cohort, husband age, schooling, literacy, labor-force status, and class of worker, Copperbelt birthplace is associated with a 0.031 higher observed outmarriage rate in 2000 and a 0.044 higher rate in 2010. These estimates show that the raw association is not only a product of Copperbelt-born men living in different destination constituencies.

Figure 3 reports the exposure-adjusted models. Copperbelt birthplace is associated with a 0.142 higher exposure-adjusted outmarriage index in 2000 (SE 0.062, $p = 0.021$) and a 0.203 higher index in 2010 (SE 0.068, $p = 0.003$). The larger exposure-adjusted estimates indicate that Copperbelt-born husbands are realizing cross-block marriages even in destination markets where such matches are relatively scarce.

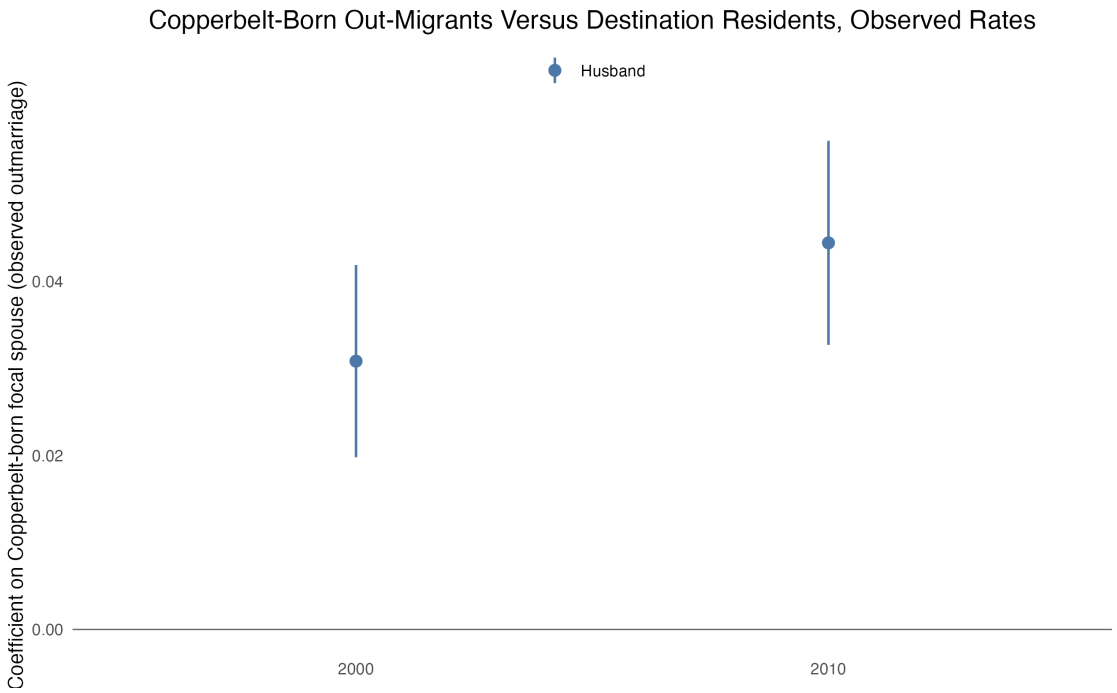

Figure 2: Copperbelt-born coefficients for observed ethnic-block outmarriage among married husbands living outside Copperbelt Province.

The marriage-location screen is reported in the appendix. In 2000, age at first marriage is not observed and is fully imputed, so the 2000 screened estimate should not be treated as a meaningful timing test. The 2010 screened estimate is more useful: among husbands whose current-locality residence began before first marriage, the exposure-adjusted coefficient remains positive at 0.196 (SE 0.094, $p = 0.037$).

Taken together, the evidence concerns realized marriage outcomes. Copperbelt-born husbands are disproportionately found in observed and exposure-adjusted cross-block marriages relative to other men in the same constituencies. That pattern is consistent with a social legacy of Copperbelt institutions, but it should not be read as a causal estimate of socialization.

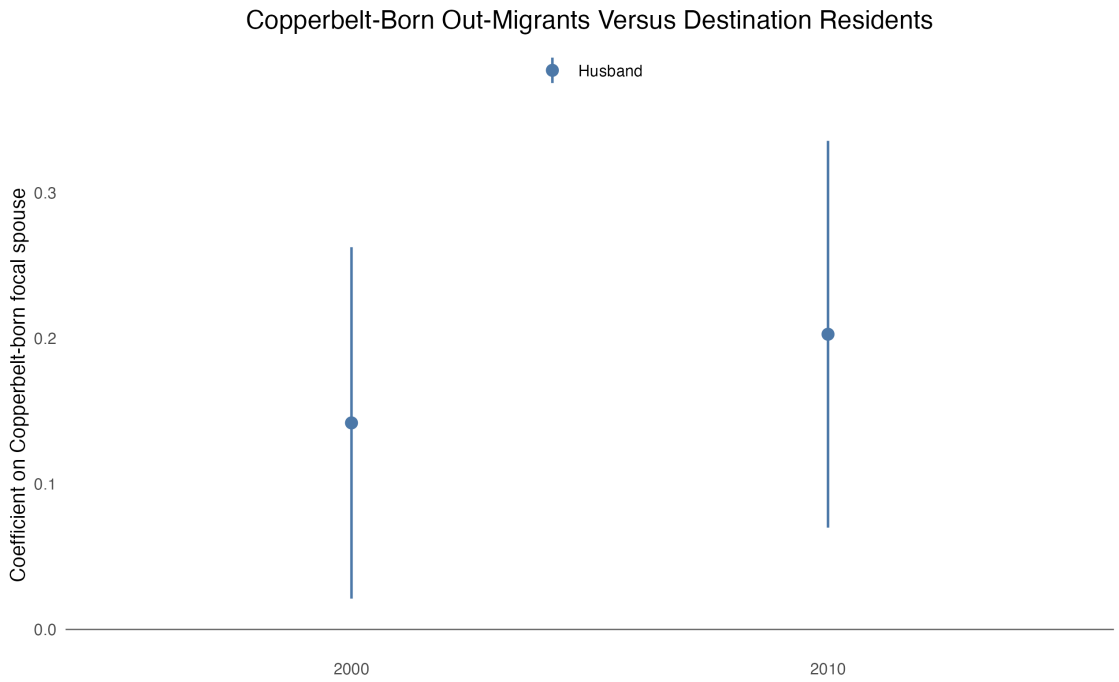

Figure 3: Copperbelt-born coefficients for exposure-adjusted ethnic-block outmarriage among married husbands living outside Copperbelt Province.

6 Robustness and Limitations

The robustness checks support the main descriptive pattern while also narrowing its interpretation. The screened coefficient model and screened backwalk are reported in Appendix Figures 4 and 5. These checks show that the portability result is strongest in the unrestricted destination-market comparison and remains most credible in 2010 when age at first marriage is observed.

The most important limitation is that birthplace and current residence do not form a migration history. Copperbelt-born out-migrants are husbands born in Copperbelt districts and enumerated outside the province in 2000 or 2010. The census does not tell us when they left or why.

Second, the marriage-location screen is imperfect. Years in the current locality does not measure years since leaving the Copperbelt. Age at first marriage or union does not necessarily identify the formation date of the observed current union if someone remarried.

The 2000 timing screen is especially limited because age at first marriage is not observed and is fully imputed in that census year.

Third, the analysis observes surviving marriages, not all marriage attempts. If interethnic marriages dissolve, migrate internationally, or enter the census frame at different rates, observed outmarriage may misstate boundary crossing. This is especially relevant because marriage is observed after both migration and union survival have already occurred.

Finally, the estimates are descriptive. They use census weights, observed controls, constituency-level exposure adjustment, and constituency-clustered standard errors. They do not identify the causal effect of migration, privatization, or individual mine exposure.

7 Discussion

The destination-market comparison gives the clearest evidence in the paper. Among married men living outside Copperbelt Province, Copperbelt-born husbands are more likely than other local residents to be in observed and exposure-adjusted cross-block marriages. Because the comparison is estimated within current constituencies, the association is measured among men who share the same observed marriage markets.

The result matters for political science because it treats institutions as social environments, not only as formal rules or economic constraints. Mine-town institutions repeatedly placed residents in workplaces, neighborhoods, schools, clinics, markets, and welfare arrangements that crossed ethnic lines. The persistence of cross-block marriages among Copperbelt-born men outside the province suggests that such settings can leave traces beyond the place where contact occurred.

The next step is to add data that can date departures from the Copperbelt, identify the location of union formation, and distinguish mine-linked employment from other labor-market attachment. Those data would separate socialization from selection and marriage timing. The census evidence here is more limited but still informative: Copperbelt birthplace

is associated with cross-boundary marriage after holding current marriage markets constant.

8 Appendix: Additional Figures

The primary analysis uses exposure-adjusted ethnic-block outmarriage because the substantive question concerns broad boundary crossing net of local marriage-market opportunity. This appendix reports the timing-screen diagnostics and census-category scale checks excluded from the main text. Census-category outmarriage is mechanically more common than block outmarriage because it treats marriages across narrower census categories within the same broad block as outmarriages.

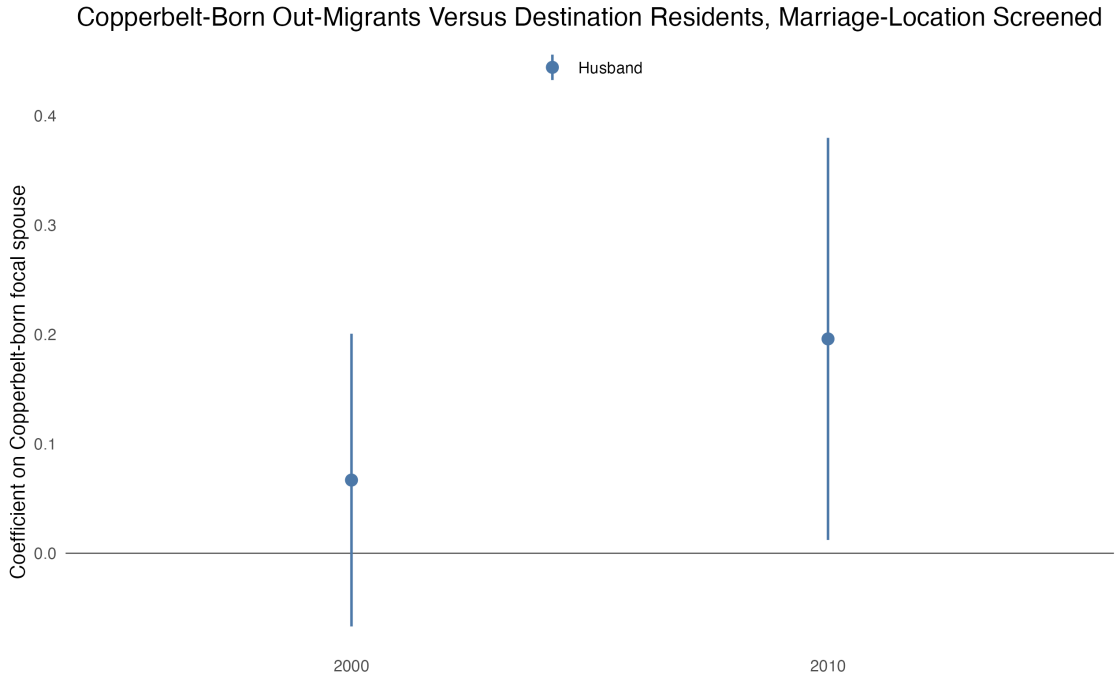

Figure 4: Copperbelt-born coefficients for exposure-adjusted ethnic-block outmarriage among married husbands living outside Copperbelt Province, restricted to husbands whose current-locality residence began before first marriage. In 2000, age at first marriage is not observed and is fully imputed, so the 2000 screened estimate should not be treated as a meaningful timing test.

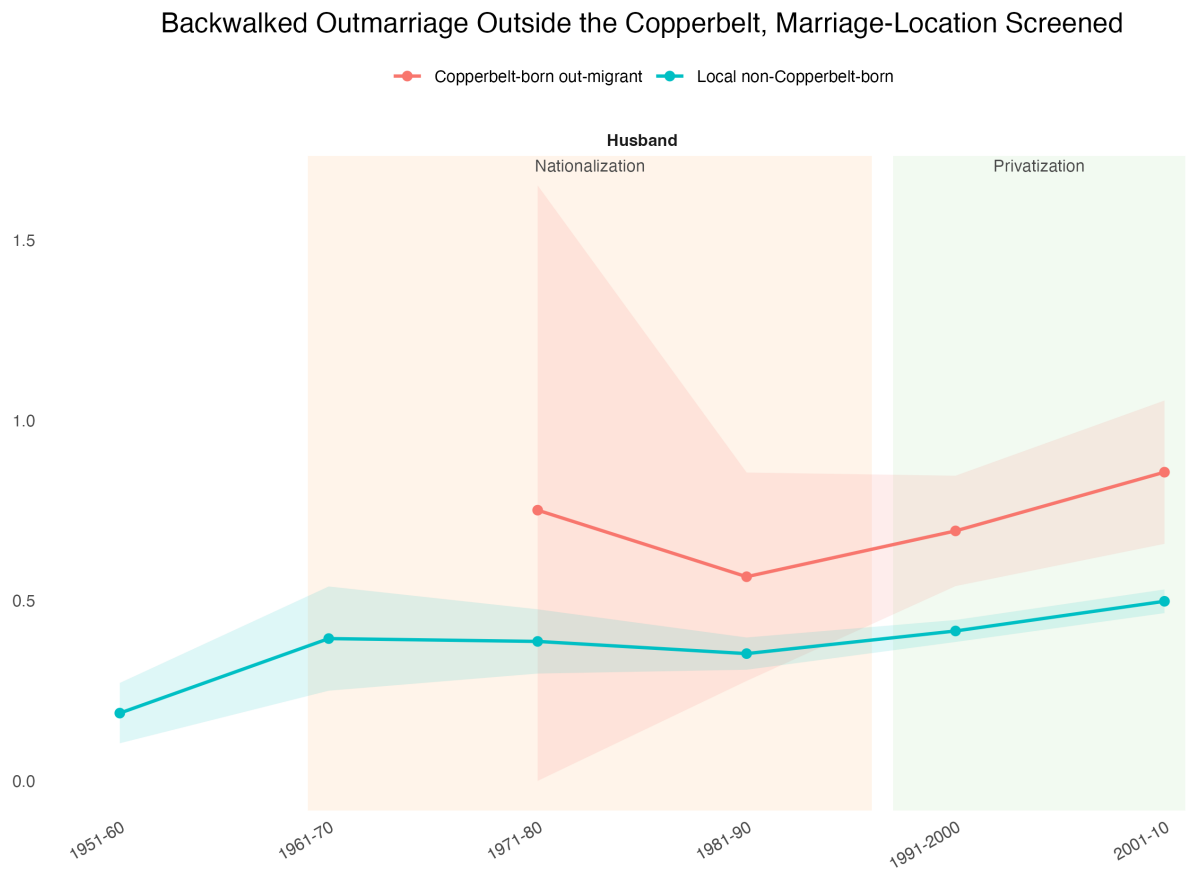

Figure 5: Backwalked exposure-adjusted ethnic-block outmarriage outside Copperbelt Province, restricted to husbands whose current-locality residence began before first marriage. Shaded bands are 95 percent confidence intervals. In 2000, age at first marriage is not observed and is fully imputed, so the 2000 screened estimate should not be treated as a meaningful timing test.

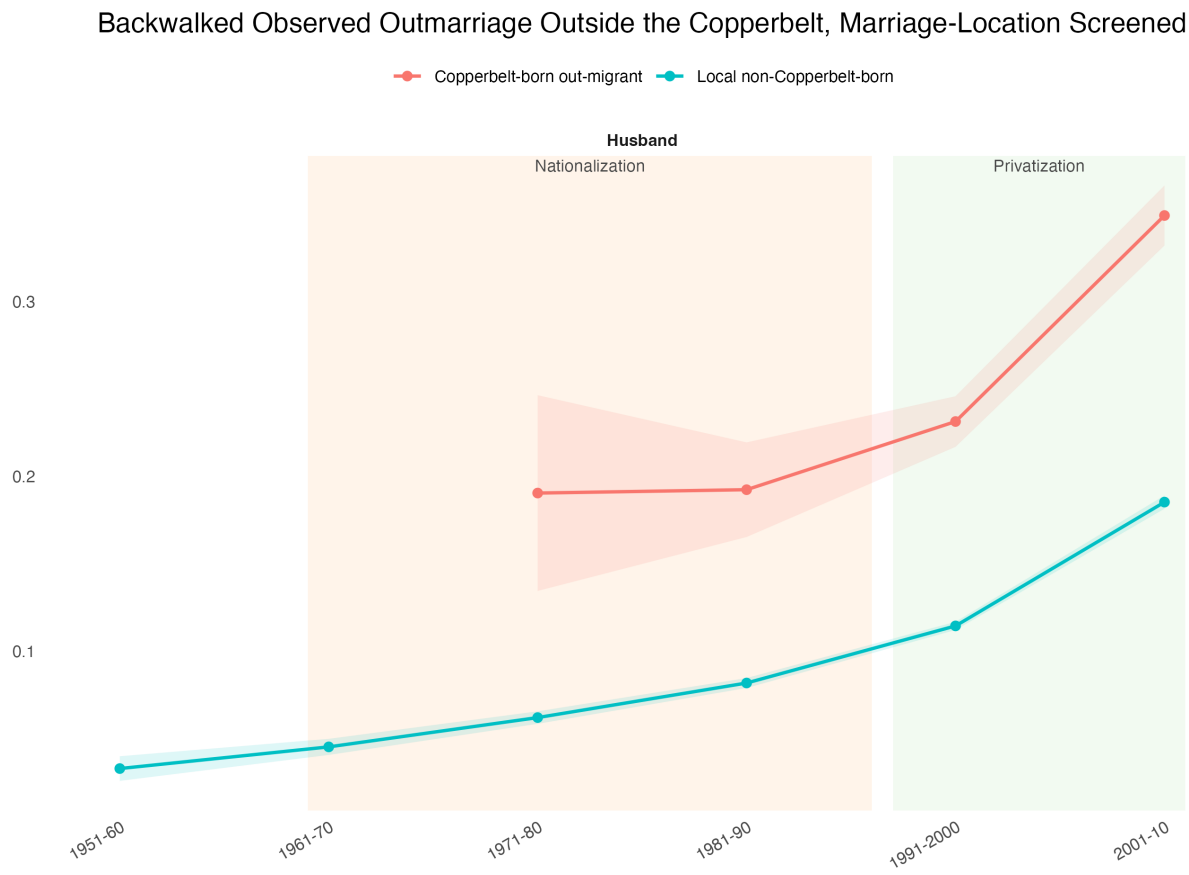

Figure 6: Backwalked observed ethnic-block outmarriage outside Copperbelt Province, restricted to husbands whose current-locality residence began before first marriage. Shaded bands are 95 percent confidence intervals. In 2000, age at first marriage is not observed and is fully imputed, so the 2000 screened estimate should not be treated as a meaningful timing test.

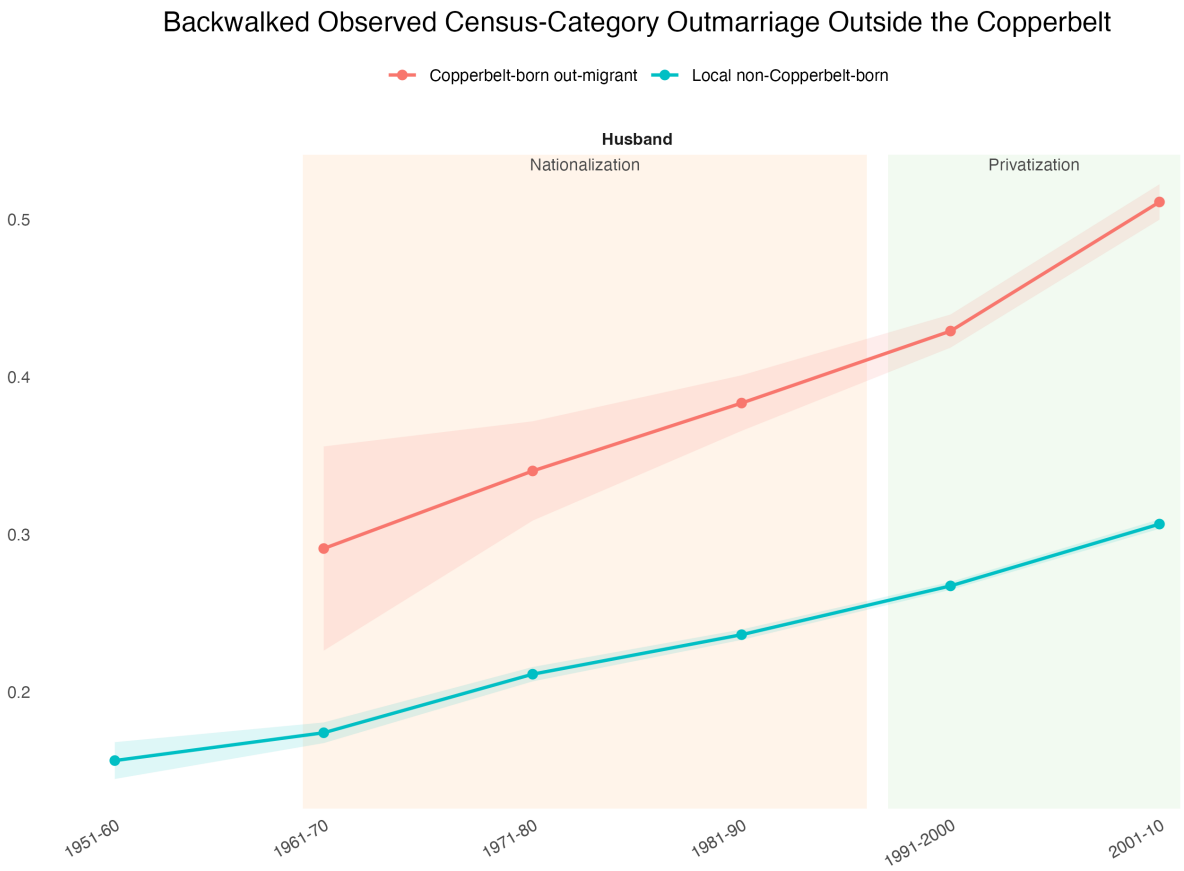

Figure 7: Appendix check: backwalked observed census-category outmarriage outside Copperbelt Province, husband-indexed. Shaded bands are 95 percent confidence intervals.

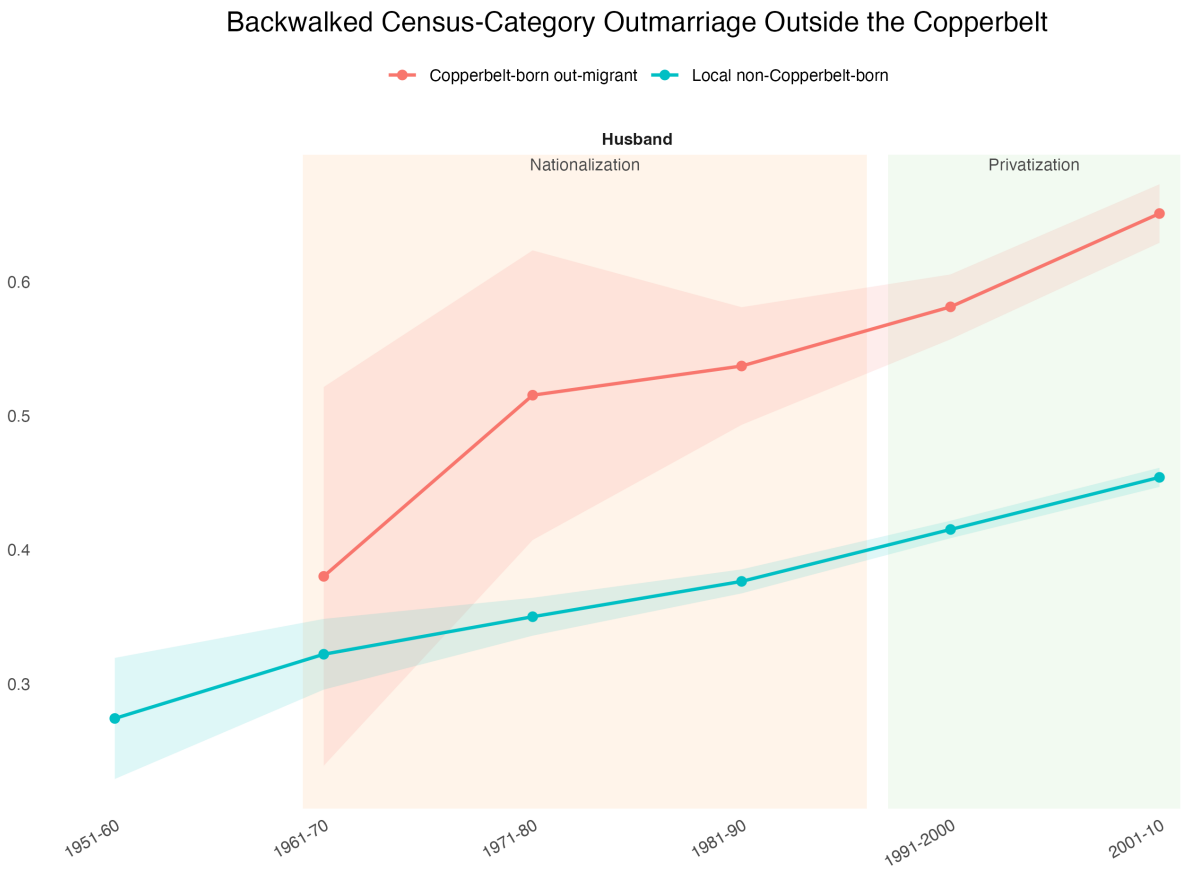

Figure 8: Appendix check: backwalked exposure-adjusted census-category outmarriage outside Copperbelt Province, husband-indexed. Shaded bands are 95 percent confidence intervals.

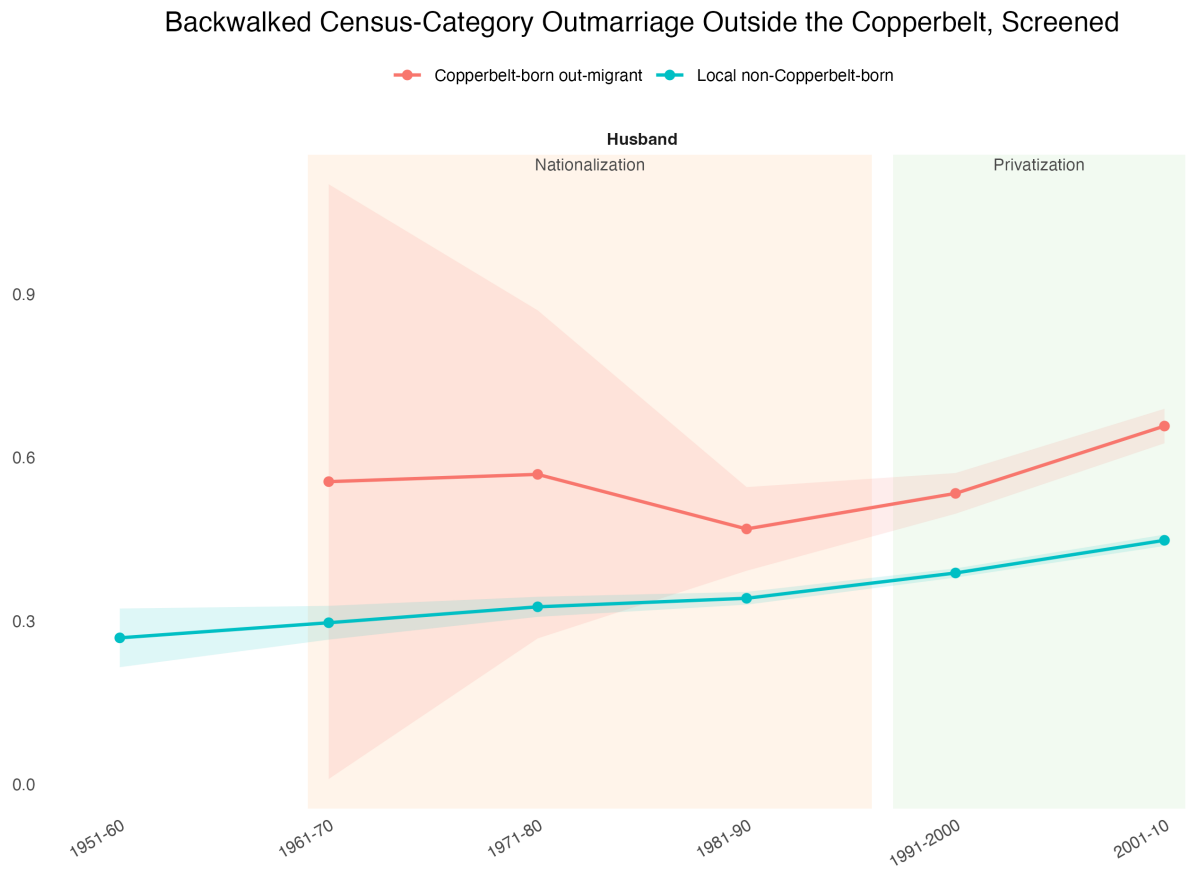

Figure 9: Appendix check: backwalked exposure-adjusted census-category outmarriage outside Copperbelt Province, husband-indexed and marriage-location screened. Shaded bands are 95 percent confidence intervals. In 2000, age at first marriage is not observed and is fully imputed, so the 2000 screened estimate should not be treated as a meaningful timing test.

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