Online Appendix

A Supplementary information **A1**
A.1 Legal history of compulsory birth registration in Tanzania A1
A.2 Evidence on later reforms A2
A.3 Evidence on the exclusion restriction A3

B Figures **A5**

C Tables **A10**

A Supplementary information

A.1 Legal history of compulsory birth registration in Tanzania

The legal framework for birth registration in Tanzania is provided through Chapter 108 of the Tanzanian legal code. Chapter 108, the Birth and Death Registration Act, was originally passed in 1920 and came into force on 1 April, 1921. The act has been repeatedly amended since then. No provision for the compulsory registration of any births was made until 1949, when the *Births (Non-Native Compulsory Registration) Order* amended Section 26 of the act to read:

> "The registration of the birth of a child shall be compulsory if either one or both parents are of European or American origin or descent or, in the case of a child born out of wedlock and not recognised by its father, if the mother is of European or American origin or descent."

The registration of Tanzanians across the country remained voluntary. In 1962 the act was amended as per Government Notice (G.N.) 478/62[1] to state the following in Section 28:

> "The Minister may, by order published in the Gazette, extend, from a date to be named in the order, the provisions of this Act relating to the compulsory registration of births and deaths to all persons in Tanzania of any particular race, class, tribe or other group, or to all or some of the inhabitants of any particular town, district, or other area, and from and after the said date the registration of births and deaths shall, in such cases, be compulsory instead of being optional."

Applying this amendment, the provisions relating to compulsory registration were first extended to the districts comprising Dar es Salaam. Under G.N. 58/66, published 9 February 1966, the *The Births and Deaths Registration (Dar es Salaam Municipality) Order*, the registration at birth of all individuals born after 1 March 1966 was made compulsory. Compulsory registration was then extended to a further set of districts under G.N. 175/66 published on 11 June 1966, the *The Births and Deaths (Compulsory Registration) Order*, to all individuals born in those districts after 1 July 1966. These districts are listed in the order as Arusha, Bukoba, Dodoma, Iringa, Kigoma, Lindi, Mbeya, Morogoro, Moshi, Mtwara, Musoma, Mwanza, Tabora, and Tanga.

This extension of compulsory registration was accompanied by changes to the price of registering births under G.N. 275 on 18 September 1966, the *The Registration of Births and Deaths (Amendment) Rules*. Under this notice, the cost of registration for individuals born *either* in a district without compulsory registration *or* before the date when registration became compulsory in a given district were set at 5 TSh for individuals under 5 years, 10 TSh for individuals between five and ten years old, and 30 TSh for individuals above 10 years. For those individuals born in *after* registration had become compulsory in a given district, the cost of registration was 5 TSh for individuals

[1] I follow the standardized syntax of the *African Law Digest* where the initial digits reflect the relevant Government Notice number in a given year and the final two digits reflect the year.

registered within three months of birth and 30 TSh for individuals registered more than three months after their birth. 30 TSh was equal to approximately $4 in 1966 and approximately $33 today[2].

Compulsory birth registration was not extended to any more districts until 1981, under the decentralized reforms discussed in the paper. This sequence of extending compulsory registration comprised the *Births and Deaths Registration (Kinondoni, Ilala, Temeke, Bagamoyo and Moshi Rural District) Order* (1981), the *Births and Deaths Registration (Morogoro Rural District) Order* (1982), the *Births and Deaths Registration (Specified Districts) Order* (1982), the *Births and Deaths Registration (Specified Districts) Order* (1986), the *Births and Deaths Registration (Specified Districts) Order* (1988), the *The Births and Deaths (Compulsory Registration) Order* (1994) and the *Births and Deaths Registration (Mufindi District) Order* (1996).

Even after these reforms birth registration remained voluntary in a substantial amount of the country. Birth registration became *de facto* compulsory for all births in 2002 under the UNICEF-sponsored *Compulsory Registration Programme* (Registrar General's Office, 2005). However, the law to enforce compulsory birth registration across the whole country was only finally amended under the *Written Laws (Miscellaneous Amendments) Act* of 2009. This amendment changed Section 26 of the act to read:

> "The registration of birth and death shall be compulsory."

Regarding punishments for violation, Section 29 of the act states that:

> "Any person who, being under an obligation to register the birth or death of any person, refuses to register or to state any of the prescribed particulars, shall be guilty of an offence and shall be liable on conviction to a fine not exceeding five hundred shillings or to imprisonment for a term not exceeding one month, or to both such fine and imprisonment..."

In Figure A8 I plot this sequential expansion of compulsory birth registration across the districts of mainland Tanzania from 1950 to 2018. I plot the cumulative share of districts where birth registration was compulsory in a given year, demonstrating the staggered expansion of compulsory regulations over time.

A.2 Evidence on later reforms

In this section I provide descriptive evidence on these later reforms aiming to induce registration. Following a United Nations Mission to discuss progress relating to the 1978 Census, the improvement of civil registration across the country was identified as a key issue. This was codified under project URT/79/P05 "Reorganization and Expansion of the Civil Registration System" by the United Nations Population Fund (UNFPA). Four districts were initially selected in 1981, with an initial plan to expand the reform to an additional 21 randomly-selected districts (UNFPA, 1983). Due to resource constraints, the expansion was reduced first to eight additional districts and eventually to just four. These districts, according to a later evaluation of the UNFPA Tanzania

[2]U.S. Treasury (1966) cites an exchange rate of 7.133 TSh per USD on 30 September 1966.

country programme, were specifically chosen on the basis of their birth registration rates and their ease of accessibility (Edouard, 1987; Padmanabha, 1993).

At the core of these reforms was the decentralization of administration which had been proposed in the early '70s (Wood, 1971). Specifically, responsibility for the registration of births was assigned to 'ten-cell leaders' in a given community:

> "Registration of births and deaths will be re-organised such that the registration process starts at village level. In villages with village governments, the village managers will be appointed registration officers." (UNFPA, 1982)

Compliance with these new responsibilities, however, was limited. One progress report pointed to the "reluctance of village managers and village secretaries to complete registration forms as they do not consider such function as being part of their duties." (UNFPA, 1982). Additionally, relatively fewer citizens in the more rural districts affected by the reforms were aware of the need to register, nor the uses of registration. This was facilitated by limited publicity or informational campaigns around the project along with high rates of personnel turnover (Edouard, 1987). As a result of these challenges, reports indicated that "a sharp decline in the number of registered events was evident in all project areas in 1983 when compared with the number of events in 1982" (UNFPA, 1982). The project effectively ended in 1987 and saw little improvement during that time. From 1987, in the midst of a deep recession, the government expanded compulsory registration to a large set of additional districts under G.N. 842/88 with little effect. A 1993 review concluded that "A review of the implementation of the project would support the view that it has not made a significant impact on the system" (Padmanabha, 1993).

Consistent with this, estimating the effects of the 1980s reform on registration rates using the census sample yields a small, but *negative*, effect on registration rates. Table A11 provides results. The effects of the most recent wave of reforms, in 2009, yields a null effect on registration—likely since the legal extension had already *de facto* been made several years prior.

A.3 Evidence on the exclusion restriction

The exclusion restriction assumption requires that variation in exposure to the reforms leveraged in the research design only affects outcomes through increasing the probability of being registered at birth. I provide evidence supporting the plausibility of this assumption in two ways.

First, the exclusion restriction could be violated if other contemporaneous reforms specifically targeted the set of treated districts. To evaluate this, I construct a dataset of the text of all legislation ($n = 528$) passed in Tanzania in the period around the reform using data from the Southern African Legal Information Institute (SAFLII). For each document I code the presence of relevant words to assess whether there were concurrent increases in legislation applied to the towns where the birth registration reform was passed. Figure A9 plots the frequency of these different topics for each year from 1962 to 1970. The plot suggests that the incidence of legislation specifically mentioning the reform districts was minimal during this period, and legislation mentioning towns, or

town councils, was generally decreasing. Analysis of all such laws mentioning these towns provides little evidence of other confounding reforms, nor of changes to the administration of town councils during this period. Thorough qualitative analysis of the Government Gazette and all supplemental notices issued by the Tanzanian government held by the Tanzania National Archives during this period provides little evidence of reforms applied specifically to this set of districts in a window around the reforms that were not additionally applied to the control districts.

Next, the exclusion restriction could be violated if broader changes during this period had particular effects on individuals born after the reform year in treated districts. The clearest such candidate is the passage of the *Arusha Declaration* in 1967, which marked Tanzania's shift towards socialism under the *ujamaa* philosophy of self-reliance and rural development. Three points suggest that *Arusha* is not a major threat for the empirical strategy. First, *Arusha* had almost entirely rural implications. The most rural districts are excluded from the baseline analysis sample by construction and results are robust to different specifications of control districts. If anything, any hypothetical *Arusha*-related effects should bias the IV coefficients *downwards* as development priorities shifted away from urban districts. Second, scholarly accounts suggest that *Arusha* had limited effects even on rural development until well into the 1970s, when efforts to reorganize the countryside intensified (Hyden, 1975). Third, since exposure to the reform is defined by year of birth, any *Arusha*-based argument would have to link the *year* of individuals' birth with a confounding story in a way that also explains the observed pattern of estimates.

References

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Registrar General's Office. 2005. "A Country Paper for Presentation at the Eastern and Southern Africa Conference on Universal Birth Registration "Improving Services to Protect the Rights of the Most Vulnerable Children" Mombasa, Kenya, 26-30 September 2005.".

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B Figures

Figure A1: Spatial distribution of treated and control districts

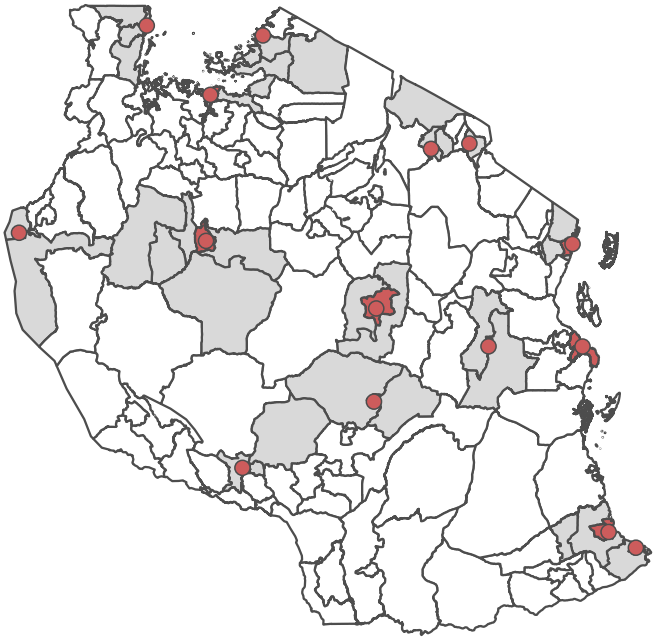
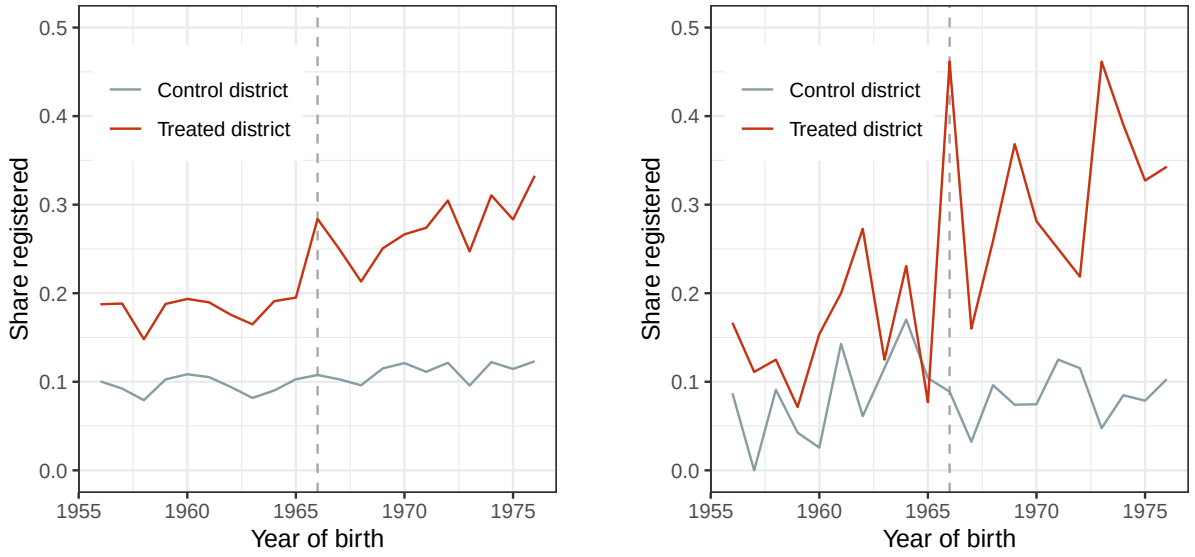


Figure plots the spatial distribution of *treated* (red) and *control* (gray) districts used in the baseline analysis. District boundaries as defined in 2012 Population and Housing Census.

Figure A2: Trends in registration rates



(a) Census

(b) National Panel Survey

Figures display the average share of registered individuals across treated and control districts over time. Panel (a) uses the baseline Census sample; Panel (b) uses the baseline National Panel Survey sample.

Figure A3: First stage district jackknife

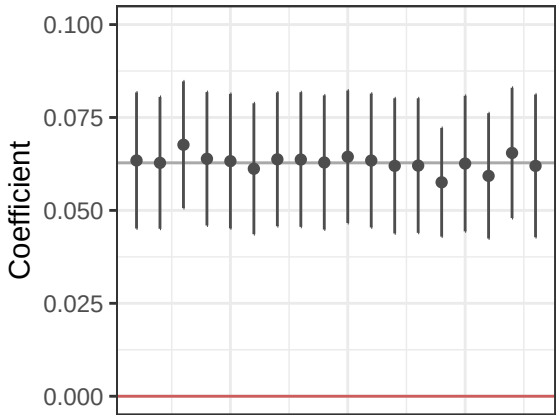


Figure estimates a jackknife of the the first stage coefficient while sequentially dropping each treated district. 95% confidence intervals provided. Horizontal gray line provides the overall first stage coefficient.

Figure A4: Effects on education access by grade

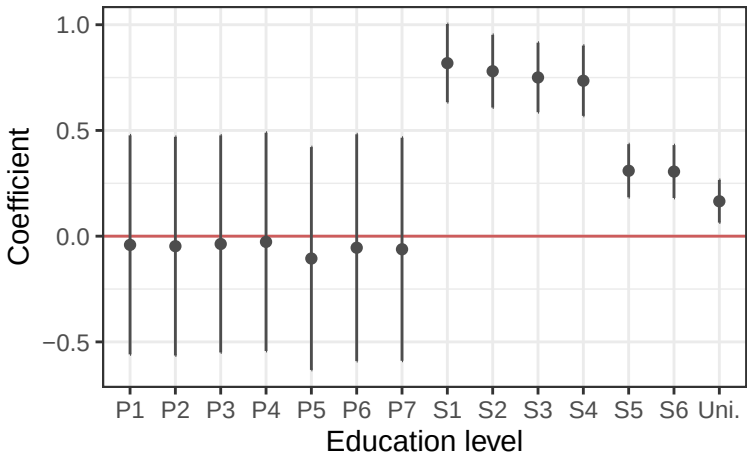


Figure estimates treatment effects on having completed a given grade of education. Primary education runs from P1 to P7; Secondary education runs from S1 to S4 ('Ordinary level') or to S6 ('Advanced level'). 95% confidence intervals provided.

Figure A5: Trends in education access

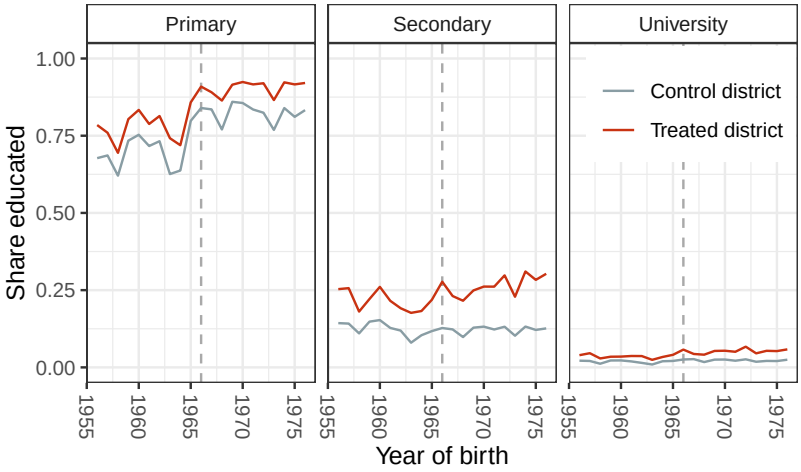


Figure displays the average value of variables measuring access to education across treated and control districts over time using the baseline Census sample.

Figure A6: Trends in social security access

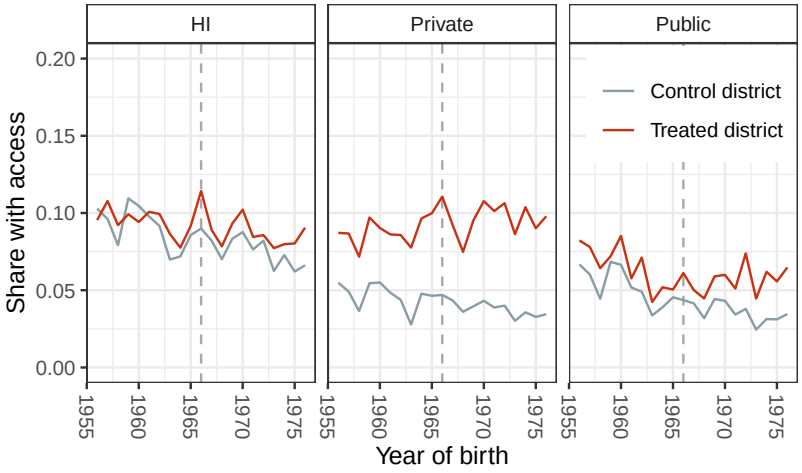


Figure displays the average value of variables measuring access to social security across treated and control districts over time using the baseline Census sample.

Figure A7: Trends in tax payment

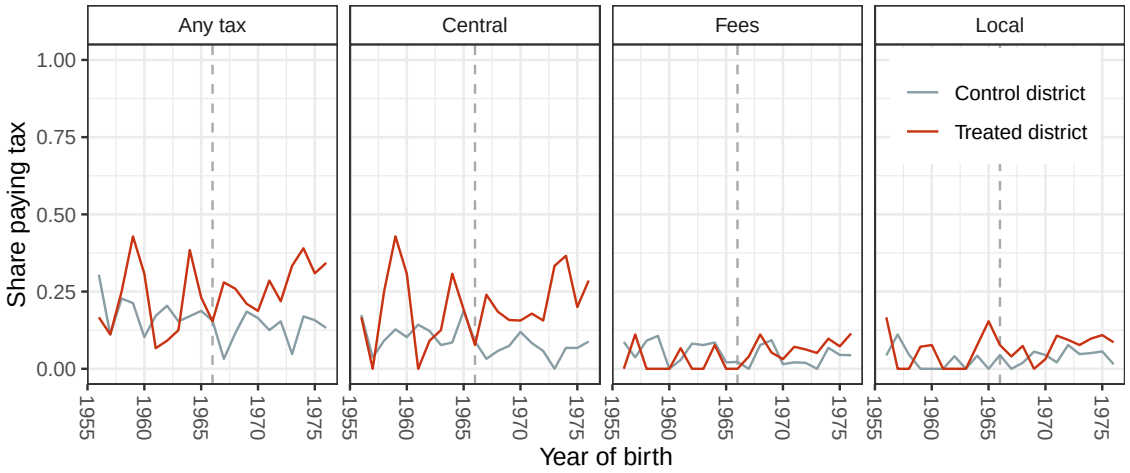


Figure displays the average value of variables measuring tax payment across treated and control districts over time using the baseline NPS sample.

Figure A8: Expansion of compulsory registration across districts over time

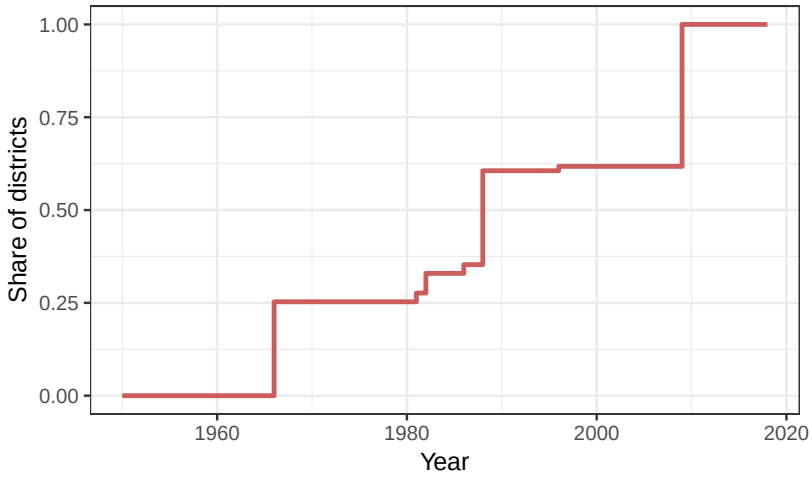


Figure displays the cumulative share of districts targeted by a compulsory registration order by year.

Figure A9: Relevant legislation during reform period

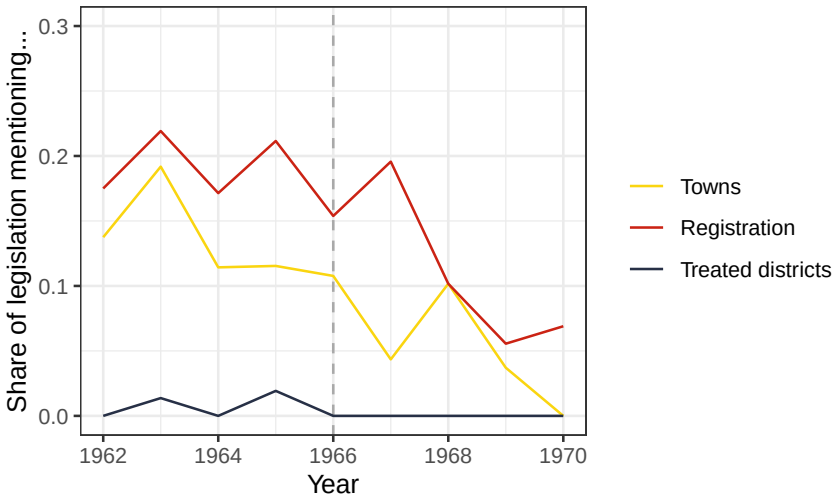


Figure displays the share of relevant legislation being passed in a given year.

C Tables

Table A1: Descriptive statistics (Census)

	Both		Treated		Control	
	Mean	SD	Mean	SD	Mean	SD
A. Sample characteristics						
Age	45.01	5.71	44.35	5.57	45.22	5.74
Male	0.48	0.50	0.48	0.50	0.47	0.50
Tanzanian citizen	0.99	0.08	0.99	0.10	0.99	0.07
Father alive	0.38	0.48	0.40	0.49	0.37	0.48
Mother alive	0.60	0.49	0.61	0.49	0.60	0.49
B. First stage variables						
Registered	0.14	0.34	0.24	0.43	0.10	0.30
Born in treated district	0.24	0.43	1.00	0.00	0.00	0.00
Born after reform	0.63	0.48	0.68	0.47	0.62	0.49
Reform	0.16	0.37	0.68	0.47	0.00	0.00
C. Outcome variables						
Education: Primary	0.79	0.41	0.86	0.35	0.77	0.42
Education: Secondary	0.15	0.36	0.24	0.43	0.12	0.32
Education: University	0.03	0.16	0.05	0.21	0.02	0.14
National Health Insurance Fund	0.08	0.27	0.09	0.28	0.08	0.27
Private pension	0.05	0.22	0.09	0.29	0.04	0.19
State pension	0.04	0.20	0.06	0.23	0.04	0.19
Observations	182635		44124		138511	

Data source is the IPUMS 20% extract from the 2012 National Population and Housing Census. Sample restricted to cohorts born within ten years of reform in either *treated districts* or *control districts*.

Table A2: Descriptive statistics (NPS)

	Both		Treated		Control	
	Mean	SD	Mean	SD	Mean	SD
A. Sample characteristics						
Age	41.85	5.82	40.98	5.53	42.28	5.91
Male	0.47	0.50	0.48	0.50	0.47	0.50
Parent has primary education	0.59	0.49	0.69	0.46	0.55	0.50
Parent has secondary education	0.09	0.28	0.16	0.37	0.05	0.22
Parent has university education	0.02	0.15	0.05	0.22	0.01	0.10
B. First stage variables						
Registered	0.15	0.35	0.27	0.45	0.08	0.28
Born in treated district	0.32	0.47	1.00	0.00	0.00	0.00
Born after reform	0.66	0.47	0.73	0.45	0.63	0.48
Reform	0.24	0.42	0.73	0.45	0.00	0.00
C. Outcome variables						
Paid any tax	0.19	0.39	0.27	0.44	0.15	0.36
Paid fees	0.05	0.22	0.06	0.23	0.05	0.21
Paid local tax	0.05	0.21	0.07	0.26	0.04	0.18
Paid central tax	0.13	0.34	0.22	0.41	0.09	0.28
Observations	1468		477		991	

Data source is National Panel Survey (2010, 2014). Sample restricted to cohorts born within ten years of reform in either *treated districts* or *control districts*.

Table A3: Assigning district of birth to treatment

District (1966)	District (2012)
Arusha	**Arusha Urban**
Arusha	Arusha Rural
Arusha	Meru
Bukoba	**Bukoba Urban**
Bukoba	Bukoba Rural
Bukoba	Muleba
Bukoba	Misenye
Dodoma	**Dodoma Urban**
Dodoma	Dodoma Rural
Dodoma	Bahi
Iringa	**Iringa Urban**
Iringa	Iringa Rural
Iringa	Kilolo
Kigoma	**Kigoma Urban**
Kigoma	Kigoma Rural
Kigoma	Uvinza
Kilimanjaro	**Moshi Urban**
Kilimanjaro	Moshi Rural
Lindi	**Lindi Urban**
Lindi	Lindi Rural
Lindi	Ruangwa
Mbeya	**Mbeya Urban**
Mbeya	Mbeya Rural
Mbeya	Mbarali
Morogoro	**Morogoro Urban**
Morogoro	Morogoro Rural
Morogoro	Longido
Morogoro	Mvomero
Mtwara	**Mtwara Urban**
Mtwara	Mtwara Rural
Musoma	**Musoma Urban**
Musoma	Musoma Rural
Musoma	Bunda
Musoma	Butiama
Musoma	Serengeti
Mwanza	**Ilemela**
Mwanza	**Nyamagana**
Mwanza	Busega
Mwanza	Magu
Mzizima	**Ilala**
Mzizima	**Kinondoni**
Mzizima	**Temeke**
Tabora	**Tabora Urban**
Tabora	Kaliua
Tabora	Sikonge
Tabora	Urambo
Tabora	Uyui
Tanga	**Tanga Urban**
Tanga	Mkinga
Tanga	Muheza

Table lists all treated districts (bold) and all control districts (non-bold) in the baseline specification.

Table A4: Assigning district of birth to treatment (supplementary)

A.	Township	District in 2012 Census
	Arusha	Arusha Urban
	Bukoba	Bukoba Urban
	Dar es Salaam	Ilala, Kinondoni, Temeke
	Dodoma	Dodoma Urban
	Iringa	Iringa Urban
	Kigoma	Kigoma Urban
	Lindi	Lindi Urban
	Mbeya	Mbeya Urban
	Morogoro	Morogoro Urban
	Moshi	Moshi Urban
	Mtwara	Mtwara Urban
	Mwanza	Ilemela, Nyamagana
	Tabora	Tabora Urban
	Tanga	Tanga
B.	'Former township'	District in 2012 Census
	Bagamoyo	Bagamoyo
	Chunya	Chunya
	Kahama	Kahama Urban
	Kilosa	Kilosa
	Kimamba	Kilosa
	Kondoa	Kondoa
	Korogwe	Korogwe Urban
	Lushoto	Lushoto
	Mpwapwa	Mpwapwa
	Nachingwea	Nachingwea
	Nansio	Ukerewe
	Pangani	Pangani
	Shinyanga	Shinyanga Urban
	Singida	Singida Urban
	Songea	Songea Urban
	Tukuyu	Rungwe

Table lists all locality classified as urban in the 1967 Census (Volume II). All districts in Panel A had the reform applied. Districts in Panel B did not have the reform applied. Employed to define control districts in Panel D of Table A5.

Table A5: First stage (robustness)

	+/- 5 cohorts			All cohorts		
A. Varying included cohorts	(1)	(2)	(3)	(4)	(5)	(6)
Reform	0.06***	0.05***	0.06***	0.16***	0.14***	0.04***
	(0.01)	(0.01)	(0.02)	(0.02)	(0.01)	(0.01)
Time trends	None	Region	District	None	Region	District
Outcome mean	0.13	0.13	0.13	0.25	0.25	0.25
Observations	96884	96884	96884	1320543	1320543	1320543

	-Reform year			-Heaped ages		
B. Excluding birth years	(1)	(2)	(3)	(4)	(5)	(6)
Reform	0.06***	0.05***	0.03***	0.07***	0.06***	0.07***
	(0.01)	(0.00)	(0.01)	(0.01)	(0.01)	(0.01)
Time trends	None	Region	District	None	Region	None
Outcome mean	0.14	0.14	0.14	0.15	0.15	0.15
Observations	176747	176747	176747	131211	131211	131211

	District-level			Individual-level		
C. Controls	(1)	(2)	(3)	(4)	(5)	(6)
Reform	0.05***	0.05***	0.04***	0.06***	0.05***	0.04***
	(0.00)	(0.00)	(0.01)	(0.01)	(0.00)	(0.01)
Time trends	None	Region	District	None	Region	District
Outcome mean	0.14	0.14	0.14	0.14	0.14	0.14
Observations	182635	182635	182635	182635	182635	182635

	Urban			Unrestricted		
D. Changing control districts	(1)	(2)	(3)	(4)	(5)	(6)
Reform	0.05***	0.04***	0.04***	0.06***	0.05***	0.04***
	(0.01)	(0.01)	(0.01)	(0.01)	(0.00)	(0.01)
Time trends	None	Region	District	None	Region	District
Outcome mean	0.15	0.15	0.15	0.10	0.10	0.10
Observations	110969	110969	110969	619982	619982	619982

	+/- 10 cohorts			All cohorts		
E. National Panel Survey dataset	(1)	(2)	(3)	(4)	(5)	(6)
Reform	0.16***	0.16***	0.23***	0.12***	0.15***	0.17***
	(0.04)	(0.03)	(0.06)	(0.03)	(0.03)	(0.05)
Time trends	None	Region	District	None	Region	District
Outcome mean	0.23	0.23	0.23	0.36	0.36	0.36
Observations	1468	1468	1468	5327	5327	5327

DV: respondent has a birth certificate. Panel A: sample restricted to cohorts born within 5 year of reform, or no restriction. Panel B: excluding individuals born in reform year, or those who report their age rounded to five years. Panel C: interacting vector of district-level controls with post-reform year indicator, or adding individual-level controls linearly. Panel D: restricting the set of control districts to be all other districts classified as urban in 1967 census, or all other districts in the country. Panel E: replicating the first stage using the NPS sample.

All specifications are estimated using OLS and include district of birth and year of birth fixed effects. Exposure to reform is an indicator for being born after reform in one of the *treated districts*. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$. Standard errors clustered at the district of birth-level in parentheses.

Table A6: First stage (alternative estimation)

A. Regression discontinuity	(1)	(2)	(3)	(4)	(5)	(6)
Born after reform	0.09***	0.05*	0.04**	0.03**	0.02	0.01
	(0.03)	(0.03)	(0.02)	(0.01)	(0.01)	(0.01)
Bandwidth	2	5	10	15	20	30
Outcome mean	0.22	0.22	0.24	0.27	0.30	0.37
Observations	10827	22689	44124	72740	106205	190696
B. Household fixed effects	(1)	(2)	(3)	(4)	(5)	(6)
Reform	0.05	0.03	0.05**	0.08***	0.11***	0.17***
	(0.06)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)
Bandwidth	2	5	10	15	20	30
Outcome mean	0.13	0.13	0.14	0.15	0.16	0.21
Observations	45574	96884	182635	284823	396047	660253

Outcome variable is whether respondent has a birth certificate. Data source is the IPUMS 20% extract from the 2012 national census. Panel A: estimated using a local linear regression in the set of treated districts. Coefficient represents the change in registration probability among cohorts just after, versus just before, the reform. Panel B: Equation (2) estimated using household-level fixed effects.

* p < 0.1, ** p < 0.05, *** p < 0.01. Standard errors clustered at the district of birth-level in parentheses.

Table A7: Placebo outcomes

	Male	Tanzanian	Father alive	Mother alive
	(1)	(2)	(3)	(4)
Reform	0.01	-0.00	0.00	0.00
	(0.01)	(0.00)	(0.01)	(0.01)
Outcome mean	0.477	0.994	0.376	0.602
Observations	182635	182635	182635	182635

Table uses individual-level characteristics as dependent variables in Equation (2). DVs: (1) individual is male; (2) individual is Tanzanian; (3) individual's father is alive; (4) individual's mother is alive.

All specifications are estimated using OLS and include district of birth and year of birth fixed effects. Exposure to reform is an indicator for being born after reform in one of the *treated districts*. * p < 0.1, ** p < 0.05, *** p < 0.01. Standard errors clustered at the district of birth-level in parentheses.

Table A8: Effects on literacy

	Any (1)	Kisw. (2)	Eng. (3)
Registered (β^{OLS})	0.13***	0.12***	0.33***
	(0.01)	(0.01)	(0.01)
$\widehat{\text{Registered}}$ (β^{IV})	-0.08	-0.06	0.59***
	(0.24)	(0.24)	(0.11)
DV Mean	0.78	0.78	0.16
DV SD	0.41	0.42	0.37
FS F-statistic	50.3	50.3	50.3
ρ(Income, DV)	0.15	0.14	0.32
Observations	182635	182635	182635

DVs are all indicators. (1) individual is literate in any language; (2) individual is literate in Kiswahili; (3) individual is literate in English.
ρ(Income, DV) provides the coefficient from a regression of the standardized DV onto a standardized measure of asset ownership.
β^{OLS} estimated using Equation (1); β^{IV} estimated using Equation (3). All specifications include district of birth and year of birth fixed effects. * p < 0.1, ** p < 0.05, *** p < 0.01. Standard errors clustered at the district of birth-level in parentheses.

Table A9: Effects on access to social security

			Private		State			
	Any	HI	NSSF	PPF	PSPF	GEPF	LAPF	Other
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Registered (β^{OLS})	0.22***	0.11***	0.08***	0.03***	0.08***	0.01***	0.02***	0.01***
	(0.01)	(0.01)	(0.00)	(0.00)	(0.01)	(0.00)	(0.00)	(0.00)
$\widehat{\text{Registered}}$ (β^{IV})	0.23**	0.12	0.18***	-0.04	0.10*	0.03**	0.03	0.01
	(0.11)	(0.07)	(0.05)	(0.04)	(0.05)	(0.01)	(0.02)	(0.02)
DV Mean	0.15	0.08	0.04	0.01	0.03	0.00	0.01	0.02
DV SD	0.36	0.27	0.20	0.11	0.18	0.05	0.09	0.12
FS F-statistic	50.3	50.3	50.3	50.3	50.3	50.3	50.3	50.3
ρ(Income, DV)	0.30	0.18	0.22	0.15	0.19	0.06	0.11	0.03
Observations	182635	182635	182635	182635	182635	182635	182635	182635

DVs are all indicators. (1) individual in a household with access to any social security fund; (2) individual in a household with access to National Health Insurance Fund (NHIF); (3) individual in a household with access to National Social Security Fund (NSSF); (4) individual in a household with access to Parastatal Pension Fund (PPF); (5) individual in a household with access to Public Service Social Security Fund (PSSSF); (6) individual in a household with access to Government Employees Provident Fund (GEPF); (7) individual in a household with access to Local Authorities Pension Fund (LAPF); (8) individual in a household with access to any other social security fund.

ρ(Income, DV) provides the coefficient from a regression of the standardized DV onto a standardized measure of asset ownership.

β^{OLS} estimated using Equation (1); β^{IV} estimated using Equation (3). All specifications include district of birth and year of birth fixed effects. * p < 0.1, ** p < 0.05, *** p < 0.01. Standard errors clustered at the district of birth-level in parentheses.

Table A10: Effects on exposure to taxation (all cohorts)

	All	Fees	Local	Central
	(1)	(2)	(3)	(4)
Registered (β^{OLS})	0.10***	0.00	0.04***	0.09***
	(0.01)	(0.01)	(0.01)	(0.01)
$\widehat{\text{Registered}}$ (β^{IV})	0.45**	0.26*	0.02	0.40**
	(0.20)	(0.14)	(0.14)	(0.19)
DV Mean	0.20	0.05	0.05	0.13
DV SD	0.40	0.22	0.21	0.34
FS F-statistic	23.9	23.9	23.9	23.9
Observations	5326	5326	5326	5326

DVs are all indicators. (1) individual in a household which has paid any tax in the last year; (2) individual in a household which has paid any fees to the government in the last year; (3) individual in a household which has paid council rates in the last year; (4) individual in a household which has paid taxes to the central government in the last year.
NPS sample restricted to all adults born in either *treated* or *control* districts.
β^{OLS} estimated using Equation (1); β^{IV} estimated using Equation (3). All specifications include district of birth and year of birth fixed effects. * p < 0.1, ** p < 0.05, *** p < 0.01. Standard errors clustered at the district of birth-level in parentheses.

Table A11: Comparison of registration reform effects

	Pooled	'66	'80s	'09
	(1)	(2)	(3)	(4)
Reform	0.16***	0.06***	-0.01**	0.00
	(0.02)	(0.01)	(0.01)	(0.00)
Reform × '80s	-0.16***			
	(0.02)			
Reform × '09	-0.17***			
	(0.02)			
Outcome mean	0.19	0.10	0.18	0.24
Observations	4331868	582086	1673553	1931778

Table estimates the effects of the '66 reform, '80s reforms, and '09 reform on registration as discussed in Appendix A.2. Column (1) estimates using the complete census sample and tests for differences between the effects of later reforms compared to '66. Columns (2) to (4) separately estimate effects of each reform, restricting each sample to cohorts born close to reform year. All specifications are estimated using OLS and include district of birth and year of birth fixed effects. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$. Standard errors clustered at the district of birth-level in parentheses.