Reproduction in Crisis: War, Migration and Fertility in Angola

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ABSTRACT

This study uses data drawn from two peri-urban municipalities of Greater Luanda in Angola and multi-level discrete-time logistic regression models to investigate how the experiences of forced migrants and voluntary migrants differ from each other and from that of non-migrants and how these differences are manifested in childbearing in any given year of migration. We extend paradigms on migration and fertility by examining how mechanisms of pre-migration postponement of fertility during periods of conflict and displacement manifest differently among forced and voluntary migrants. Results indicate that those who migrate due to war in any given year have higher probabilities of birth than those who migrate for non-war reasons. Similarly, those who did not migrate and are residents of the capital city, have lower probabilities of birth than those who migrate due to war, lastly, no statistically significant differences can be detected between those who migrate due to non-war reasons and those who do not experience migration. It is argued that pre-migration postponement of fertility, afforded by non-war migration and other unobserved characteristics such as openness to change and fertility aspirations, as well as access to information in places of destination, explains the differences in childbearing for non-war and war migrants. Similarly, urban residents, with inherently distinct characteristics explain the differences between non-migrants and rural dwellers that flee for reasons of war. Lastly, pre-migration postponement of fertility, like urban status, explains the lack of statistically significant differences in childbearing between non-war migration in a given year and those who do not migrate. These findings lead to conclusions that emerging research on demography of war could be usefully informed by distinguishing between forced migrants and voluntary migrants.

Introduction

Demographers have recently been interested in the demographic response to military conflicts in developing settings (Agadjanian and Ndola, 2002; Khlat, Deeb, and Courbage, 1997; Lindstrom and Berhanu, 1999; Randall, 2005) perhaps following the International Conference on Population and Development (ICPD) in 1994, which highlighted the human rights and reproductive health needs of refugees and internally displaced persons. More studies are therefore emerging that document not only the deleterious effects of military conflicts and population displacement on public health systems but highlight the fertility and reproductive health of displaced populations (Goodyear, 1998; Busza, 1999; Al-Qudsi, 2000; McGinn, 2000; Hynes et al., 2002; Verwimp, 2005; Guha-Sapir and Gijsbert, 2004; Singh et al., 2005). However, unlike Western societies where a drop in fertility as a result of war has been established (Festy, 1984; Vishnevki, 1998; Winter, 1992), the literature on the effects of war on fertility in developing countries is less certain, as war-induced conditions can lead to a rise in fertility levels due to parents' desire to replace lost children as a risk- insurance strategy (Agadjanian and Ndola, 2002). In a recent review of evidence on the fertility response to war, humanitarian crisis and population displacement, Hill, 2004, found mixed evidence of the effects of war on fertility levels in the short, medium and long term. In the short term, for instance, evidence deduced from displaced and local women in Sarajevo before and during the Bosnian war in 1992-1994, showed that fertility fell mainly as a result of temporary separation, abortion and reduced fecundability due to under nutrition. In another study of two Cambodian refugee camps in Thailand, one of rural and low socio-economic background and the other of urban and higher socio-economic status, fertility levels were found to be substantially different in both refugee camps during a six months period. The differences however reflected lower conception rates among the rural origin refugees prior to arriving at the camps compared to the urban-origin population. Thus the short-term effects of displacement on fertility were judged to be low (Hill, 2004). In the medium term, studies on fertility levels emerging from the Lebanese civil war,

economic and military conflicts in Ethiopia and Angola, all present inconclusive evidence of the effects of war and economic crisis on fertility. The Lebanese war and the economic crisis that followed had little effect on fertility in the medium term, mainly due to the low fertility levels already reached prior to the war (Khlat, Deeb, and Courbage, 1997). In Ethiopia, birth intervals and conceptions were found to be reduced by the effects of famine and military attacks (Lindstrom and Berhanu, 1999). In Angola, evidence of a war time drop and postwar rebound in fertility depending on the type and degree of exposure to the war and women's socio-economic characteristics were detected (Agadjanian and Ndola, 2002). In the longer term, evidence of the effects of conflict on fertility is inconclusive and inconsistent. Angola for instance, has experienced conflicts for extended periods of time but its fertility can be said to be similar to those of its neighbors that have not experienced conflicts in such magnitude (Hill, 2004). In a recent study in Rwanda, refugee women had higher fertility but lower survival chances for their children than non-refugee women (Verwimp, 2004). In the Middle East, long periods of conflict between Palestinians and Israelis have likely contributed to higher than normal fertility levels among the Palestinians (Fargues, 2000).

One notable gap in the emerging literature on the demographic effects of war and conflict is that it focuses almost exclusively on forced migration (refugees and internally displaced persons) and fails to make an important distinction between war and non-war migration. Yet in a diverse society not all groups of those migrating may be uniformly impacted by war or political upheavals or exhibit the same demographic response. Similarly, the effects of war and economic crises are inter-related and may produce physical and psychological effects that influence the demographic behavior of war and non-war migrants differently. Secondly, previous research has been mainly based on women without due attention to the fertility response of men to conflict and displacement.

In this paper, we address these gaps and explore the processes through which war and non-war migration by both women and men affects the timing of fertility in two sub-urban

municipalities of Luanda, the capital of Angola, an African country of about fourteen million people that saw one of the longest and bloodiest internal conflicts in modern African history. Specifically, we explore how the experiences of forced migrants and voluntary migrants differ from each other and from that of non-migrants and examine how these differences manifest in childbearing.

Conceptual and Analytical Approach

The overarching framework within which this study is located is that of the impact of migration on fertility for which several competing perspectives have been tested. In peacetime, mechanisms of adaptation, selection and disruption (Kulu, 2005; Goldstein, White, and Goldstein, 1997; Chattopadhyay, White, and Debpuur, 2006; Lee, 1992; Singley and Landale, 1998) are often invoked to explain the fertility differentials of migrants and non-migrants. In this study, we extend these perspectives by examining how mechanisms of pre-migration postponement of fertility during periods of conflict and displacement manifest differently among forced and voluntary migrants.

We believe that in the context of war and population displacement, people who migrate to urban areas due to non-war reasons may be selected for certain unobserved characteristics such as the tendency to postpone childbearing, openness to change and fertility aspirations (Ribe and Schultz, 1980). Migrating due to non-war reasons offers a better chance to prepare, by postponing fertility prior to migration, in order to take advantage of opportunities offered in areas of destination. Also, persons not prompted by war to migrate to urban areas may be pre-selected for higher levels of education and socio-economic characteristics than those fleeing ensuing war and hostilities. Access to information on the cost of maintaining a family in destination areas can also vary by circumstances of migration. Persons migrating due to non-war reasons are likely to have accurate information about their destination areas than those who flee war. This information is essential to pre-migration postponement of fertility and timing of

fertility in any given year. Thus, we expect that war migration in any given year will be associated with higher probabilities of birth net of others factors.

We further conceptualize that due to urbanization, those who are longtime residents of Luanda, the capital city, and did not experience migration will have lower probabilities of birth than those migrating in any given year due to war. However, those who experience non-war migration in a given year are likely to be similar to urban residents due to pre-migration postponement of fertility. Hence, pre-migration postponement of fertility like advanced urbanization in the capital city, will produce lower rates of birth in any given year. The comparison of rural residents (war and non-war) to urban residents in Angola who have an inherently distinct background is not completely out of range since overall rural-urban differences in the total fertility rates are little, (6.8 and 7.0 respectively;(INE 1998)). For the capital city, where the impact of the war was least direct and advanced urbanization may make the residents better able to control their fertility, we account for any likely differences in fertility by controlling for education in our analytical models.

Mechanisms of disruption could be evident in the timing of births following migration. Since population displacement is often accompanied by spousal separation or a desire to postpone childbearing until after the move, the timing of births immediately following migration could thus be affected. Those who experience war and non-war migration are likely to be separated from their spouses thereby inhibiting fertility after migration. However, we believe that the desire to postpone fertility until after a planned move by those migrating due to non-war reasons will make the inhibiting effects of disruption on fertility accrue more for non-war migration than for those who migrate for reasons of war.

Lastly, as previous findings indicate (Agadjanian and Ndola, 2002) differences in type and degree of war-induced social distress are important in shaping demographic behavior and outcomes. In this study, we expect to find differences in the rates of births during active war and

relative peace. In periods of active war, we expect lower rates of birth in any given year compared to periods of relative peace.

Context: Angola at War

Angola offers an unfortunate but appropriate example for this study due to the repeated episodes of war over extended but intermittent periods since it gained independence from Portugal in 1975. The country suffered through one of the longest and bitter civil conflicts in modern African history largely fueled by a complex of cold war geopolitical interest, local interregional rivalries and the inordinate personal ambitions of political leaders (Agadjanian and Ndola, 2002). The war mainly fought between the Popular Movement for the Liberation of Angola (MPLA) party, which came to power after the collapse of the Portuguese colonial empire, and its opponent, the National Union for the Total Independence of Angola (UNITA) party, started even before Angola's independence in 1975 and lasted until the peace accords of 1991. Hostilities flared up again in the fall of 1992, after the UNITA opposition refused to accept the results of the presidential elections, and continued until another peace agreement was signed in 1994. The following period of peacefulness lasted for several years, until the growing distrust between the two main parties, MPLA and UNITA, erupted into a new round of war in 1998. That last round continued until the death of UNITA's leader and its military defeat in 2002.

During most of the war years Luanda remained one of the few islands of safety in Angola, attracting displaced people from both close and distant parts of the country ravaged by hostilities. However, even during the war many migrants came to Luanda for reasons directly unrelated to war—to join relatives and to look for better educational and employment opportunities. As a result of the combination of war-related and war-unrelated migration, the population of Greater Luanda grew very rapidly, reaching up to four millions toward the end of the civil war.

No official data on the size and distribution of war-related migrant population in Luanda are available. While some of them continued to live in camp-like conditions on the distant periphery of the capital, others managed to make their ways into more established and centrally located neighborhoods, either by staying with relatives or building, often illegally, precarious dwellings in the few remaining unoccupied spots in the city slums.

Due to the turmoil and political unrest, there is hardly any available literature on Angola's reproductive health situation in general and fertility in particular. Available sources however paint a dire situation. WHO data for key reproductive health indicators ranks Angola as the second worst country in the world (Chata et al, 2001). 1 in 7 Angolan women bear a lifetime risk of dying of maternal-related causes and more children die before age 5 (estimated to be more than 1 in 4) (UNICEF, 2003) Population Reference Bureau (PRB, 2005). Angola's fertility remains high and is estimated at 6.8 children per woman (PRB, 2006), higher than in most countries in sub-Saharan Africa. Contraceptive use of any form is estimated at 6% of women aged 15-49 (PRB, 2006).

Data and methods

Forced and voluntary migrations are difficult to compare because they rarely occur in the same context. Similarly, forced migration is difficult to study in origin areas because of security related matters; one approach therefore to studying forced and voluntary migrations is by reconstructing migration and fertility histories at points of destination. The data for this study was thus collected in two peri-urban municipalities (*municípios*) of Greater Luanda—Samba and Viana in the summer of 2004. Samba, is a peri-urban community, close to the city core, and contained relatively a small share of forced migrant, whereas Viana, a more distant and less urbanized suburb, contained a larger share of forced migrants. In both municipalities, a cross-sectional representative survey with a total sample size of 1081 was conducted. The survey sample included a roughly equal number of men (aged 15-59) and women (age 15-49). In each

municipality, the sample was drawn separately in each *bairro* (an administrative sub-division of *municipio*) with a *bairro* sample size proportionate to each *bairrio's* estimated population size. Households within each *bairro* were chosen using a random walk algorithm. In each chosen household, one resident of eligible age, alternately a man or a woman, was randomly selected for interview. No stratification by reasons for migrating was done at the sampling stage. Overall, 61 of the selected households had to be substituted, of which 44, because of unavailability of selected individuals and only 17 because of refusal to participate in the study. Because of the relatively low non-response, no adjustment is made in the analyses. The survey was administered in Portuguese by an interviewer of corresponding gender. The measures contained in the survey instrument are retrospective measures of all live births born to respondents in their lifetime (complete birth histories). Thus, the year and month of birth and the survival status of each child are available to enable us model the risk of birth for those who did and did not experience the event of migration in any given year. The survey instrument also contained among others, information on migratory histories of respondents, marital and sexual partnerships, household and socio-demographic characteristics and fertility preferences and HIV/AIDS knowledge, attitudes, and behavior. The wide range of variables contained in our dataset allows us to construct both time-varying and non-varying covariates to examine the effects of migrating and not migrating within any given year.

Measures

Dependent Outcome: Birth for each year at risk

The dependent variable (event) for this paper is birth in a given year since age 15. Age 15 was selected due to the prevalence of early childbearing in this society. Very few respondents had births before age 15 and were excluded from the analysis. The respondent is thus at risk from age 15 till they are censored at the time of interview (this implies that, the respondent is *not* censored after experiencing the first birth as in most studies, but continues to contribute person-

years to the dataset until the year of interview). This means the respondent can have multiple births.

Independent predictors

Experience of migration

The main independent predictor is persons who did and did not experience the event of migration (war and non-war) in any given year. We derive this variable by breaking down the sample into the following three categories based on respondents responses to a question that elicits the reasons why the left their locality and came to Luanda 1). those who were born in Luanda or came to Luanda before age six, regardless of the causes of their move. This category is considered a non- migrating group since our data lacks information about migration episodes of this group. In the sample, 659 respondents experienced no migration. 2). those who came to Luanda since 1992 for reasons not directly related to war (e.g. for economic, family or education reasons), or those who experienced non-war migration in any given year. 223 respondents were classified in this category. 3). those who migrated to Luanda since 1992 for reasons directly related to war in any given year. 181 respondents experienced war migration. Thus our migration classification is based on whether or not one experienced migration in any given year under observation.

In the discrete-time hazard models, migration experience is time varying and its effects on fertility are observed only for the year of migration. Respondents are thus coded 0 until the year they migrate (for those who experience migration in a given year), when they are coded 1. In subsequent person-years contributed by respondents, they are no longer considered migrants and are coded 0 or remain non-migrants until they are censored.

Marriage

The measure of marriage is a time-varying dichotomous indicator of whether or not the respondent was married or living together with a man. This was constructed using responses to the question; “In what year did you start living (got together) with your current husband or partner”. If a respondent was not missing and indicated a year of marriage, the marriage measure was coded 1, otherwise marriage was coded 0. Thus, in the discrete-time model, respondents assumed a value of 0 until their year of marriage when they took on a value of 1.

Cumulative fertility and births in the previous year

Cumulative fertility was captured by the total number of children ever born. This was a time varying measure of all children born alive to the respondent. It was coded as a continues variable starting from 0 for childless individuals and increases as the number of children born alive increases in subsequent person-years. We also constructed a measure of whether respondents had a birth in the previous year. Thus births in a current year where lagged by one year to observe the effects of previous births on subsequent fertility.

Age and Age Squared

Age is normally defined as continues distribution of a respondent’s age and thus is time varying. Age squared, the quadratic term is introduced into the discrete-time hazard model coded as a product of age (age*age).

Time invariant measures

Gender is included as a static dichotomous indicator of whether the respondent was a women or a man. Education was coded into three categories; some primary education, made up of one to four years of education, primary education, made up of five to eight years of education and secondary or higher education, made of eight or more years of education. The last static measure was intensity of war. This was a dichotomous indicator of the years in which hostilities

were intensified (before 1992, 1993, 1994, 1999, 2000 and 2001). Due to concerns of causal ordering, other socio-economic status measures were excluded from the analyses.

Statistical Model

To examine the impact of migration on fertility trends in circumstances of war, given the retrospective nature of the data on hand, we use an event history approach. This approach allows us to examine the effects of experiencing or not experiencing migration on the probability births. Discrete- time hazard models are estimated, using logistic regression procedures because of the existence of ties in the data. Also, unlike Cox models, discrete-time models allow us to specify the baseline hazard. The discrete-time logistic model can be specified in the form:

$$In\left(\frac{p}{1-p}\right) = \alpha + (B_k)(X_k)$$

Where *p* is the yearly probability of birth to the different migratory groups, *p*/ (1-*p*) is the odds of births occurring in each year, α is a constant term, B_k is the effects of parameters of the explanatory variables included in the model and X_k represents the explanatory variables (See (Allison Paul D. 1995) .

Since the data are on dates of childbirth, and time-varying covariates are to the nearest year, the time unit of analyses is the person-year. However, a significant challenge is posed to this approach. Modeling multiple births to the same respondent implies fertility behavior may be correlated for births to each respondent. To control for within person clustering of births and to protect against deflated standard errors and potentially biased hypotheses test, we chose to fit random effects logistic models which allows for a random term in the intercept, thereby allowing the intercept to vary randomly by individual (Barber et al, 2000). These models are fitted using the XTLOGIT procedures in STATA.

A final issue related to discrete-time hazard modeling is the parameterization of time, which is measured with the respondents' age. In this study, we parameterize the baseline hazard as a

quadratic; this allows the hazard to increase and decrease in an upside-down U shape. This reflects the reproductive cycle of women, which varies from low to high and then low as the woman enters and exits the reproductive ages. However a similar assumption will not hold completely true for men, who constitute about half of the sample drawn for this study but does reflects the general age pattern of childbearing amongst both women and men.

Analytic Strategy

To test our conceptual framework, we first examine a baseline model of the probabilities of any birth regardless of birth order, in any given year for those who did and did not experience the event of migration (war and non-war). In this model, we include respondent's age and age squared that specify the baseline hazard as a quadratic. In the second model; we added a set of covariates known to influence fertility; these include the sex of the respondent, marital status, births in the previous year, number of children ever born and education. In the third model, we controlled for war intensity as specified in our conceptual framework.

Results

Variations in probabilities of births for war, now-war and non migration in a given year

Table 1 summarizes the results of migrating and not migrating in any given year, on the odds of births. In this table, the coefficients are presented as odds ratios, exponentiated from the log-odds of the logistic regression model. For convenience however, we interpret the odds ratios as effects on the rate of births. This is because the odds closely approximate the rates when the probability of the event happening in a given interval is small. A coefficient greater than 1 represents a positive effect that accelerates the rate of birth, whilst a coefficient less than 1 is a negative effect that delays the rate of birth. A coefficient of 1 shows a null effect and does not influence the rate of birth.

Model 1 (the baseline model), presents only the main effects of the variables of interest – type of migration within any given year, in addition, we control for age and age squared. The

baseline model shows a marginally statistically significant (<.1) difference in the rates of birth between persons migrating within a given year due to non-war reasons and those who indicate war as the reason for migrating in a year. In this model, the rates of birth for those who migrate for non-war reasons in a given year are 46.8 percent lower compared to those who migrate for reasons of war in a given year. There are no statistically significant differences between those who did not experience migration and those who migrated due to war in any given year, in this model.

Table 1 about here

In model 2, we added socio-demographic variables of interest - gender, marriage, number of children ever born, births in previous year and education. Stronger and statistically significant (<.05) differences can be detected in the rates of birth between migrating for non-war reasons and due to war. Rates of birth for non-war migration in a given year are nearly 52 percent lower than war migration. Slightly significant differences (<.1) also emerge between those who did not migrate and those who migrated due war in any give year. Whilst, our covariates are not of direct interest to the relationships described in our conceptual model and are thus not discussed, we note that only education beyond nine years has a negative significant effect on the rates of birth. This relationship may be accounted for by the comparison of mainly rural residents who often have lower education with urban dwellers who are most likely to have education beyond the primary level.

In our full model, (model three), we added the effects of the intensity of war. Stronger statistically significant differences can be observed between those who did not migrate in a given year and those migrating due to war. Those who did not migrate (urban residents) have births at rates 37.1 percent lower than war migrating persons in any given year. Similar stronger and statistically significant differences are maintained between non-war and war migrating persons. As conceptualized, no statistically significant differences can be detected between

those migrating for non-war reasons in a given year and those who did not experience migration (urban residents) (results not shown). However, contrary to our expectations intensity of war had a positive effect on the rates of births. This implies that rather than lower rates of birth during the years when the war is intensive, higher rates are observed in this population. This is counter intuitive and may largely be accounted for by the unusual higher number of births between rural (war-migration) and urban residents in this sample. Overall, table 1 demonstrates negative effects of migrating for non-war reasons and not experiencing migration (urban residence) on the rates of birth. The predicted probabilities of birth corresponding to the full model (model 3) are presented in figure 1. The figure shows graphically, the higher probability of birth associated with migrating due to war in any given year compared to migrating for non-war reasons and not migrating in a given year. The differences in probability of birth in any given year between those migrating for non-war reasons and those not migration are small and as indicated are not statistically significant. Further analysis of the data show that lagging the event of migration by a year, produced similar results as described above.

Discussion

In times of social and political upheavals such as war, different groups of migrants respond differently to crisis. For instance, the fertility response of those who migrate due to war in any given year and those migrating for non-war reasons may vary. Similarly, those who did not migrate (and are urban residents) also may differ from those who migrate due to war. It is also likely that no differences may be detected between those who migrate due to non-war reasons and those who do not experience migration.

Specifically, our conceptual model posited higher rates of birth for those who migrate due to war in any given year, compared to those who migrate for non-war reasons, net of other factors. The major rational for this proposed relationship stemmed from the fact that war migrating in any given year, is more likely be sudden and unprepared, compared to migrating for non-war

reasons. The opportunity to prepare, granted by migrating for non-war reasons, may entail pre-migration postponement of fertility. Similarly, unobserved characteristics such as openness to change and access to accurate information in destination areas may make this relationship likely. Lastly, we conceptualized that selection for higher levels of education and other socio-economic characteristics may accrue for those who migrate for non-war reason than for those who migrate for reasons of war. We find support for this hypothesis in our analysis. Those who migrate for non-war reasons in any given year have lower rates of birth than those who migrate for reasons of war in a similar period, net of other factors.

Similarly, we conceptualized that advance urbanization will better equip residents of the capital city, who did not experience migration, to better control their fertility than for rural residents who have been forced by war to migrate in a given year. We justified this comparison by invoking the not so wide rural-urban differences in fertility levels in Angola, and controlled for any remaining differences by including education as a covariate in our discrete-time logistic regression equation. Our findings learnt support to this hypothesis.

Lastly, we proposed that for reasons of pre-migration postponement of fertility, rural residents who migrate for non-war reasons were likely to be similar to residents of the capital city, who in our analysis, did not experience the event of migration. Our results did not find any statistically significant differences between these two groups on the rates of birth. Thus pre-migration postponement of fertility compensates for urban status in rural residents who migrate for non-war reasons. The only surprising results produced by our analysis, indicated positive effects of intensity of war on rates of birth. This runs contrary to previous research particularly in this same setting, that finds the odds of birth dipping significantly during periods of hostilities and rising significantly after the worst of the fighting was over (Agadjanian and Ndola, 2002). Whilst this effect may be difficult to explain substantially, we believe the make up of our sample where war migration is associated with higher number of births might have produced these unexpected results.

Conclusion

In this paper, attempt is made to take advantage of new and rare data in a setting of long periods of war to examine the fertility response to displacement. We intended to draw attention to the inconsistent and insufficient findings of previous research not only on the demographic consequences of war but on the fertility and migration relationship in the context of war, by focusing on the possible differences presented by migrating for reasons of war and non-war as well as possible differences that may emerge between those who did and did not experience the event of migration in any given year. Whilst the case of Angola, presents an extreme instance of devastation in all facets of life due to war, its lessons are nonetheless relevant for 'normal' demographic processes on-going in other parts of sub-Saharan Africa.

Data limitations mainly pertaining to the cross-sectional nature of the data, prevented us from performing much more comprehensive analysis of the impact of war on fertility; (e.g. we could not evaluate the impact of socio-economic status indicators on fertility, neither could we investigate the long term effects of war on fertility) these not withstanding, the findings of the study are informative and hold lessons for not only turbulent areas in Sub-Saharan Africa but for high fertility regions in general. The findings show clear statistical differences between non-war migration and war migration in any given year and between not experiencing any migration in a given year for urban residents and migrating due to (war and non-war).

The implications of the findings of this study indicate that studies on migration and fertility especially in conflict or war zones could be usefully informed by distinguishing between war unrelated migration and forced migration. Assuming all migration as war related or categorizing all migration in circumstances of war as forced (as in refugees and internally displaced persons), conceals some important demographic differences.

A final note concerns another limitation of this analysis. The lack of appropriate measures of proximate determinants hindered more complete analyses of the effects of war on fertility.

Lastly, the analysis is based on data from only two municipalities of Luanda; the effects may be different in other areas of Angola and indeed other post war settings.

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Table 1. Odds ratios and standard errors for discrete-time hazard models of the effects of migrating in a given year on the probability of birth, Angola, 2004

	Model 1		Model 2		Model 3	
Migration						
Migrating due to non-war reasons	0.532	+	0.481	*	0.458	*
	(0.350)		(0.383)		(0.384)	
Did not migrate	0.737		0.678	+	0.629	*
	(0.194)		(0.222)		(0.222)	
(Migrating due to war reasons)	1		1		1	
Age	1.520	**	1.294	**	1.293	**
	(0.021)		(0.025)		(0.025)	
Age squared	0.993	**	0.993	**	0.993	**
	(0.001)		(0.001)		(0.001)	
Woman			0.811	*	0.835	**
			(0.063)		(0.063)	
Married			3.043	**	3.109	**
			(0.069)		(0.694)	
Children ever born			1.900	**	1.899	**
			(0.025)		(0.252)	
Birth in previous year			0.186	**	0.186	**
			(0.082)		(0.082)	
Education						
[Four or years of less]			1		1	
Five to eight years			1.035		1.015	
			(0.070)		(0.070)	
Nine years or more			0.745	**	0.761	*
			(0.084)		(0.085)	
High Intensity of war					1.317	
					(0.057)	
Intercept	0.001	**	0.012	**	0.010	**
	(0.289)		(0.328)		(0.332)	
Log-Likelihood	-6384.48		-5389.56		-5377.2	
Person-years	**14790**		**14790**		**14790**	

** p<.01; * p<.05, + p<.1

*Reference categories in brackets

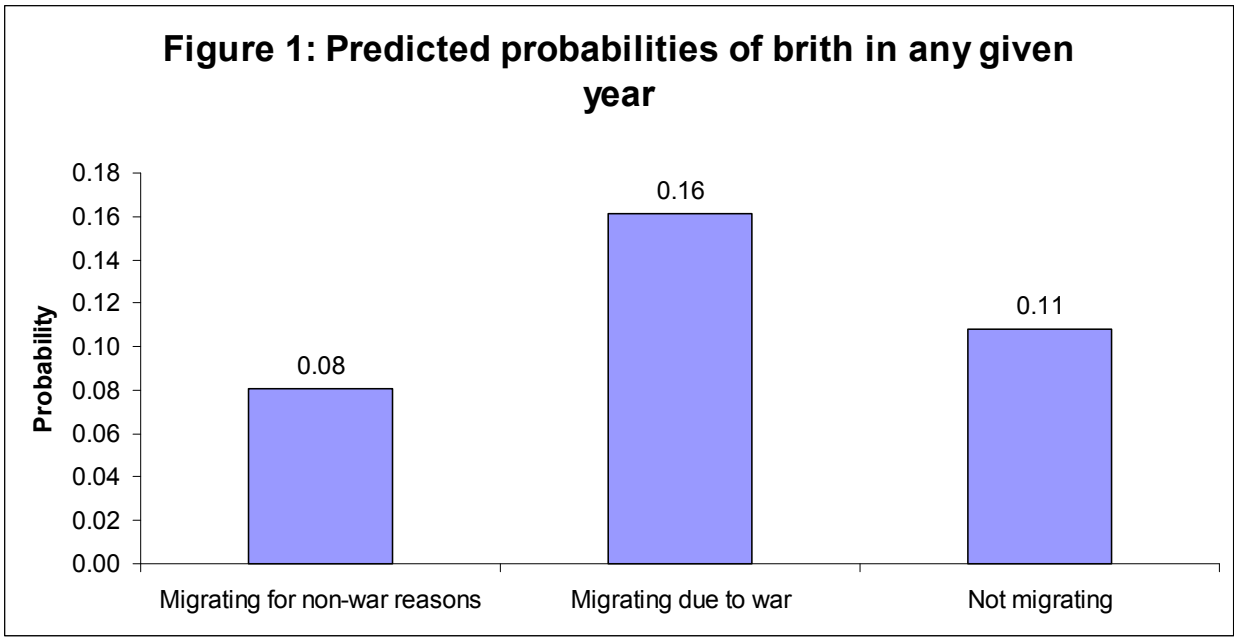
Figure 1: Predicted probabilities of brith in any given year
Probability
0.18
0.16
0.14
0.12
0.10
0.08
0.06
0.04
0.02
0.00
0.08
0.16
0.11
Migrating for non-war reasons
Migrating due to war
Not migrating