Lifetime Internal Migration Intensity in Croatia

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Spatial mobility receives a lot of research attention in Croatia, with most studies focusing on international migration flows. However, within-country moves also seek thorough investigation – internal migration can have a considerable impact on the changing size and composition of population residing in local areas. In spite of that, existing literature on internal migration in Croatia (Klempić Bogadi and Lajić, 2014; Mikačić, 2000; Nejašmić, 1992) provides little information on lifetime population mobility.

This paper uses a life course perspective to explore internal population mobility in Croatia. In the absence of cohort data on internal migration, the application of life table methods offers a way of estimating lifetime population mobility. The outcome is migration expectancy – the average number of moves an individual may expect to make during his or her lifetime (making allowance for the effect of mortality). Migration expectancy was first introduced by Wilber (1963) and further developed by Long (1970, 1973, 1988). The same concept has been successfully applied to assess internal population mobility in several countries (e.g. Long and Boertlein, 1976; Kulkarani and Pol, 1994; Bell, 1996; Rees et al., 2000; US Census Bureau, 2016).

Migration expectancy offers a number of advantages compared to conventional measures of internal population mobility (Bell, 1996: 108–109; Bell et al., 2002: 446). First, it is both readily understood and statistically valid. Computation of migration expectancy is transparent and straightforward – it requires the use of simple spreadsheet procedures. Second, migration expectancy enables a detailed examination of internal mobility timing. Third, life table stationary population based on which migration expectancy is determined automatically standardizes for varying age structures, thus allowing for direct comparisons of internal mobility between different populations and time periods.

The data used to calculate migration expectancy in this paper are census-based and refer to people who moved to or within Croatia between April 1st 2010 and March 31st 2011. These are known as transition-type data (Courgeau, 1979; Rees et al., 2000) which count surviving (in-)migrants rather than migration events. Internal migration intensities by sex and single years of age were obtained in accordance with existing recommendations for handling this sort of data (Rees et al., 2000). Resulting figures therefore pertain to migration probabilities conditional upon survival within the country.

Key assumptions concerning migration expectancy are constant levels of mortality and internal population mobility, and movers changing residence only once during the observation period. Since migration expectancy calculation disregards the possibility of multiple moves within a given time interval, the outcome technically shows the number of years with one or more residential changes, rather than the number of residential changes in itself (Long, 1970, 1988: 297). However, the latter, looser definition of migration expectancy is commonly used for ease of interpretation.

Before turning to analysis of migration expectancy, this paper considers variation of migration intensities by age. Internal migration age patterns are known to show persistent regularities (Rogers, Racquillet and Castro, 1978; Rogers and Castro, 1981, 1986; Rogers and Watkins, 1987; Raymer and

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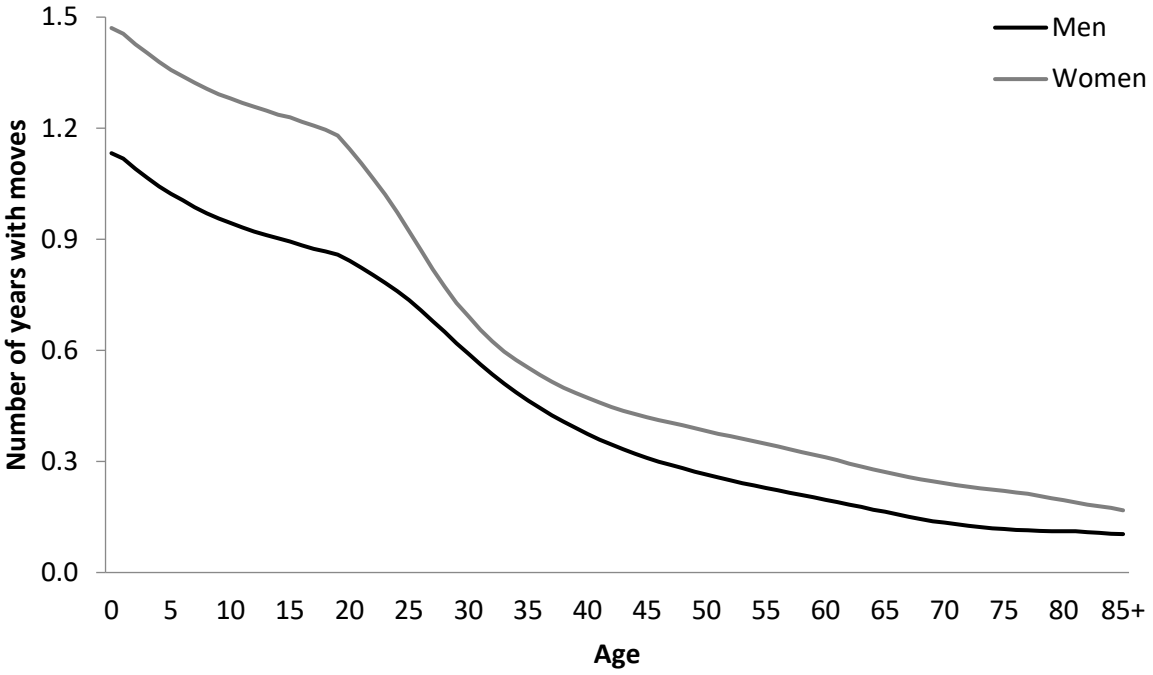
Rogers, 2008). A formal representation of such regularities is provided by model migration schedules. Researchers identified four broad families of model migration schedules (Rogers and Castro, 1981, 1986; Rogers and Watkins, 1987; also see: Raymer and Rogers, 2008; Rogers, Little and Raymer, 2010; for a later extension see: Wilson, 2010). The standard age profile of internal migration exhibits a heightened propensity to move during young adulthood when people oftentimes change residence for employment or partnership opportunities. After reaching a peak at labor force ages, migration proneness gradually declines due to mobility depressing influences (e.g. finding a stable job or having school-aged children). Other age profiles of internal migration account for a secondary peak at retirement ages when people may relocate to find most suitable housing, or a post-retirement migration intensity upslope which captures moves by individuals of the oldest ages to institutional settings. The full age profile of internal migration includes both extensions of the standard schedule. This model specification was found to yield the best description of observed age-specific migration intensities in Croatia. Parameter estimates expectedly reveal that migration intensity peaks during mid- to late twenties (somewhat sooner for females compared to males). Migration intensity reaches a low point in late middle ages. A secondary peak, although quite small, is visible throughout the early sixties (again, somewhat sooner for females compared to males). The schedule also identifies the presence of a conspicuous upward slope for the elderly.

Model schedules assume a typical shape of internal migration age patterns based upon a theoretically sound link between mobility behavior and life course transitions. However, the estimation of model schedules has been related to certain limitations (e.g. Bernard, Bell and Charles-Edwards, 2014a), including the variability in the number and value of parameter estimates, the sensitivity of parameter estimates to initial value selection, and issues concerning instability, comparability and interpretability of parameter estimates. Furthermore, the age schedule is normalized to unity prior to parameter estimation, which leads to a loss of information on the level of migration activity. Finally, knowing the age-specific migration profile is insufficient to draw precise conclusions about the timing of mobility. The application of life table techniques combined with migration expectancy values by single years of age provides the facility to thoroughly explore the way mobility is concentrated over the life course.

Assuming unchanged levels of mortality and internal mobility, an average male in Croatia is expected to make 1.13 moves in his lifetime (in other words, migration expectancy at birth amounts to 1.13 for males). The corresponding figure for an average female is 1.47 moves (see Figure 1). Higher female residential mobility is only partially attributable to sex-specific mortality differentials. If females were exposed to the same mortality regime as males, but kept their own internal migration intensities, they would be expected to make 1.37 moves in their lifetime. The age at which half of all internal mobility is completed is estimated to be 30.47 for males and 28.69 for females. Almost two thirds (64.72%) of male lifetime mobility occur during the usual labor force years (between ages 18 and 65). The proportion of total lifetime moves made by females between ages 18 and 60 is assessed at 61.07%. Highly mobile young adulthood (ages 18 to 35) accounts for 35.88% of lifetime moves for males and 43.62% of lifetime moves for females. The figures become even larger if conditioned upon survival to age 18, taking the values of 47.24% and 53.96% respectively. Much like life expectancy, migration expectancy declines progressively with age, but the distribution of internal mobility over the life course obviously follows an uneven shape. Ages 20 to 34 take up 19.99% of the average male lifespan, but this age range occupies 33.53% of lifetime moves. The comparable figures for females are even more pronounced: the same age interval, which pertains to 18.51% of the average female lifespan, accounts for 40.08% of total lifetime mobility.

Figure 1. Number of years with moves: migration expectancy in Croatia



Other authors (e.g. Bell, 1996; Long, 1973) have also used migration expectancy to compare internal mobility between different population subgroups. However, if such subgroups are determined on the basis of changing population characteristics (e.g. marital or employment status), the findings should be interpreted with caution because life table methods unify cross-sectional experiences of mutually independent cohorts. Unfortunately, analyses of this kind were infeasible in the current study due to data limitations. Insufficiently detailed data also constrained us in obtaining migration expectancy figures by type of move. Additionally, temporal comparisons of migration expectancy in Croatia are made difficult by methodological inconsistencies between census data collections. After making appropriate adjustments to derive the population at risk, we found no substantial change of migration expectancy in Croatia over the last decade.

The results of this study reveal that internal population mobility in Croatia is comparatively very low. This may be attributable to housing adjustment behavior, social and economic conditions. However, unraveling the causes of cross-national differences in internal migration intensities is beyond the scope of this paper. Existing literature (e.g. Bell, Charles-Edwards, Ueffing et al., 2015; Bernard, Bell and Charles-Edwards, 2014b; Long, 1991; Zelinsky, 1971) provides a sound foundation for future research on determinants of low residential mobility in Croatia.

One should bear in mind that migration expectancy is based on cross-sectional data and shows the experience of a synthetic cohort. Its values therefore represent merely averages which may conceal substantial variations in mobility conduct. Nonetheless, migration expectancy is an intuitive and practical indicator which enables a thorough examination of internal mobility timing. As such, it contributes to existing knowledge on internal population mobility in Croatia.

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