Estimating Sweden's Unregistered Population: A Demographic Approach

Introduction

Accurate population statistics are fundamental for effective public administration, resource allocation, and policymaking. In Sweden, population data is primarily maintained by the Swedish Tax Agency (Skatteverket), which registers individuals with personal or coordination numbers. However, a growing concern involves individuals present in Sweden who are not registered—either due to administrative gaps, legal status, or temporary presence. To address this, the Swedish government commissioned the Swedish Tax Agency to produce a situation report that estimates the unregistered population. Statistics Sweden (SCB) was tasked with supporting this effort by applying demographic estimation techniques to available administrative data.

This extended abstract outlines the methodological framework used to estimate Sweden's unregistered population, focusing on three key demographic indicators: mortality, birth rates, and temporary residency. The goal is to provide a robust, data-driven estimate of individuals present in Sweden without personal identification numbers, and to highlight the assumptions, limitations, and implications of such estimates.

Methodology

1. Mortality-Based Estimation

The first approach uses mortality data to infer the size of the unregistered population. The underlying hypothesis assumes that unregistered individuals experience similar mortality rates as registered residents. Between 2013 and 2023, the Swedish Tax Agency recorded 3,563 deceased individuals who lacked personal or coordination numbers. By applying age-specific mortality rates to this group, we can estimate the total number of unregistered individuals across all age cohorts.

This method benefits from broad age coverage and relatively stable mortality statistics. However, it assumes parity in health outcomes and access to healthcare between registered and unregistered populations—an assumption that may not hold for marginalized or undocumented groups.

2. Birth-Based Estimation

The second method focuses on newborns without personal numbers. From 2013 to 2023, 16,487 children were born in Sweden without being assigned personal identification numbers. This data is used to estimate the number of unregistered women of childbearing age (15–45 years), under the assumption that birth rates among unregistered women mirror those of registered women.

However, this approach is limited in scope, as it only captures a subset of the population—primarily women of reproductive age. Moreover, data on fathers is often incomplete or missing, which skews gender-based comparisons and complicates family-based estimations.

3. Temporary Residents and Visitors

In addition to permanent residents, the report considers temporary populations such as tourists, short-term visitors, and foreign workers. These individuals are not included in the core estimate of unregistered population but are converted into "full-year equivalents" based on average duration of stay. This conversion allows for a more comprehensive understanding of population presence in Sweden at any given time.

Temporary residents contribute to service demand and infrastructure usage, making their inclusion important for planning purposes. However, their transient nature and lack of registration pose challenges for accurate tracking.

Results

The estimates derived from mortality and birth data vary significantly due to differences in age coverage, data completeness, and underlying assumptions. Mortality-based estimates provide a broader view across age groups, while birth-based estimates are more focused but potentially more precise within their demographic scope.

In 2023, the estimated number of individuals in Sweden without personal numbers ranged from 110,000 to 185,000, excluding temporary visitors. These figures reflect a substantial population segment that remains outside the scope of official registration systems. The variation between estimates underscores the uncertainty inherent in demographic modelling, especially when relying on indirect indicators.

Discussion

The study highlights the importance of triangulating multiple data sources to estimate unregistered populations. Each method carries distinct strengths and limitations:

- Mortality data offers comprehensive age coverage but relies on assumptions about health parity.
- Birth data provides insight into reproductive-age women but lacks completeness regarding paternal data.
- Temporary resident modelling captures short-term presence but requires assumptions about average stay duration and seasonal variation.

The combination of these methods allows for a more nuanced understanding of Sweden's unregistered population. However, the estimates are sensitive to changes in migration patterns, administrative practices, and reporting accuracy. The report emphasizes the need for continuous refinement of methodologies and improved data integration across agencies.

Conclusion

Estimating unregistered populations is a complex but necessary endeavor. By leveraging demographic indicators such as mortality and birth data, along with models for temporary residency, Sweden can better understand the scope of individuals present without personal numbers. The findings suggest that between 110,000 and 185,000 people may be living in Sweden unregistered, highlighting the need for continued methodological innovation and cross-agency collaboration.