< Israel's transition from population counts based on a traditional census to counts based completely on administrative data >

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Abstract:
< The population register (PR) in Israel was established in 1948, immediately after the establishment of the state. Each resident has a unique identity number (ID), demographic details, residential address and family ties.
The use of ID in the public and private sectors is intense. Therefore, it is asked why Israel has not so far moved to an administrative census (AC).
In the traditional censuses conducted in Israel, the PR was used to ensure population coverage. The 2008 census was an integrated census in which there was a sampling of areas. The dual system estimation was used to estimate the population size, which combine the list of residents found living in the area with a telephone interview (Reporting of usual resident [UR]) of a list of residents registered in the PR in the same area. A sample of residents is planned for the 2022 census, which will examine the difference between the address of the residents' registry and the UR. The sampled persons will fill out a questionnaire and will interview in three modes: Internet, telephone or face-to-face. The 2022 census is planned to be the main bases for examining the evolution to AC at the next decade.
The main reason which hinders the transition to an AC is the accuracy of the population estimates obtained from the PR in determining the UR at the national and local level. Recent censuses experience shows that about 20% of residents are registered in the PR at one address but live at another address (13% at the same locality but in other area, and 7% in other locality).
In this paper, I intend to evaluate two processes that are being developed in Israel in order to improve the administrative data: establishing emigrant stock that allows national level estimation and the use of additional sources of addresses (electric use, local taxes, students and employee registry in order to "correct" the errors that exist in PR.
Selection one of several potential addresses was made by using machine learning tools applied into "training data" of the 2017' census experience. The results of the models were examined on the "test data" of the experiment, the labor force survey and the social survey data. The national estimates where evaluated using the 2020 COVID19 examination data. Preliminary findings indicate a significant improvement of the administrative data, which promotes us to conduct AC. >
Keywords:
<Administrative census>; <Machin Learning>; <Population Register>; <Israel>; <census evaluation>

1. Introduction:
<Introduction>

2. Methodology:

< Methodology>

3. Result:
<Result>

4. Discussion and Conclusion:
<Discussion and Conclusion>

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FOR THE PAPER IS SIX PAGES**