

Evaluating Differences in Subnational Birth Record Sources

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Background

The U.S. Census Bureau's Population Estimates Program (PEP) uses data from a combination of two sources to estimate subnational births: the Federal-State Cooperative for Population Estimates (FSCPE) and the National Center for Health Statistics (NCHS).

Analysis

Using FSCPE and NCHS data from 2010, 2013, and 2016¹ we show differences between the data sources using a dissimilarity index (DI)² and a percent difference³. The DI measures the difference in the distribution of the births between each data source. The higher the DI, the larger the difference between the FSCPE and NCHS data. Negative percent differences indicate lower FSCPE births than NCHS, while positive differences reflect higher FSCPE births.

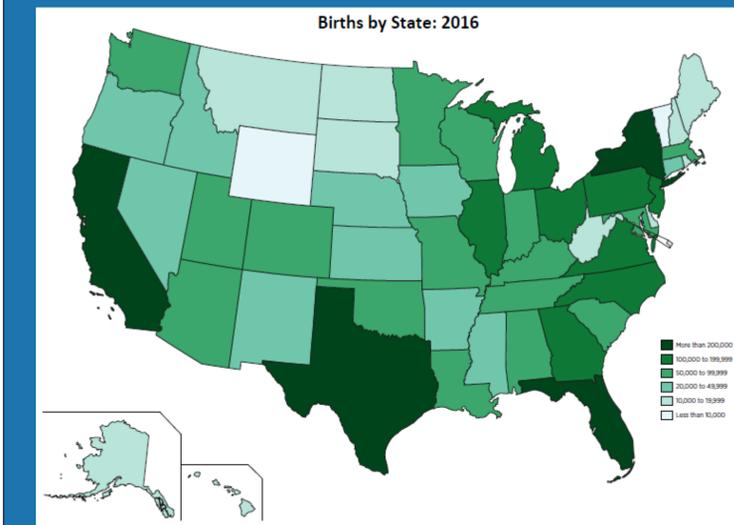
Major Findings

The DIs show only small differences between the FSCPE and NCHS data—no difference is larger than 2.99%. FL, CA, and TX, states with more births, have less variation between data sources. The largest discrepancies between the FSCPE and NCHS data are in CO, GA, and VA, which are also visible in the county-level percent differences. Larger variability is present in the county-level percent differences. Since a combination of the FSCPE and NCHS data is used to estimate births, these differences impact the birth estimates and inform post-2020 methodological improvements.

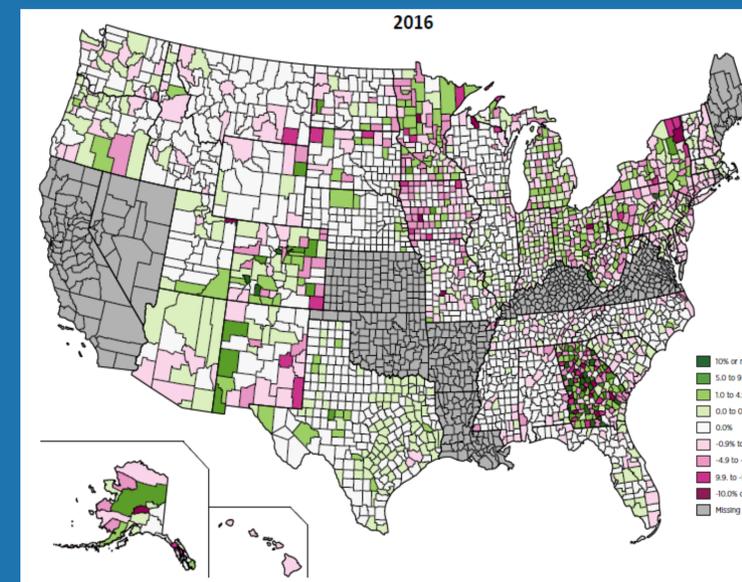
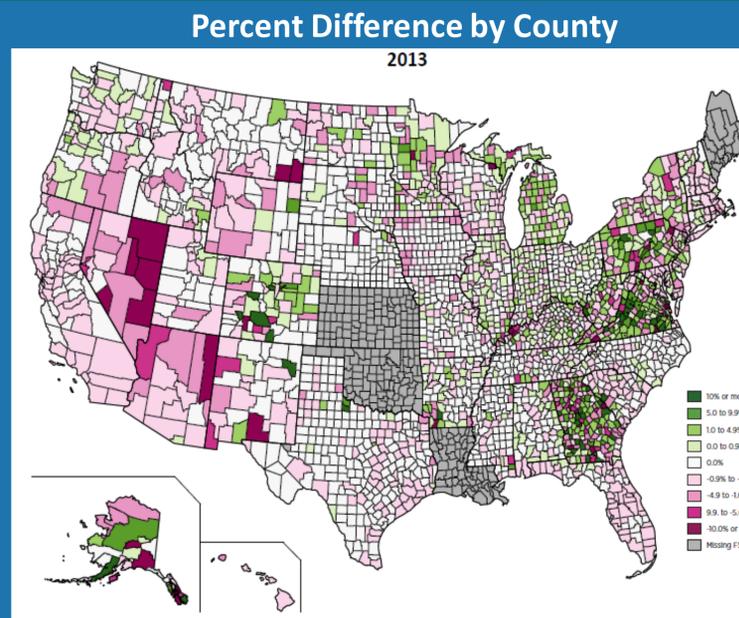
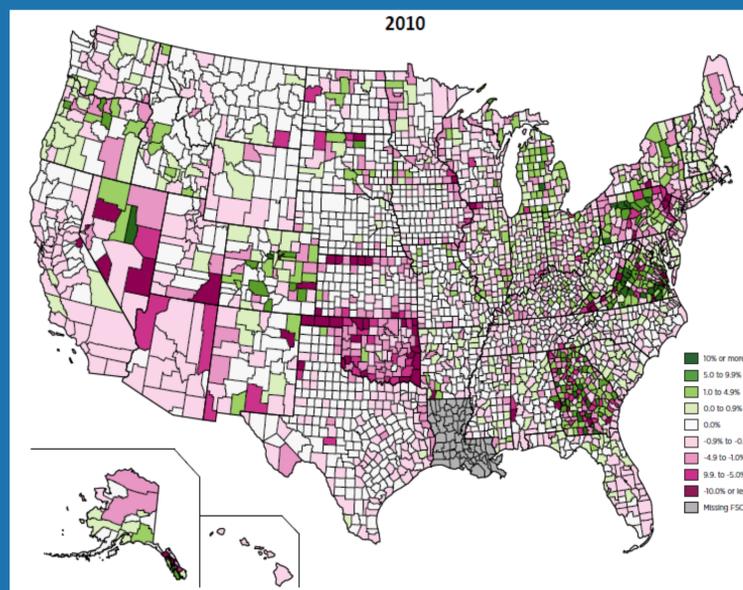
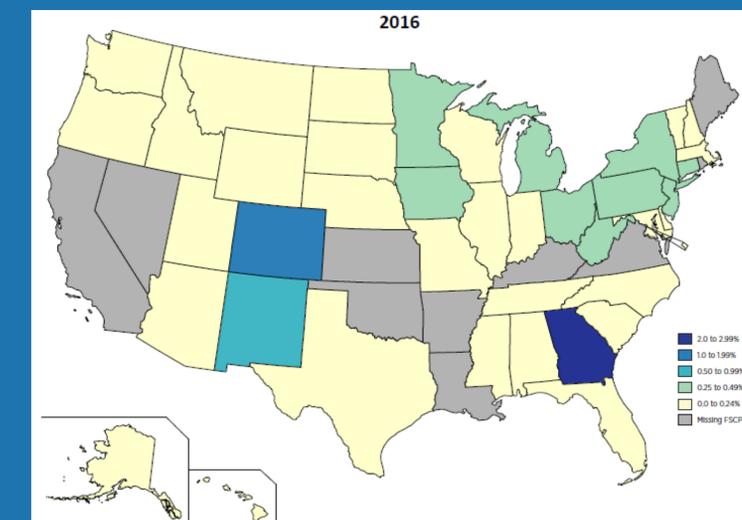
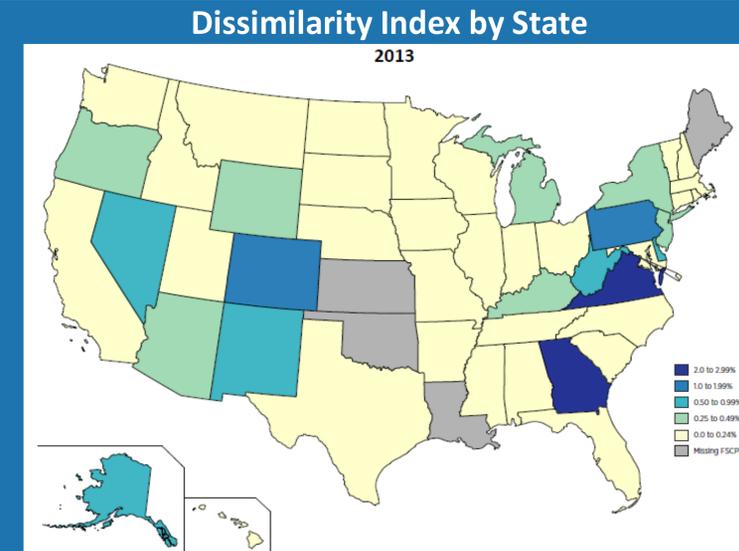
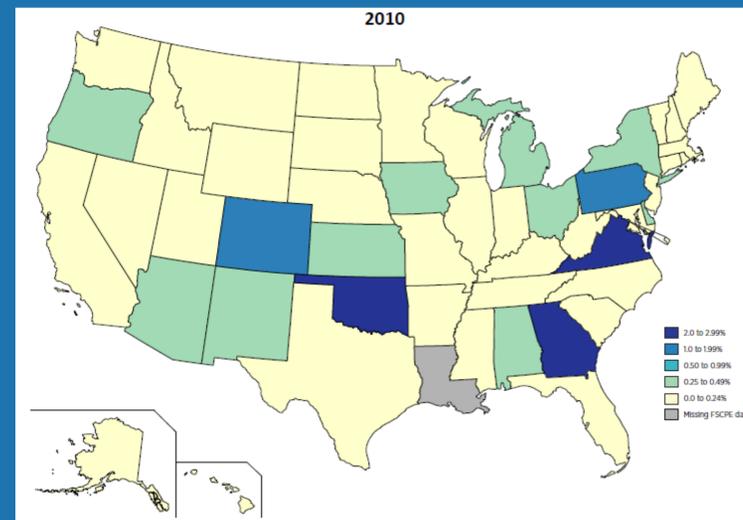
Benefits and Limitations of the FSCPE and NCHS Data

Characteristic	FSCPE	NCHS
Timeliness	<i>Previous year</i>	2-year lag
Geographic changes	<i>Implemented quickly</i>	Implemented slowly
"Unknown" county of birth reporting	Yes	No
Number of states	~40 states (incl. submissions of preliminary data)	50 states and D.C.
State standardization	No	Yes

Italicized cells correspond to a perceived benefit in the FSCPE or NCHS data relative to the other source.



The above map shows the state-level births for 2016¹. CA, FL, NY, and TX report the most births. From 2010 to 2016, the only states' births that fluctuate categories are ND and WV, which reported fewer births in earlier years.



Footnotes:

¹2016 data are the most recent available from NCHS as of Vintage 2018.

²DIs are calculated using the formula from Massey and Denton 1998 and are multiplied by 100 for ease of interpretation (e.g. in GA, 2-2.99% of FSCPE births would need to occur in another county to make the FSCPE and NCHS births evenly distributed.)

³Percent differences are derived by the following formula: (FSCPE – NCHS) / NCHS X 100.

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