

Overestimation of Alaska Outmigration in the American Community Survey

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This paper reports the results of research and analysis undertaken by U.S. Census Bureau staff. It has undergone more limited review than official publications and is released to inform interested parties of ongoing research and to encourage discussion of work in progress. Any views expressed are those of the authors and not necessarily those of the U.S. Census Bureau.

Migration Data

- ACS Migration products:
 - American FactFinder tables
 - Migration flows tables
 - State-to-state
 - County-to-county
 - Metro-to-metro
 - Census Flows Mapper
 - Reports/presentations
- Data users (general public, reporters, applied demographers, etc.)

Why does it matter?

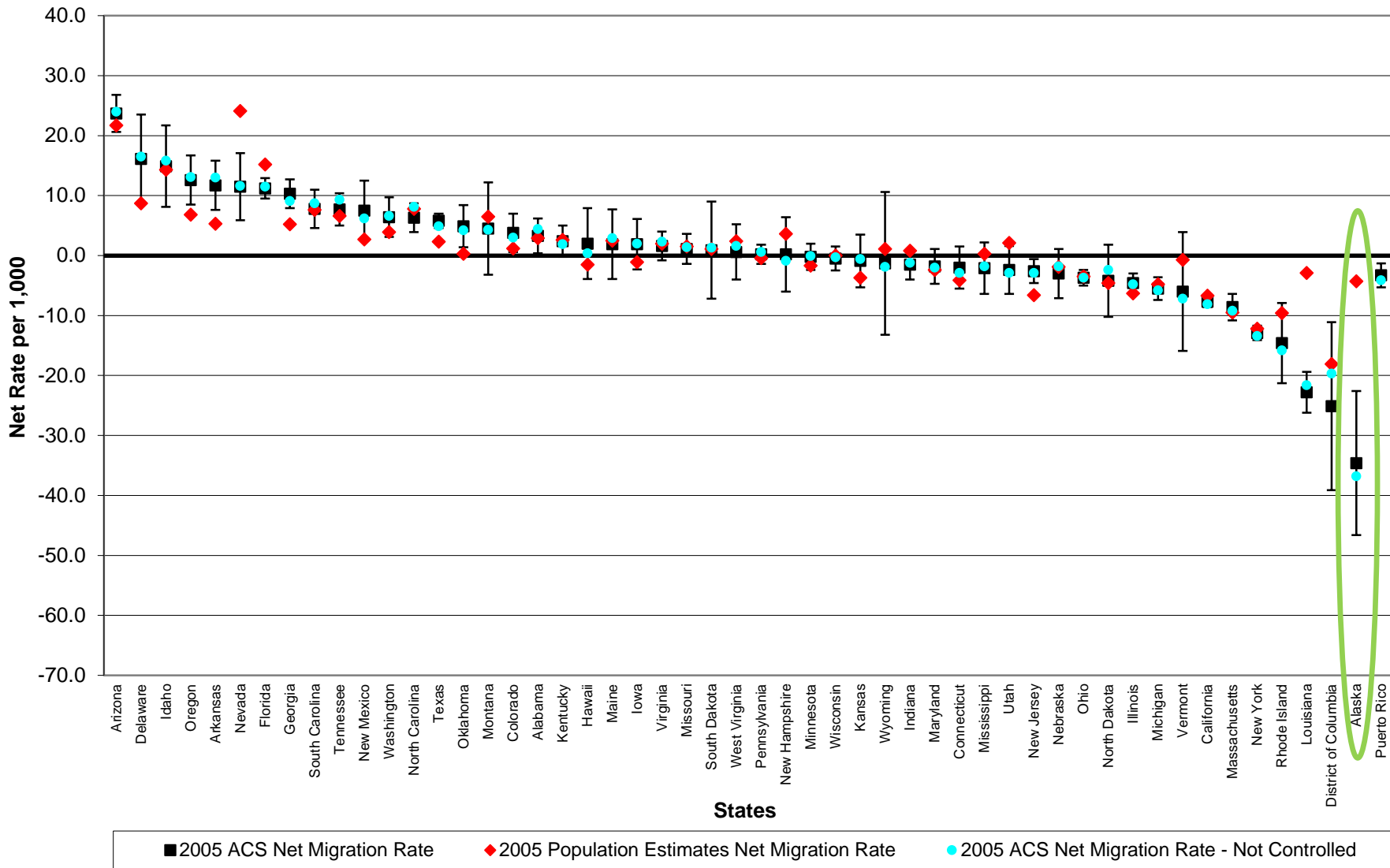
- Accuracy of estimates
- Lessons learned

Introduction/Timeline

- The American Community Survey (ACS) went into full implementation in 2005.
- The outmigration estimate for Alaska greatly increased in 2008.
- Various fixes were applied over time.
- The latest fix was implemented in July 2015 and January 2016.

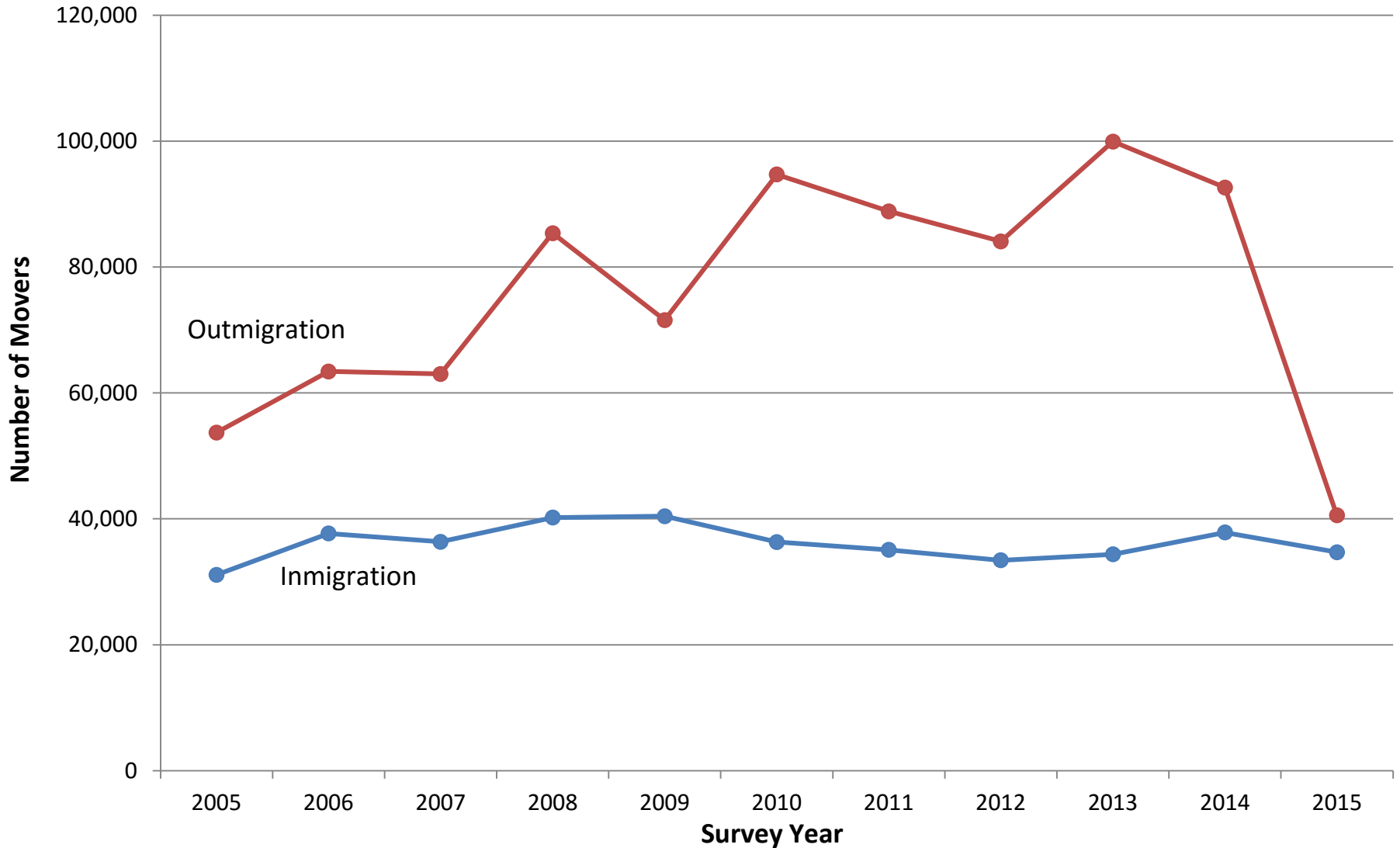
This presentation will go into more details about the problem and timeline.

Net Migration Rates - Population 1 Year and Over (2005)



Source: Koerber, "Domestic Migration Flows for States from the 2005 ACS", Chart 1.

Alaska Inmigration and Outmigration: 2005 to 2015



Source: U.S. Census Bureau, 2005 to 2015 American Community Survey, 1-Year Estimates

2008 Question Redesign

2007 ACS

14 a. Did this person live in this house or apartment 1 year ago?

Person is under 1 year old → SKIP to the questions for Person 4 on page 16.

Yes, this house → SKIP to **F**

No, outside the United States – Print name of foreign country, or Puerto Rico, Guam, etc., below; then SKIP to **F**

No, different house in the United States

b. Where did this person live 1 year ago?
Name of city, town, or post office

c. Did this person live inside the limits of the city or town?

Yes

No, outside the city/town limits

Name of county

Name of state

ZIP Code

2008 ACS

14 a. Did this person live in this house or apartment 1 year ago?

Person is under 1 year old → SKIP to question 15

Yes, this house → SKIP to question 15

No, outside the United States and Puerto Rico – Print name of foreign country, or U.S. Virgin Islands, Guam, etc., below; then SKIP to question 15

No, different house in the United States or Puerto Rico

b. Where did this person live 1 year ago?
Address (Number and street name)

Name of city, town, or post office

Name of U.S. county or municipio in Puerto Rico

Name of U.S. state or Puerto Rico

ZIP Code

Reviewing the 2008 ACS Data

Findings:

- There were a large number of Computer-Assisted Personal Interview (CAPI) and Telephone Interview (CATI) cases living outside Alaska when interviewed that reported living in Alaska 1 year ago with no lower level geographic information provided.
 - Many of these cases reported they were movers within the United States and Puerto Rico.
 - They were spread throughout the United States.

Partial Conclusion

We could determine that the issue from 2008 was due to the state of residence 1 year ago question in the CATI/CAPI/TQA (Telephone Questionnaire Assistance) instruments.

We thought maybe field representatives were choosing Alaska by accident.

To minimize this, we added a soft edit to the CATI/CAPI/TQA instruments but it was not implemented until 2011. This timeline will be discussed in another slide.

CATI/CAPI/TQA Instrument

Forms Answer Navigate Options Help Hide Watch Window

Main Path ADDR Respondent HHRos FAQ Geo Exit

? [F1]

What was the state?

♦ Enter the state abbreviation

Enter a text of at most 2 characters

Ancestry	N/A	Residence 1 year ago	2
Other Language	2	U.S. Residency	1
What Language		Foreign Country	
Speak English		Last Street Address	123 Main St
		Last City Address	Anywhere
		Last County	Any County
		Last State	
		Last Zip Code	

Last State

STATEABREV	STATECode	STATEText
AK	2	Alaska
AL	1	Alabama
AR	4	Arkansas
AZ	3	Arizona
CA	5	California
CO	6	Colorado
CT	7	Connecticut
DC	9	Dist. of Columbia
DE	8	Delaware
FL	10	Florida
GA	11	Georgia
HI	12	Hawaii
IA	16	Iowa
ID	13	Idaho
IL	14	Illinois

Search: al

1:52

Select Cancel

CATI/CAPI/TQA Instrument – New Soft Edit

Forms Answer Navigate Options Help Hide Watch Window

Main Path ADDR Respondent HHRos FAQ Geo Exit

? [F1]

What was the state?

◆ Enter the state abbreviation

Enter a text of at most 2 characters

Ancestry	N/A	Residence 1 year ago	2
Other Language	2	U.S. Residency	1
What Language		Foreign Country	
Speak English		Last Street Address	123 Main St
		Last City Address	Anywhere
		Last County	Any County
		Last State	AK
		Last Zip Code	

Active Signal

- You have selected "Alaska". Is this correct?

Questions involved	Value
MGST: Last State	AK

Suppress Close Goto

Survey Life Cycle

2008 data collection

Mail-CATI-CAPI operations:	Jan. 2008 through Dec. 2008
Reviewed processed data:	Apr. 2009 through July 2009
Released one-year data:	September 2009

Rerun and evaluation of 2008 ACS data:	April 2010
Approval for the soft edit to be included in 2011:	May 2010

2011 data collection

Mail-CATI-CAPI operations:	Jan. 2011 through Dec. 2011
Reviewed processed data:	Apr. 2012 through July 2012

Other Temporary Fixes

- Due to numerous errors in the 2008 file, it was rerun after release in April 2010. In the new file, state of residence 1 year ago was blanked and imputed for cases where:
 - Current residence was not Alaska,
 - Residence 1 year ago was reported as just Alaska, and
 - Mobility status was not reported
- We also issued a general letter to field representatives asking them to help identify the issue.

Further Findings: 2009 ACS

Starting with the 2009 ACS collection, group quarters (GQs) were switched from paper to CAPI and the number of migrants from Alaska increased greatly.

We saw very few outmigrants from Alaska to GQs in other states in 2008 to several hundred unweighted cases in 2009.

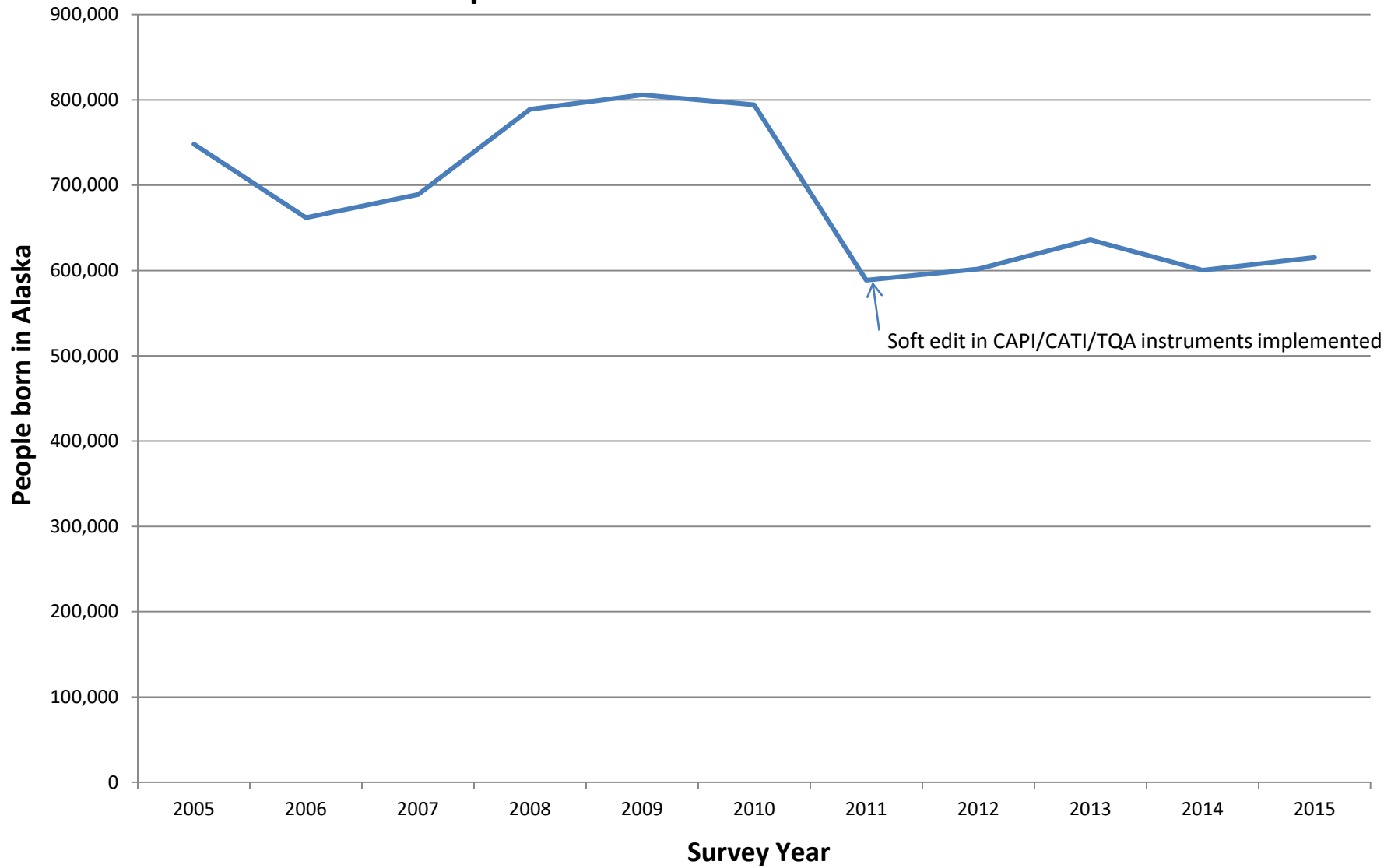
We ended up blanking state of residence 1 year ago for these cases and imputing them.

Results

Alaska outmigration dropped for the 2008 rerun and 2009 datasets. However, the 2010 estimates were larger than the 2008 estimate.

We first saw the results of the soft edit in the Spring of 2012. The 2011 ACS estimates saw a slight decrease in the estimate, but did not resolve the issue.

U.S. Population Born in Alaska: 2005 to 2015

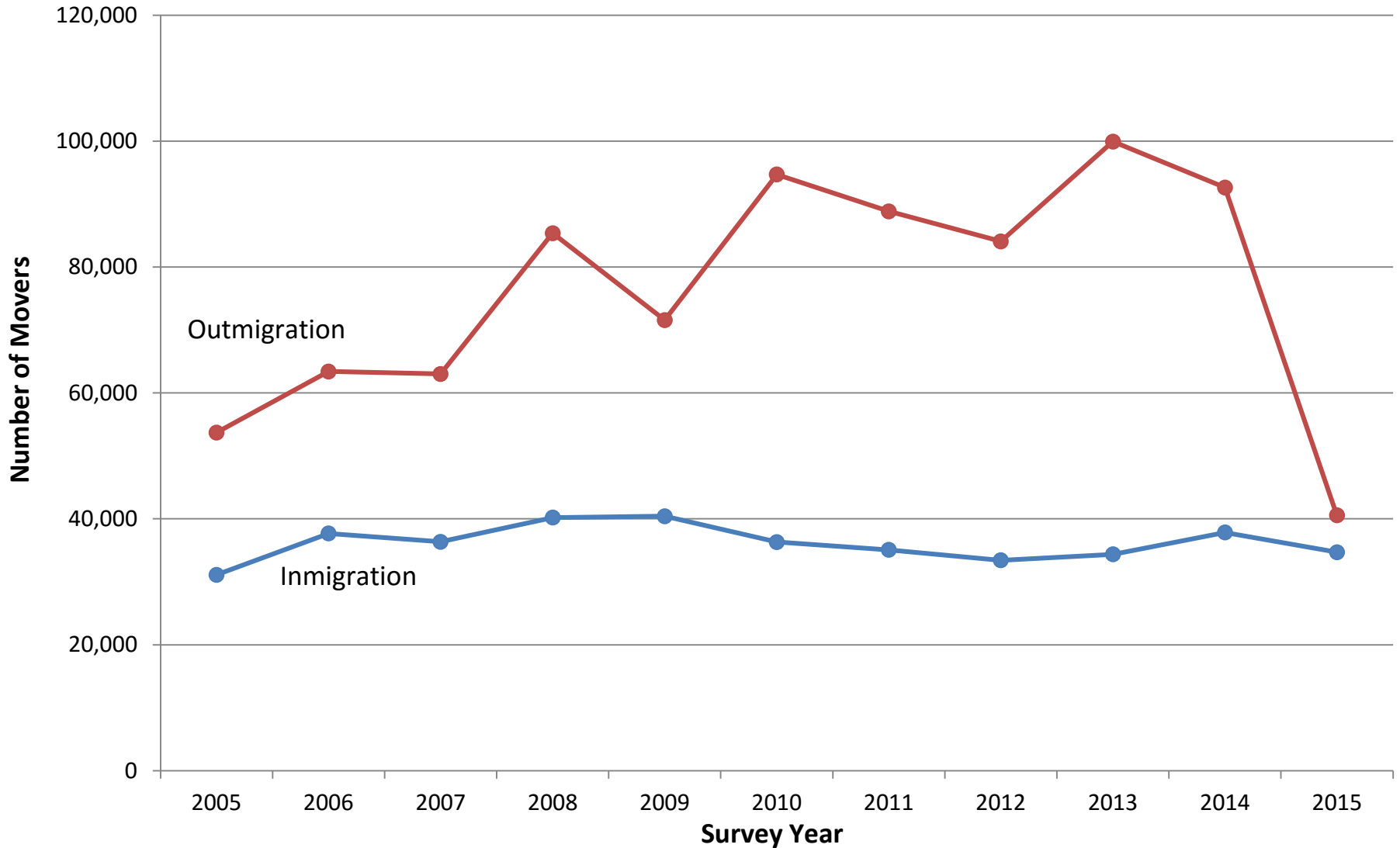


Source: U.S. Census Bureau. 2005 to 2015 American Community Survey. 1-Year Estimates

Latest Fix

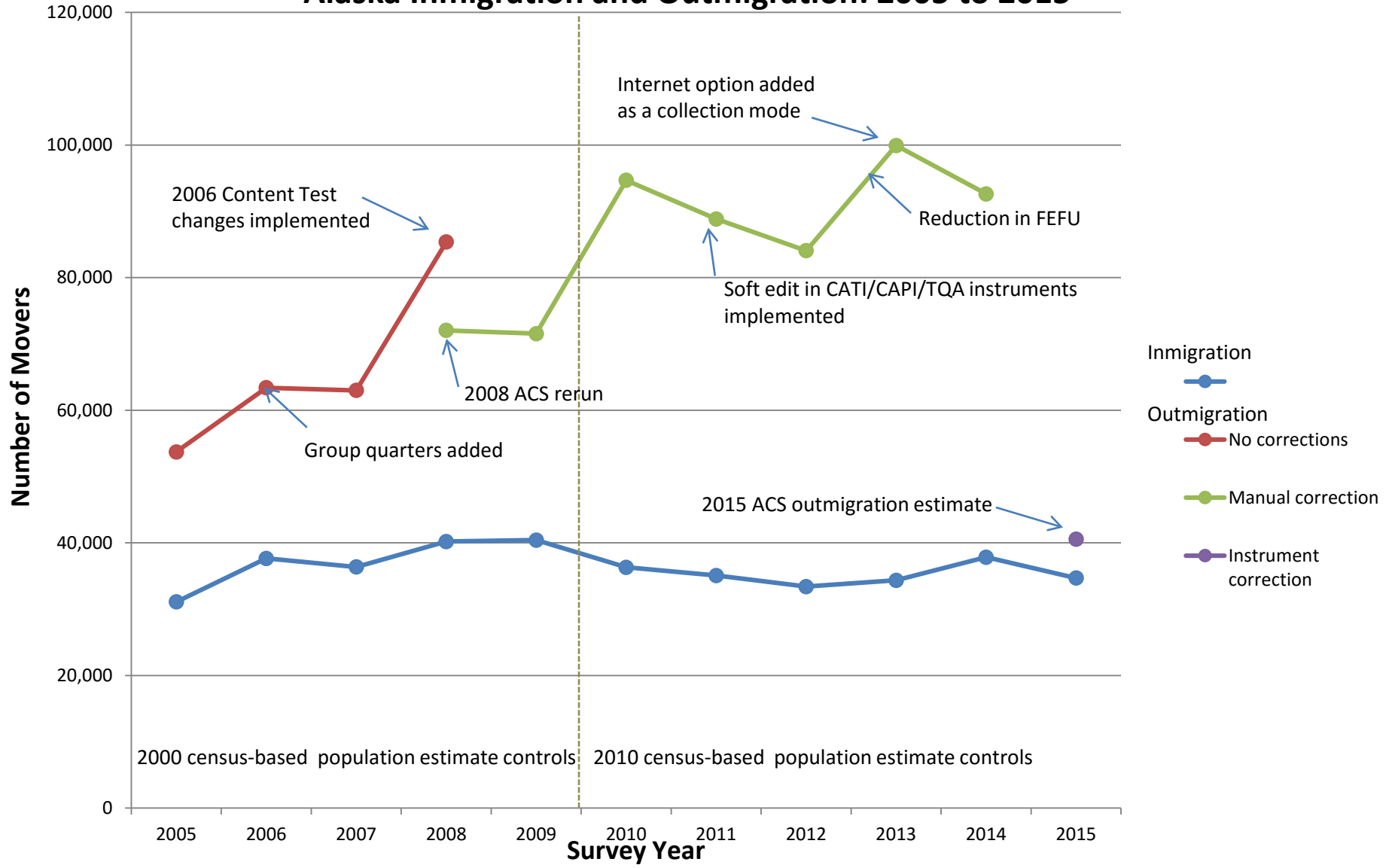
- In January 2015, the American Community Survey Office reviewed audit trail files of field representatives keystrokes. They found that the field used to store the state name for the drop down list was not always being updated when answers were changed.
- CATI/CAPI instruments were fixed and refreshed in July 2015. TQA in January 2016.

Alaska Inmigration and Outmigration: 2005 to 2015



Source: U.S. Census Bureau, 2005 to 2015 American Community Survey, 1-Year Estimates

Alaska Immigration and Outmigration: 2005 to 2015



Source: U.S. Census Bureau, 2005 to 2015 American Community Survey, 1-Year Estimates

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