Technical Report

Panel Study of Income Dynamics
2021 PSID Longitudinal Individual and Family Weights

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This document describes the construction of 2021 individual and family longitudinal sample weights for the Panel Study of Income Dynamics (PSID). This technical report is organized into four sections. Section I provides an overview of the PSID sample, defines PSID sample and non-sample persons and explains the following rules. Section II outlines the methodology for computing the 2021 longitudinal individual and family weights. Section III presents a descriptive analysis of the weights. The report concludes in Section IV evaluating the PSID longitudinal weights with comparisons of distributions of U.S. socioeconomic characteristics using weighted estimates from the Current Population Survey (CPS), American Community Survey (ACS) and PSID.

I. The PSID Sample and Following Strategy in 2021

The 2021 PSID panel is based on the dynamic, longitudinal follow-up of individuals and their families originally identified in a combination of four probability samples of U.S. households: the Survey Research Center 1960 National Sample (SRC), a subsample of families interviewed in 1967 by the Bureau of the Census for the Office of Economic Opportunity (SEO) (Johnson et al. 2018), the 1997 PSID Immigrant Supplement (Heeringa and Connor, 1998), and the 2017 PSID New Immigrant Supplement. Sample persons and their descendants identified in the baseline SRC and SEO samples have been interviewed since 1968.[1] In 1997 and 1999, a baseline sample of post-1968 immigrants (1997 immigrant sample) was added and these immigrant sample persons have been followed continuously since the late 1990s (Heeringa and Connor, 1998). In 2017 and 2019, a baseline sample of the post-1997 immigrants (2017 new immigrant sample) was added to the PSID panel.

PSID interviewed 9,207 families in 2021. Included in these families are 24,669 individuals: 18,031 PSID "sample persons" (see Table 1) and 6,638 "non-sample" spouses and family members.

PSID traditionally categorizes persons into one of two groups: sample persons and non-sample persons. The definition of these categories has changed slightly over the years. From 1968 to 1993, a sample person was defined as someone who was either an original sample person; i.e., resident of a PSID sample family in 1968, or an offspring born to or adopted by a sample individual who was actively participating in the study at the time. A newborn child had to appear in the study at the wave immediately following their birth to be considered a

[1] PSID has developed a measure of cumulative response rates for the original sample of persons interviewed in the initial 1968 wave. It estimates the proportion of the surviving members of the original 1968 census who were interviewed at each wave of data collection. The cumulative response rate report is available from the PSID website (see Heeringa et al., 2018). The cumulative response rate in 2015 was 40.4% for the total 1968 sample and were 41.0% and 33.4% for SRC and SEO sample, respectively.

sample person. In 1994, the definition of a sample person was expanded to include children born to or adopted by a sample person when the sample person was not participating in the study; i.e., the child need not be residing with a responding panel family at birth or adoption. The same current PSID definition of sample persons (implemented in 1994) applies to the 1997 immigrant sample and the 2017 new immigrant sample.

In 2021, the following rules for PSID were the same as in the prior 2019 wave. All PSID sample persons who participated in the previous survey wave and those leaving to establish separate family units since the previous wave (split-offs) were tracked and followed. Additionally, PSID attempted to recontact and obtain an interview for sample individuals who did not respond in the prior wave (2019 survey year), but responded in the 2017 survey year.

Each sample person successfully covered by an interview in 2021 received a positive value for their 2021 longitudinal individual weight. Nonsample persons received a 2021 PSID individual longitudinal weight equal to zero (0).

II. Methodological Approach to the 2021 PSID Longitudinal Weight Construction

The methodology for the calculation of PSID longitudinal weights follows a four year (two wave) cycle. At the beginning of each cycle, the calculation of weights incorporates an explicit adjustment for panel attrition due to nonresponse that has occurred over the past four years. The current cycle began in 2019 and a full nonresponse adjustment was incorporated in the 2019 longitudinal weights for individuals and families (see Gouskova, et al., 2008, for a description of the longitudinal weight nonresponse adjustment methodology). At the second wave of each four year weight development cycle, a simpler procedure is used to carry forward the individuals' weights from the previous wave and to update the weights for new births and for sample panel members who "reappear" and are interviewed again after one or more waves of nonresponse. Family weights are also updated to reflect changes in family composition due to factors such as marriage, divorce, and death. No explicit nonresponse adjustment is incorporated in the weight computations for the second wave of each of the four-year weight updating cycle.

The 2021 weights are "carry-over" weights. The last attrition adjustment of the PSID longitudinal individual weights was done in 2019, and thus the construction of the 2021 longitudinal individual weight started with the 2019 weight as the basis. For sample persons who were interviewed in both 2019 and 2021, the 2021 longitudinal individual weight was assigned by carrying forward their 2019 weight. For sample persons who were interviewed in 2021 but not in 2019, the most recent non-zero individual weight or "reference weight" for

the case was carried forward as the 2021 longitudinal individual weight. All nonsample individuals in the panel received a zero (0) value for their longitudinal weight. PSID provides an optional cross-sectional weight that is designed for single wave analysis of all cases in the PSID individual data. The PSID cross-sectional weight is a positive weight for all sample and nonsample members of interviewed PSID families (see Chang, et al., 2023).

For sample newborns under 2 years of age in 2021, the 2021 individual longitudinal weight was calculated as the mean of the reference person and spouse/partner's individual longitudinal weight in 2021.[2] If a PSID non-newborn sample person moved into a PSID family between 2019 and 2021 and had no existing reference weight, that sample individual was assigned a new individual weight equal to the mean of all positive 2021 individual weights in the family unit.

Individuals in the 2017 new immigrant sample who responded in 2017 but not in 2019 do not have a longitudinal individual weight from either 2017 or 2019. Their 2021 longitudinal weight was instead assigned from the "2019 preliminary reference weight" created in 2019 when preparing 2019 cross-sectional weights. This weight was constructed using the same method used to build the 2019 longitudinal individual weight for the new immigrant respondent in 2019, except that it did not account for the 2019 nonresponse in the last step of the weight construction. Starting with the inverse of the probability of selection, the weighting process included: 1) adjustment for screening nonresponse and 2017 interview nonresponse, 2) integration of weights to account for joint inclusion probabilities that were the result of including post-1997 immigrantfamily units in which either the reference person or the spouse/partner is not a post-1997 immigrant, and 3) calibration to the new immigrant population total. The detail for each of these steps is provided in the technical reports for the 2019 longitudinal weights (Chang, et al., 2021).

The joint inclusion families that responded in 2017 but not in 2019 did not have a longitudinal reference weight that accounted for the joint inclusion probability. Their 2021 longitudinal weight was also assigned with a "2019 preliminary reference weight" created in 2019 when preparing 2019 cross-sectional weights for the joint inclusion families. This weight started with the 2017 longitudinal family weight, accounted for joint inclusion probabilities, and then calibrated to the new immigrant population total. The detail for each of these steps is also provided in the technical reports for the 2019 longitudinal weights (Chang, et al., 2021).

After individual longitudinal weights were constructed for each sample person interviewed in 2021, the 2021

[2] If the reference person or spouse/partner is a nonsample person, their individual longitudinal weight is zero. In this case, the sample newborn's weight is half of the weight of the sample reference person or sample spouse/partner.

longitudinal family weight was computed as the mean of the positive individual weights for sample persons and the zero-value weights for the nonsample persons. For example, consider a 2021 PSID family that consisted of a young married couple in which the female spouse was a PSID sample person and had an individual longitudinal weight of 60. Her new spouse was PSID nonsample and therefore is assigned a "0" value for his longitudinal individual weight. The 2021 family weight for this two-person family is (60+0)/2=30. Figure 1 is a simple schematic that illustrates the dynamic process of family level weighting for four waves of data collection. At the baseline wave, families "A" and "B" are chosen to the sample. Families "C" and "D" were eligible for probability sample selection at baseline but were not chosen. Over the next three waves, there are "split-offs" from sample families, marriage or new family formation by members of original sample and non-sample family members. At each wave's change in family composition, the family weights, $W_{t, FAM}$, are recomputed as the mean of the current individual weights for the sample and nonsample persons that comprise the family unit. Note from the final column that the sum of all family weights constructed in this fashion remains consistent with the total number of all family units in the hypothetical dynamic population.

Unlike the 2021 PSID individual weight, which is available in both the longitudinal form (sample persons only) and cross-sectional analysis form (sample and nonsample persons have non-zero weights), there is only one version of the 2021 PSID family weight. The longitudinal family weight can be used for cross-sectional analysis of PSID family data.

2021 PSID Individual Respondents: Transition from 2019 Status

In 2021, PSID collected interview data on 24,669 individuals. Table 1 shows the classification of all individuals in the 2021 PSID data (columns) against their status in 2019 (rows), using seven sample status categories. For all sample subgroups – except one – there were no transitions in sample status between 2019 and 2021. Among sample subgroups with no transitions, sample persons (highlighted in light shading) were assigned the "carry forward" value of their most recent non-zero individual longitudinal weight.[3]

The top row of the body of the table contains information about individuals in 2021 PSID who were classified as "non-sample persons, not part of the elderly group" in 2019. For this subgroup, the changed sample status categories are highlighted in dark shading and represent 2021 sample individuals who were: 1) original sample members from the baseline recruitment in 1968, 1997, 1999, 2017 or 2019, 2) born-in sample persons

[3] For the 87 people in the "original" sample person group (5,277 people) and 4 people in the "joint inclusion" sample person group (91 people) who were from 2017 New Immigrant sample or Joint Inclusion families and did not respond in 2019, they were assigned the "2019 preliminary reference weight created in 2019" (see above and Chang, et al., 2021).

consisting of newborns born in 2019, 2020, or 2021 and others born into a sample family, 3) movers into a sample family during this two year period, and 4) sample persons added in 2019 because of their residence in a Joint Core family in 2017.[4] The "born in" sample person group (678 people) consists almost exclusively of newborns (670 people). The "move in" sample person group (83 people) includes 13 newborns. Newborns in either the "born in" or "move in" groups were assigned a 2021 weight equal to the mean of the reference person and spouse/partner's weight. If neither the reference person nor the spouse/parter was a sample person in 2021, the newborn was assigned the mean of all positive 2021 individual weights within the family unit, i.e., the mean of sample family members' individual weights. The non-newborn individuals in either the "born in" or "move in" sample person groups received the mean of all positive 2021 individual weights within the family unit.

Family longitudinal weights were constructed as the mean of all non-zero individual weights from sample persons and zero-value individual weights from nonsample persons in the family unit during 2021. Note that the family units do change from year to year. See the PSID family level data set documentation and codebooks for more information. See also Duncan and Hill (1985) for a discussion of the issues involved in longitudinal analysis of family units.

III. Descriptive Statistics for the 2017 PSID Longitudinal Weights

Tables 2 through 5 provide descriptive information on the 2021 PSID longitudinal weights. To enable comparison of the longitudinal weights across years, the same set of descriptors is reported for the longitudinal weights from the prior waves (2001-2019).

Table 2 summarizes, by wave, the total number of sample and non-sample individuals and counts of individual cases with positive and zero values for weights; Table 3 summarizes analogous counts for the family weights. The number of individual weights with a positive value is equal to the number of sample persons, and the number of the zero-valued individual weights is the same as the number of non-sample persons (Table 2). In 2021, all families had at least one sample member (Table 3); as a result, all PSID families in 2021 carry a non-zero, positive longitudinal family weight.

Tables 4 and 5 report summary statistics for the longitudinal individual and family weights, respectively. The

[4] The individuals living in the Joint Core families are defined as sample persons as if 2017 is their baseline year. The nonsample persons in the identified Joint Core families are changed to sample persons in 2019 and will be followed and tracked as sample persons. Joint inclusion "sample persons" is a sample status added in 2019 to indicate those individuals who changed from a nonsample person a sample person in 2019 because they resided in a Joint Core families in 2017.

distributions of the 2021 longitudinal weights are similar to those in recent past survey waves. Across years, the measures of dispersion show that there is increasing variability in the individual and family weights. This steady increase in the variability of the PSID longitudinal weights can be attributed to the periodic nonresponse adjustment (every four years) and to the reweighting that is required to reflect changes in family composition (e.g., new family formations).

Table 6 provides a key to the PSID variables names for longitudinal individual and family weight variables.

IV. Evaluation of the PSID Longitudinal Weights: Comparisons with CPS and ACS

Tables 7 through 9 compare PSID, CPS, and ACS weighted estimates for selected demographic characteristics, including age, gender, and race. Each table reports the unweighted PSID estimates, PSID estimates weighted by the PSID family or individual longitudinal weight (as appropriate), the CPS weighted estimates, and the ACS weighted estimates. For age (Table 7) and race (Table 9), the first panel of the table shows weighted estimates for the family reference person while the second panel provides estimates for all individuals. The statistics in the right most columns of each table are simple ratios of the weighted PSID and CPS or ACS estimates. These tables are useful for examining three features of the PSID data: consistency of unweighted and weighted estimates across years, the effect of the longitudinal weights on the distributions of estimates of family and individual population characteristics, and the consistency of the PSID weighted estimates with those obtained from the CPS data[5] and from the ACS data.[6] The comparison with ACS estimates begin in 2015, when we changed to using ACS data as the source for benchmark population totals for the cross-sectional weights. Comparison of the unweighted and weighted PSID estimates with the CPS or ACS reveals that, in most cases, the weighted estimates are closer to CPS or ACS estimates than the unweighted estimates. This is expected because PSID incorporates an oversample of African American and lower income families through the inclusion in PSID of the 1968 SEO sample.

[5] Some characteristics are not strictly comparable between the two surveys. For example, in PSID, race is not asked for all individuals, while in the CPS data information on race is obtained for all individuals. To calculate proportions of black and non-black individuals in the PSID data, individual race was approximated using the race of the family reference person. Age is top-coded at 85 years old in CPS data while it is not top-coded in PSID data. CPS estimates are calculated based on CPS March supplement data collected in the same year of the PSID data collection.

[6] Some characteristics are not strictly comparable between the two surveys. For example, in PSID, race is not asked for all individuals, while in the ACS data information on race is obtained for all individuals. To calculate proportions of black and non-black individuals in the PSID data, individual race was approximated using the race of the family reference person. Age is top-coded at 99 years old in ACS data while it is not top-coded in PSID data. ACS estimates are calculated based on ACS one-year PUMS data collected in the same year of the PSID data collection.

While there are some noticeable differences in the weighted distributions by race, the weighted estimates for age and gender align fairly closely across PSID, CPS, and ACS. However, caution is advised in placing too much emphasis on minor differences in results between PSID and CPS or ACS. Analysts should keep in mind that for any given wave before 2017, the simple comparison of weighted demographic distributions does not explicitly take into account PSID non-coverage of immigrant populations after 1997. Immigrants arriving after 1997, when the first immigrant sample was added to PSID, are not fully covered in PSID until the post-1997 immigrants are added to PSID in 2017. The comparison with ACS estimates, reported in 2015 and 2017,[7] provides a better comparison by excluding the foreign-born persons entering U.S. after 1997 from the ACS estimates. Another limitation is that CPS does not cover the institutionalized population while PSID may include institutionalized persons due to the dynamic nature of the sample. There are also differences in the definitions that PSID, CPS, and ACS use to code household composition and disaggregate households into family and non-family units. Finally, the PSID longitudinal weights for families and individuals do not include any recent adjustment to external population controls (e.g., the 2020 Decennial Census, or annual CPS or ACS population totals).

[7] In PSID, all 2017 new immigrants have a longitudinal weight equal to zero in 2017, hence the PSID estimates for 2017 did not include post-1997 immigrants. Therefore, post-1997 new immigrants were also excluded from the 2017 ACS estimates.

V. References

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Table 1. Table of 2019 Sample Status for 2021 PSID Individual Respondents

Sample Status Count in 2019, among 2021 Respondents	Sample Status Counts in 2021							
	Original "sample persons"	Born in "sample persons"	Move in "sample persons"	Joint inclusion "sample persons"	Followable "non-sample parents"	"Non-sample persons", not part of elderly group	"Non-sample persons", part of elderly group	Total
Original "sample persons"	5277 (87 NR* in 2019)	0	0	0	0	0	0	5277
Born in "sample persons"	0	10679	0	0	0	0	0	10679
Move in "sample persons"	0	0	1222	0	0	0	0	1222
Joint inclusion "sample persons"	0	0	0	91 (4 NR* in 2019)	0	0	0	91
Followable "non-sample parents"	0	0	0	0	1388	0	0	1388
"Non-sample persons", not part of elderly group	1	678 (670 newborn)	83 (13 newborn)	0	0	5248	0	6010
"Non-sample persons", part of elderly group	0	0	0	0	0	0	2	2
Total	5278	11357	1305	91	1388	5248	2	24669

***NR=nonresponse**

Table 2. PSID Longitudinal Individual Weights, 2001-2021

Year	Total number of individuals	Total number of "sample persons"	Total number of "non-sample persons"	Number of cases with positive individual weight*	Number of cases with zero individual weight*
2001	21400	15646	5754	15646	5754
2003	22290	16012	6278	16012	6278
2005	22918	16620	6298	16620	6298
2007	23508	16906	6602	16906	6602
2009	24385	17471	6814	17471	6814
2011	24661	17643	7018	17643	7018
2013	24952	17785	7167	17785	7167
2015	24637	17505	7132	17505	7132
2017*	26445	19258	7187	17643	8802
2019	26084	19055	7029	19055	7029
2021	24669	18031	6638	18031	6638

Table 3. PSID Longitudinal Family Weights, 2001-2021

Year	Total number of families	Number of families with no "sample person"	Number of families with positive weight	Number of families with zero weight
2001	7406	211	7195	211
2003	7822	257	7565	257
2005	8002	0	8002	0
2007	8289	0	8289	0
2009	8690	0	8690	0
2011	8907	0	8907	0
2013	9063	0	9063	0
2015	9048	0	9048	0
2017*	9607	0	9155	0
2019	9569	0	9569	0
2021	9207	0	9207	0

Table 4. Summary Statistics for the PSID Longitudinal Individual Weights, 2001-2021 (Sample Persons Only)

Year	N	Mean	Standard Deviation	Min	Max	Coefficient of Variation
2001	15646	25.07	18.97	0.25	167.68	0.76
2003	16012	25.62	19.54	0.25	173.56	0.76
2005	16620	24.81	19.33	0.23	173.56	0.78
2007	16906	25.38	20.09	0.20	181.45	0.79
2009	17471	24.57	19.9	0.23	181.45	0.81
2011	17643	25.65	21.47	0.25	196.44	0.84
2013	17785	24.75	21.11	0.25	196.44	0.85
2015	17505	26.96	23.91	0.28	225.82	0.89
2017*	17643	26.02	23.50	0.20	167.07	0.90
2019	19055	28.88	26.98	0.21	255.16	0.93
2021	18031	28.41	26.60	0.16	255.16	0.94

*2017 New Immigrant sample persons did not have longitudinal weights in 2017 so they are excluded from this table

Table 5. Summary Statistics for the PSID Longitudinal Family Weights, 2001-2021

Year	N	Mean	Standard Deviation	Min	Max	Coefficient of Variation
2001*	7195	22.03	16.74	0.06	167.68	0.76
2003*	7565	22.06	17.06	0.12	132.64	0.77
2005	8002	21.04	16.82	0.12	136.03	0.8
2007	8289	21.32	17.4	0.1	139.34	0.82
2009	8690	20.66	17.28	0.1	139.34	0.84
2011	9807	21.71	18.75	0.12	150.89	0.87
2013	9063	20.85	18.44	0.08	150.89	0.89
2015	9048	22.80	21.06	0.10	156.12	0.92
2017**	9155	22.11	20.66	0.08	142.78	0.93
2019	9569	24.73	24.06	0.06	154.57	0.97
2021	9207	24.23	23.57	0.07	166.49	0.97

*2001 and 2003 are based on families with positive weights only

**2017 New Immigrant families did not have longitudinal weights in 2017 so they are excluded from this table

Table 6. Names of the PSID Longitudinal Weight Variables, 1993-2021

Year	Core Longitudinal Weight	
	Individual	**Family**
1993	ER30864	V23361
1994	ER33119	ER4160
1995	ER33275	ER7000
1996	ER33318	ER9251
	Core/Immigrant Longitudinal Weight	
	Individual	**Family**
1997	ER33430	ER12084
1999	ER33546	ER16518
2001	ER33637	ER20394
2003	ER33740	ER24179
2005	ER33848	ER28078
2007	ER33950	ER41069
2009	ER34045	ER47014
2011	ER34154	ER52436
2013	ER34268	ER58257
2015	ER34413	ER65492
2017	ER34650	ER71570
	Core/1997 Immigrant/2017 Immigrant Longitudinal Weight	
	Individual	**Family**
2019	ER34863	ER77631
2021	ER35064	ER81958

Table 7. Comparison of PSID, CPS, and ACS Weighted Estimates of Mean and Median Age, 2001-2021

A. Family Level Data (age of reference person)

	PSID** unweighted		PSID** weighted***		CPS**** weighted		ACS***** weighted		PSID/CPS Ratio		PSID/ACS Ratio	
	Mean	Median	Mean	Median	Mean	Median	Mean	Median	Mean	Median	Mean	Median
Year	Years	Years	Years	Years	Years	Years	Years	Years	Years	Years	Years	Years
	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[3]/[5]	[4]/[6]	[3]/[7]	[4]/[8]
2001	44.91	43	49.39	47	48.72	46	Not Used		1.01	1.02	Not Used	
2003	44.98	43	49.6	48	48.69	47			1.02	1.02		
2005	45.08	44	49.96	48	49.04	47			1.02	1.02		
2007	45.04	44	50.13	49	49.30	48			1.02	1.02		
2009	45.79	44	49.82	49	47.60	47			1.05	1.04		
2011	45.21	43	50.60	50	48.11	47			1.05	1.06		
2013	45.68	43	51.21	51	48.56	48			1.05	1.06		
2015	45.65	43	52.02	52	Not Used		51.86	52	Not Used		1.00	1.00
2017*	46.20	43	53.14	54			52.96	53			1.00	1.02
2019	46.44	43	52.36	53			51.93	52			1.01	1.02
2021	47.14	44	53.08	53			51.85	52			1.02	1.02

*2017 New Immigrant families did not have longitudinal weights in 2017 so they are excluded from the 2017 estimates

** Missing value of age of reference person in PSID data was imputed.

*** PSID weighted estimates were weighted by PSID longitudinal family weight

**** Age in CPS data is top-coded at 85 years old.

***** Age in ACS data is top-coded at 99 years old. The families with reference person who was foreign-born and entered the U.S. after 1997 were excluded from the data used for calculating 2017 ACS estimates

ǂPrior to 2015, we used CPS estimates as the population totals for post-stratification so CPS data was used as the benchmark for this table. We started to use ACS estimates as the population totals for calibration since 2015 and thus changed the benchmark for the comparison.

B. Individual Level Data

	PSID** unweighted***		PSID** weighted****		CPS***** weighted		ACS****** weighted		PSID/CPS Ratio		PSID/ACS Ratio	
	Mean	Median	Mean	Median	Mean	Median	Mean	Median	Mean	Median	Mean	Median
Year	Years	Years	Years	Years	Years	Years	Years	Years	Years	Years	Years	Years
	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[3]/[5]	[4]/[6]	[3]/[7]	[4]/[8]
2001	30.86	29	36.30	36	35.65	35	Not Used		1.02	1.03	Not used	
2003	31.25	29	36.53	36	35.82	35			1.02	1.03		
2005	31.41	29	36.93	36	36.17	36			1.02	1.00		
2007	31.61	29	37.35	37	36.44	36			1.02	1.03		
2009	32.30	29	37.90	37	36.80	36			1.03	1.03		
2011	31.95	29	38.75	38	37.00	36			1.05	1.06		
2013	32.91	30	39.27	38	37.64	37			1.04	1.03		
2015	32.55	30	40.18	39	Not Used		38.31	37	Not Used		1.05	1.05
2017*	32.93	31	40.75	39			38.88	38			1.05	1.03
2019	33.04	31	39.69	38			39.10	38			1.02	1.00
2021	33.97	32	40.65	39			39.31	38			1.03	1.03

*2017 New Immigrant families did not have longitudinal weights in 2017 so they are excluded from the 2017 estimates

** Missing value of age in PSID data was imputed

*** Unweighted individual level PSID estimates were calculated based on sample and non-sample individuals

**** PSID weighted estimates were weighted by PSID longitudinal individual weight

***** Age in CPS data is top-coded at 85 years old

****** Age in ACS data is top-coded at 99 years old. The individuals who were foreign-born and entered the U.S. after 1997 were excluded from the data used for calculating 2017 ACS estimates

ǂPrior to 2015, we used CPS estimates as the population totals for post-stratification so CPS data was used as the benchmark for this table. We started to use ACS estimates as the population totals for calibration since 2015 and thus changed the benchmark for the comparison.

Table 8. Comparison of PSID, CPS and ACS Weighted Estimates of % Population by Gender, 2001-2021

	PSID unweighted**		PSID weighted***		CPS weighted		ACS**** weighted		PSID/CPS Ratio		PSID/ACS Ratio	
Year	**Male**	**Female**	**Male**	**Female**	**Male**	**Female**	**Male**	**Female**	**Male**	**Female**	**Male**	**Female**
	[1]	**[2]**	**[3]**	**[4]**	**[5]**	**[6]**	**[7]**	**[8]**	**[3]/[5]**	**[4]/[6]**	**[3]/[7]**	**[4]/[8]**
2001	47.93	52.07	48.08	51.92	48.86	51.14	Not Used		0.98	1.02	Not Used	
2003	47.98	52.02	48.17	51.83	48.92	51.08			0.98	1.01		
2005	47.88	52.12	48.23	51.77	49.03	50.97			0.98	1.02		
2007	47.88	52.12	48.58	51.42	49.08	50.92			0.99	1.01		
2009	47.48	52.52	48.40	51.60	49.10	50.90			0.99	1.01		
2011	47.87	52.13	48.74	51.26	49.21	50.79			0.99	1.01		
2013	47.69	52.31	48.83	51.17	48.96	51.04			1.00	1.00		
2015	47.53	52.47	48.70	51.30	Not Used		49.20	50.80	Not Used		0.99	1.01
2017*	47.69	52.31	48.62	51.38			49.28	50.72			0.99	1.01
2019	47.72	52.28	49.19	50.81			49.23	50.77			1.00	1.00
2021	47.7	52.3	48.88	51.12			49.52	50.48			0.99	1.01

*2017 New Immigrant families did not have longitudinal weights in 2017 so they are excluded from the 2017 estimates

** Unweighted individual level PSID estimates were calculated based on sample and non-sample individuals

*** PSID weighted estimates were weighted by PSID longitudinal individual weight

**** The individuals who were foreign-born and entered the U.S. after 1997 were excluded from the data used for calculating 2017 ACS estimates

ǂPrior to 2015, we used CPS estimates as the population totals for post-stratification so CPS data was used as the benchmark for this table. We started to use ACS estimates as the population totals for calibration since 2015 and thus changed the benchmark for the comparison.

Table 9. Comparison of PSID, CPS, and ACS Weighted Estimates of % Population by Race, 2001-2021

A. Family Level Data (age of reference person)

	PSID** unweighted		PSID** weighted***		CPS**** weighted		ACS***** weighted		PSID/CPS Ratio		PSID/ACS Ratio	
Year	**Non-black**	**Black**	**Non-black**	**Black**	**Non-black**	**Black**	**Non-black**	**Black**	**Non-black**	**Black**	**Non-black**	**Black**
	[1]	**[2]**	**[3]**	**[4]**	**[5]**	**[6]**	**[7]**	**[8]**	**[3]/[5]**	**[4]/[6]**	**[3]/[7]**	**[4]/[8]**
2001	69.60	30.40	87.40	12.60	87.80	12.20	Not Used		1	1.03	Not Used	
2003	68.40	31.60	87.20	12.80	87.90	12.10			0.99	1.06		
2005	66.70	33.30	86.10	13.90	87.80	12.20			0.98	1.14		
2007	65.70	34.30	85.90	14.10	87.60	12.40			0.98	1.14		
2009	64.60	35.40	84.40	15.60	87.50	12.50			0.96	1.25		
2011	62.93	37.07	85.18	14.82	87.35	12.65			0.98	1.17		
2013	61.84	38.16	83.54	16.46	86.97	13.03			0.96	1.26		
2015	61.20	38.80	83.73	16.27	Not Used		87.09	12.91	Not Used		0.96	1.26
2017*	60.62	39.38	83.64	16.36			86.85	13.15			0.96	1.24
2019	60.84	39.16	83.45	16.55			86.53	13.47			0.96	1.23
2021	61.19	38.81	83.50	16.50			86.42	13.58			0.97	1.22

*2017 New Immigrant families did not have longitudinal weights in 2017 so they are excluded from the 2017 estimates

** Black was defined based on the race first mention of reference person for PSID estimates. Missing value of race first mention of reference person in PSID data was imputed.

*** PSID weighted estimates were weighted by PSID longitudinal family weight

**** Black was defined by black alone or in combination with one or more other races for CPS

***** Black was defined by black alone or in combination with one or more other races for ACS estimates. The families with reference person who was foreign-born and entered the U.S. after 1997 were excluded from the data used for calculating 2017 ACS estimates

ǂPrior to 2015, we used CPS estimates as the population totals for post-stratification so CPS data was used as the benchmark for this table. We started to use ACS estimates as the population totals for calibration since 2015 and thus changed the benchmark for the comparison.

B. Individual Level Data

	PSID** unweighted***		PSID** weighted****		CPS***** weighted		ACS****** weighted		PSID/CPS Ratio		PSID/ACS Ratio	
Year	**Non-black**	**Black**	**Non-black**	**Black**	**Non-black**	**Black**	**Non-black**	**Black**	**Non-black**	**Black**	**Non-black**	**Black**
	[1]	**[2]**	**[3]**	**[4]**	**[5]**	**[6]**	**[7]**	**[8]**	**[3]/[5]**	**[4]/[6]**	**[3]/[7]**	**[4]/[8]**
2001	67.00	33.00	86.90	13.10	87.30	12.70	Not Used		1.00	1.03	Not Used	
2003	66.10	33.90	86.60	13.40	87.50	12.50			0.99	1.07		
2005	64.60	35.40	86.00	14.00	87.40	12.60			0.98	1.11		
2007	64.20	35.80	85.90	14.10	87.40	12.60			0.98	1.12		
2009	63.70	36.30	85.20	14.80	86.70	13.30			0.98	1.11		
2011	63.35	36.65	84.19	15.81	86.43	13.57			0.97	1.17		
2013	61.88	38.12	84.79	15.21	85.95	14.05			0.99	1.08		
2015	61.51	38.49	84.85	15.15	Not Used		86.10	13.90	Not Used		0.99	1.09
2017*	61.19	38.81	84.42	15.58			85.70	14.30			0.99	1.09
2019	62.03	37.97	84.40	15.60			85.75	14.25			0.98	1.09
2021	62.93	37.07	84.58	15.42			85.77	14.23			0.99	1.08

*2017 New Immigrant families did not have longitudinal weights in 2017 so they are excluded from the 2017 estimates

** Individual race in PSID data was approximated using the race of the family reference person. Black was defined based on the race first mention of reference person for PSID estimates. Missing value of race first mention in PSID data was imputed.

*** Unweighted individual level PSID estimates were calculated based on sample and non-sample individuals.

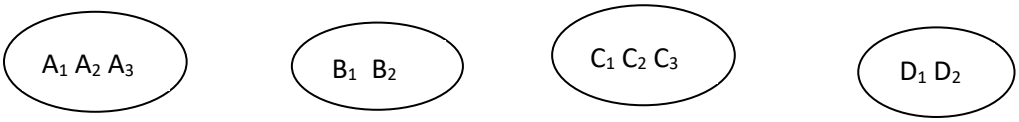
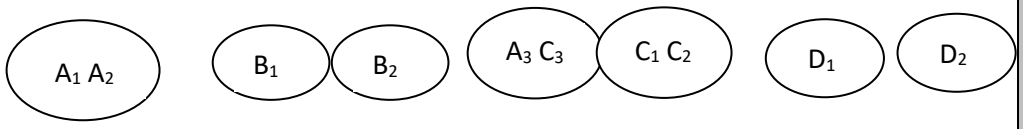
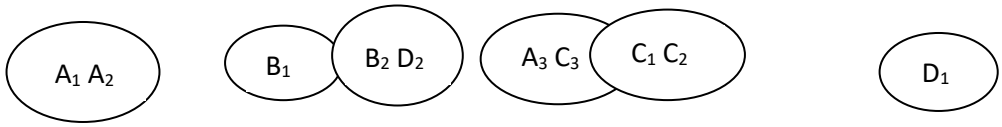
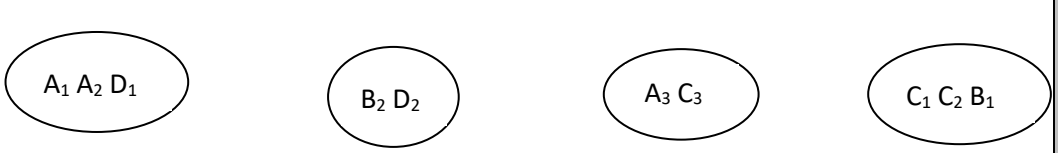
****PSID weighted estimates were weighted by PSID longitudinal individual weight

*****Black was defined by black alone or in combination with one or more other races for CPS

****** Black was defined by black alone or in combination with one or more other races for ACS estimates. The individuals who were foreign-born and entered the U.S. after 1997 were excluded from the data used for calculating 2017 ACS estimates

ǂPrior to 2015, we used CPS estimates as the population totals for post-stratification so CPS data was used as the benchmark for this table. We started to use ACS estimates as the population totals for calibration since 2015 and thus changed the benchmark for the comparison.

Figure 1: Illustration of Dynamic Weighting for PSID Families

Wave	Family A	Family B	Family C	Family D	Total
t_0					
$W_{0,IND}$	2, 2, 2	2, 2	0, 0, 0	0, 0	10
$W_{0,FAM}$	2	2	0	0	4
t_1					
$W_{1,FAM}$	2	2 2	1 0	0 0	7
t_2					
$W_{2,FAM}$	2	2 1	1 0	0	6
t_3					
$W_{3,FAM}$	1.33	1	1	0.67	4