Figure 2.1   Structure of a Multifactor Stratification System: Three Conceptual Scenarios

Multiple Stratification Factors

All Primary Factors → Independence | Interdependence

Some Primary Factors → Elimination of Other Factors | Dominance and Differentiation

Scenarios:

PERSISTENCE
Reproducing stratification order

REDUCTION
Simplifying stratification order

CHANGE
Transforming stratification order
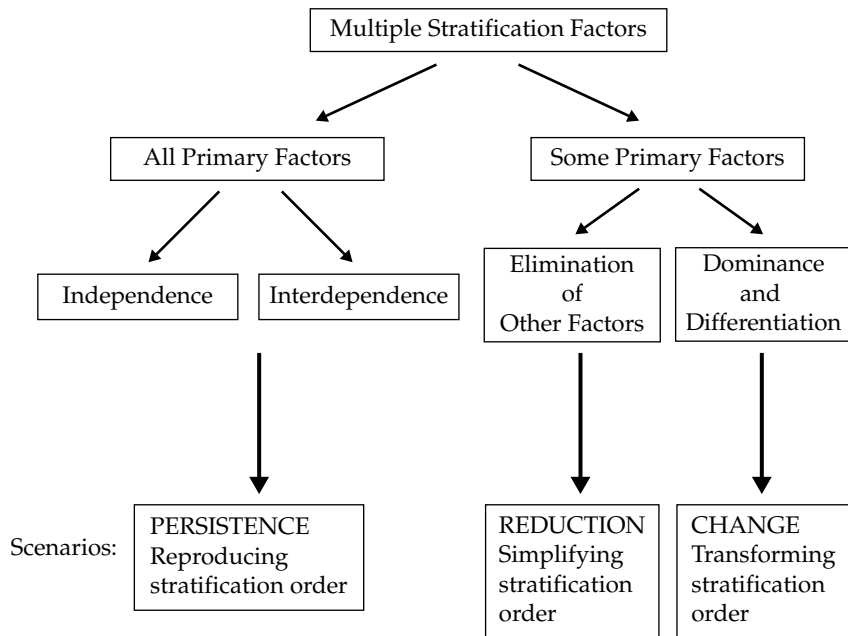
Figure 3.1   Wealth Holding Status by Race-Ethnicity
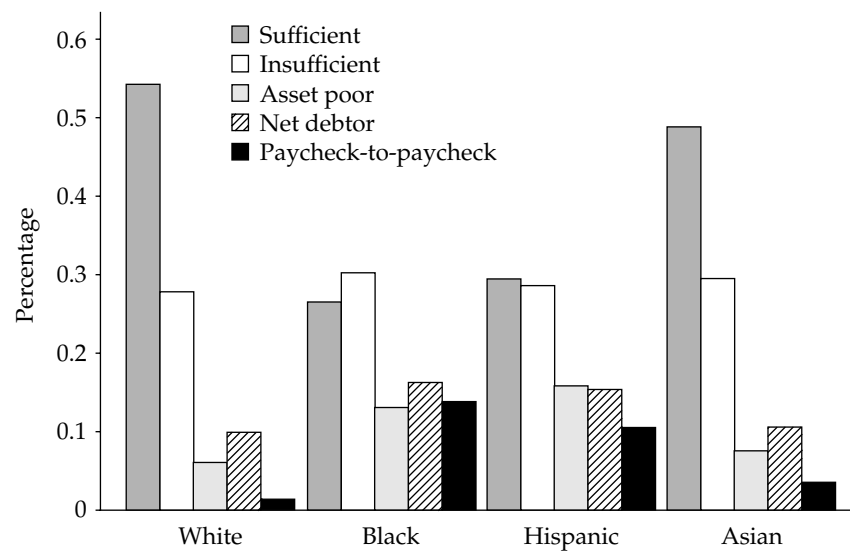
Source: Author's compilation.

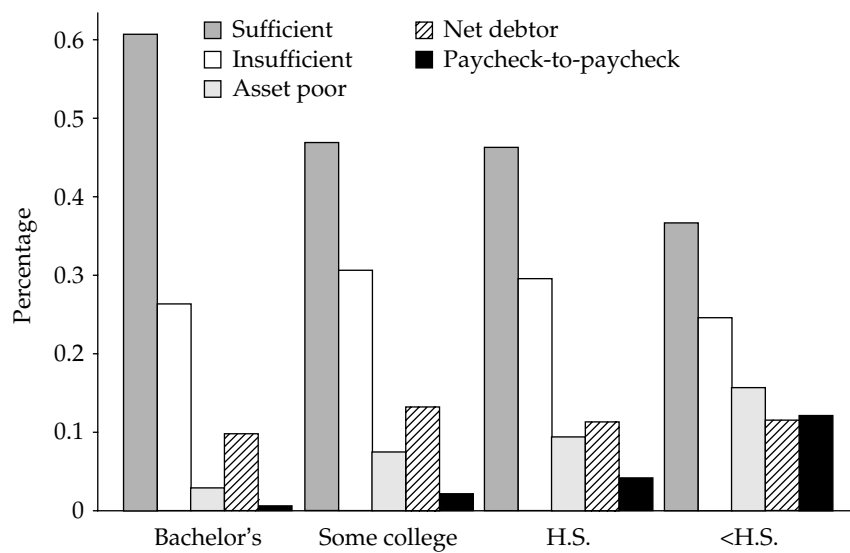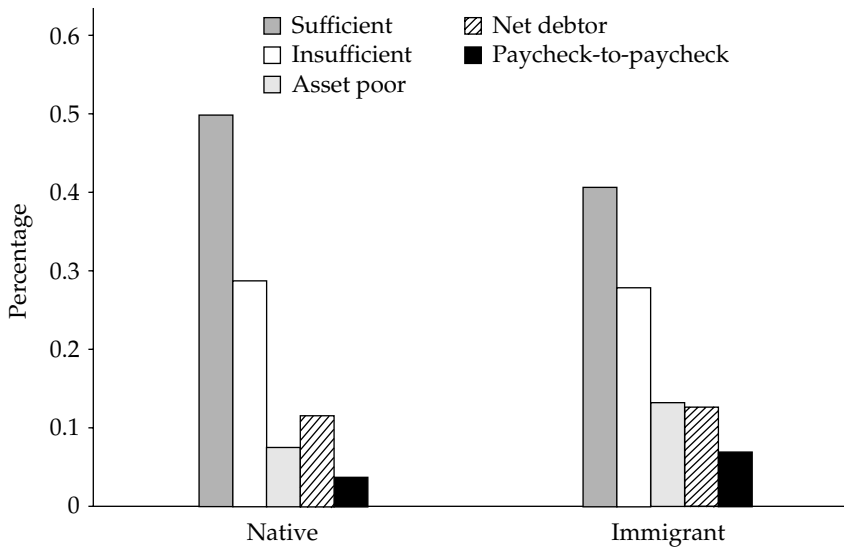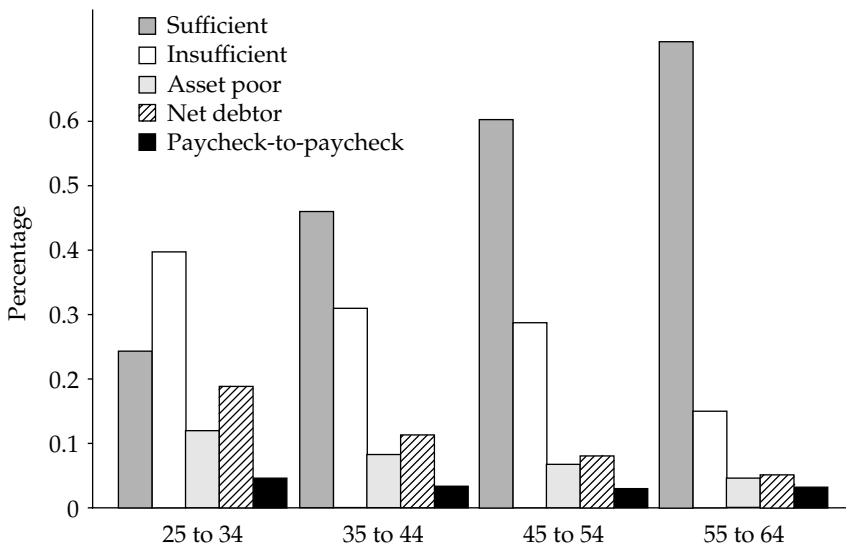**Figure 3.2   Wealth Holding Status by Education Levels**

Source: Author's compilation.

Figure 3.3   Wealth Holding Status by Nativity

Source: Author's compilation.

Figure 3.4   Wealth Holding Status by Age Group

Source: Author's compilation.

Figure 3.5   Net Worth Percentile Distribution by Race-Ethnicity
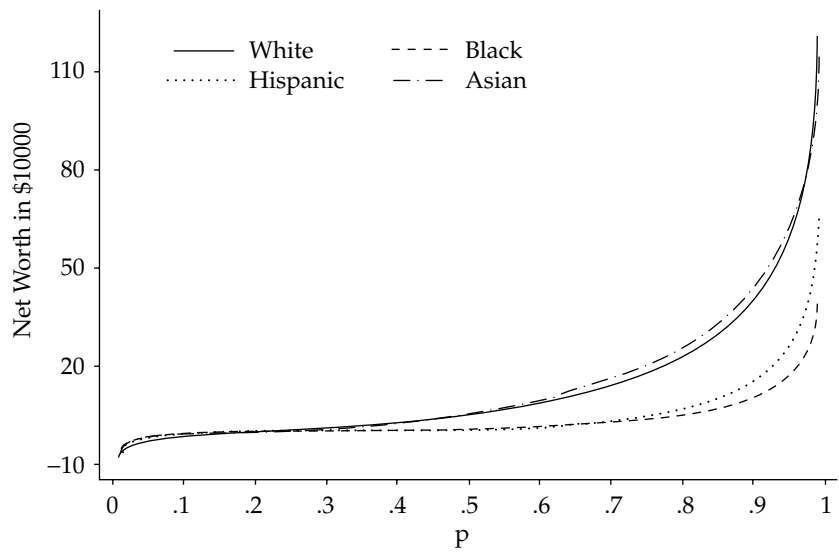
Source: Author's compilation.

Figure 3.6   Net Worth Percentile Distribution by Education Levels
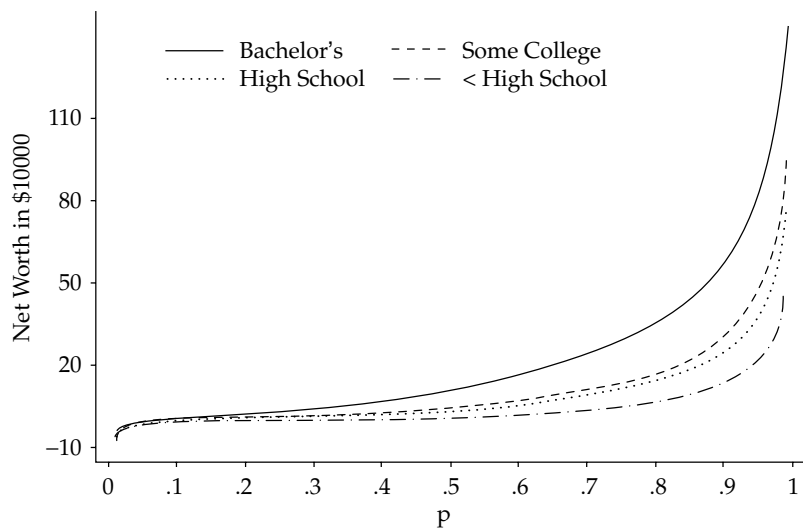
Source: Author's compilation.

Figure 3.7   Net Worth Percentile Distribution by Nativity
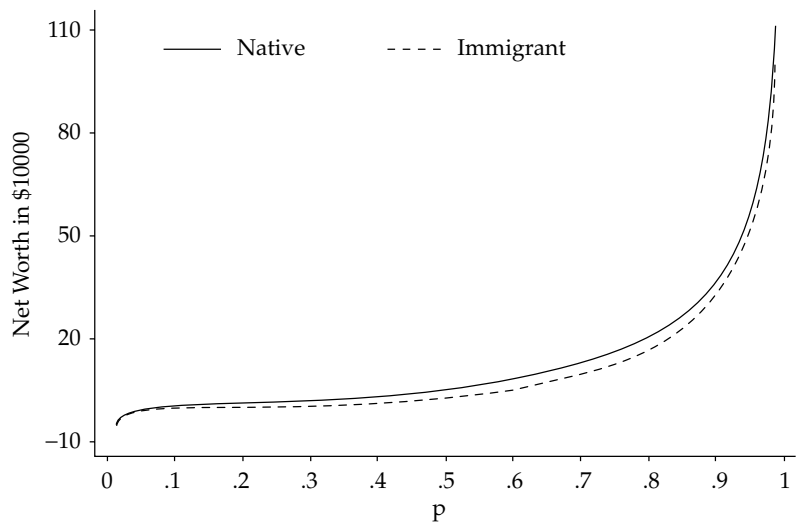
Source: Author's compilation.

Figure 3.8   Net Worth Percentile Distribution by Age Group
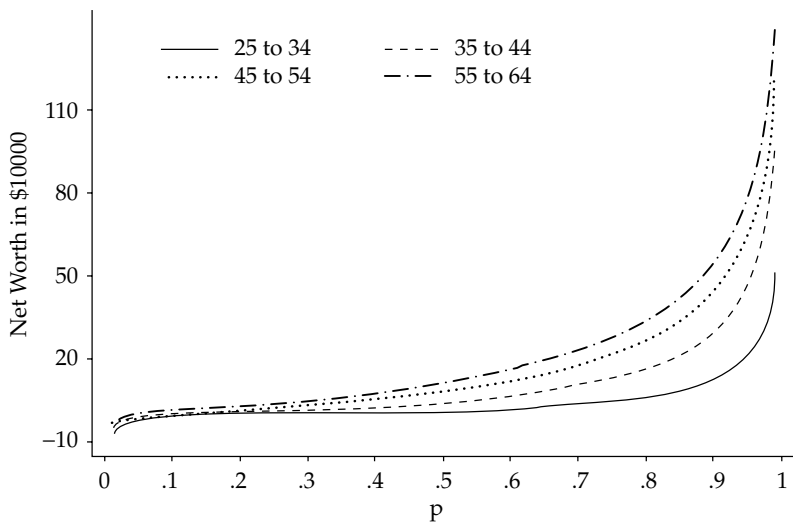
Source: Author's compilation.

Figure 3.9   Age Profiles of Net Worth by Race-Ethnicity
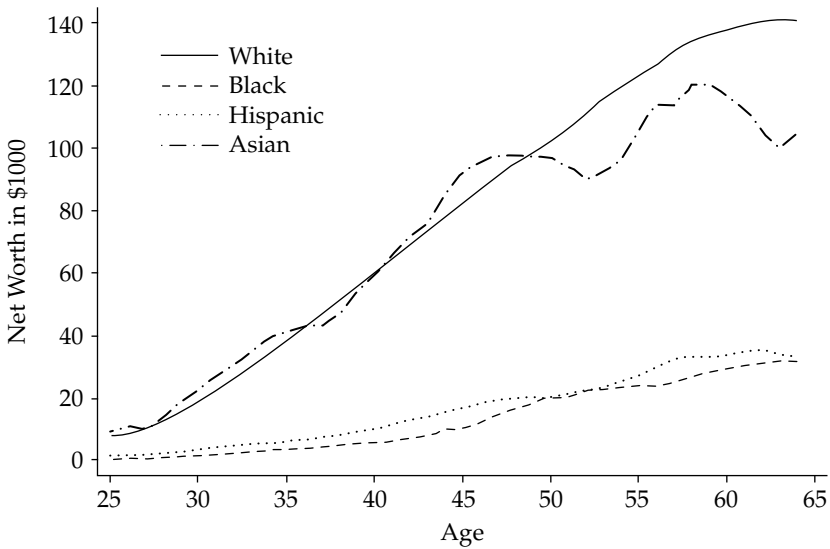
Source: Author's compilation.

Figure 3.10   Age Profiles of Net Worth, Nativity–Within White
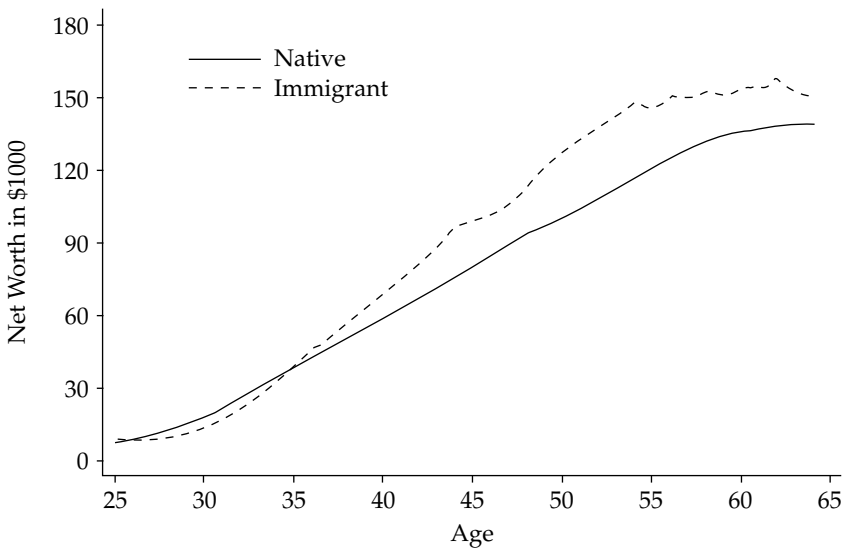
Source: Author's compilation.

Figure 3.11   Age Profiles of Net Worth, Nativity–Within Black
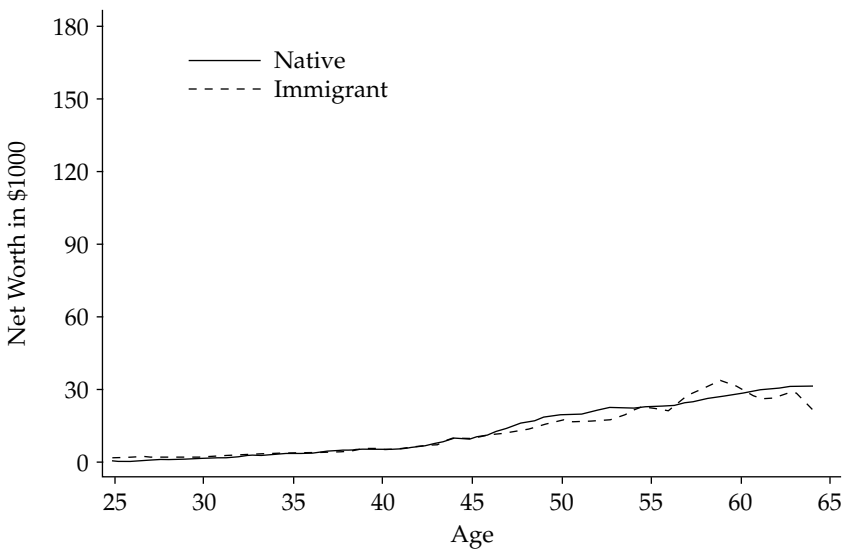
Figure 3.12   Age Profiles of Net Worth, Nativity–Within Hispanic
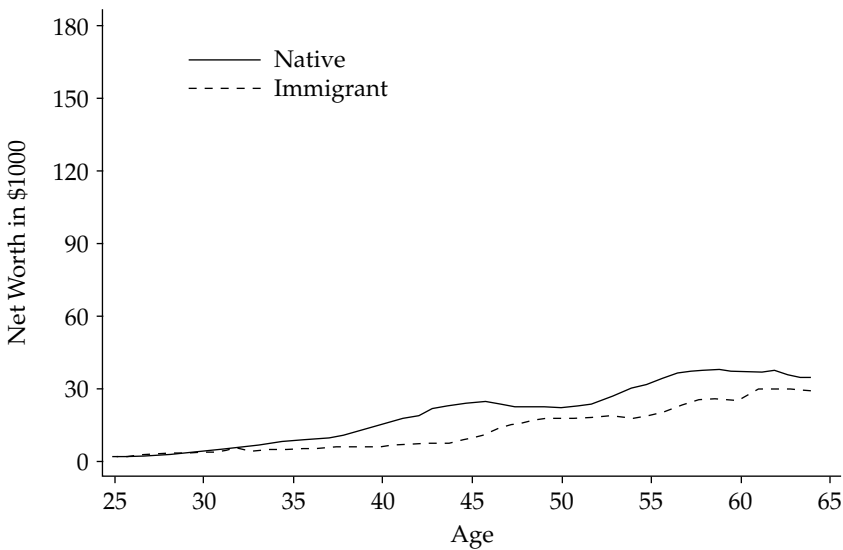
Figure 3.13   Age Profiles of Net Worth, Nativity–Within Asian
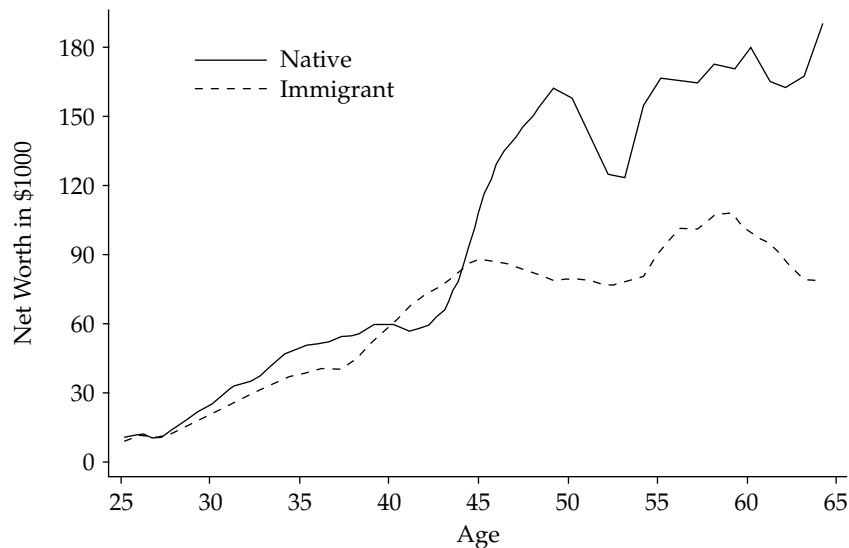
Figure 3.14   Age Profile of Net Worth, Synthetic Cohorts in 1996
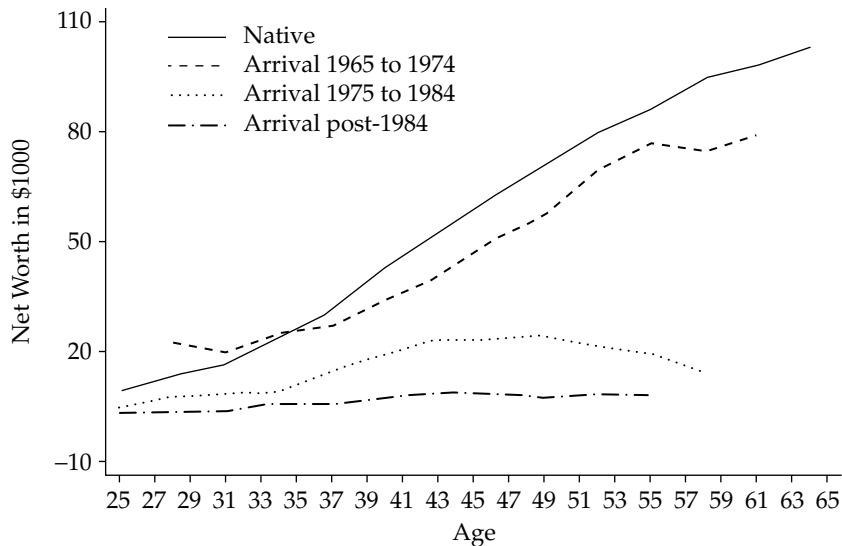
Figure 3.15   Age Profile of Net Worth, Synthetic Cohorts 1984 to 2003
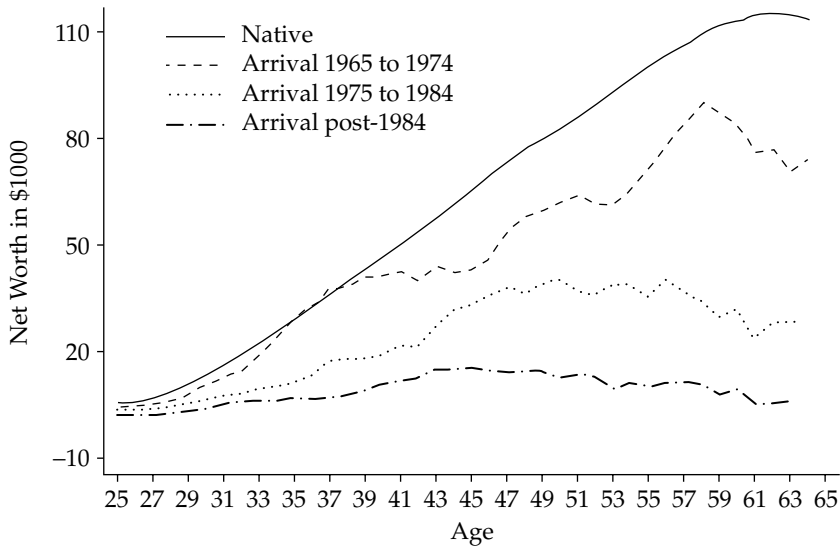
Source: Author's compilation.

Figure 3.16   **Age Profile of Net Worth, Evolution of Native Birth Cohorts, 1984 to 2003**

Legend:
- Born 1920 to 1929
- Born 1930 to 1939
- Born 1940 to 1949
- Born 1950 to 1959
- Born 1960 to 1969
- Born 1970 to 1979

Y-axis: Net Worth in $1000
X-axis: Cohort Median Age
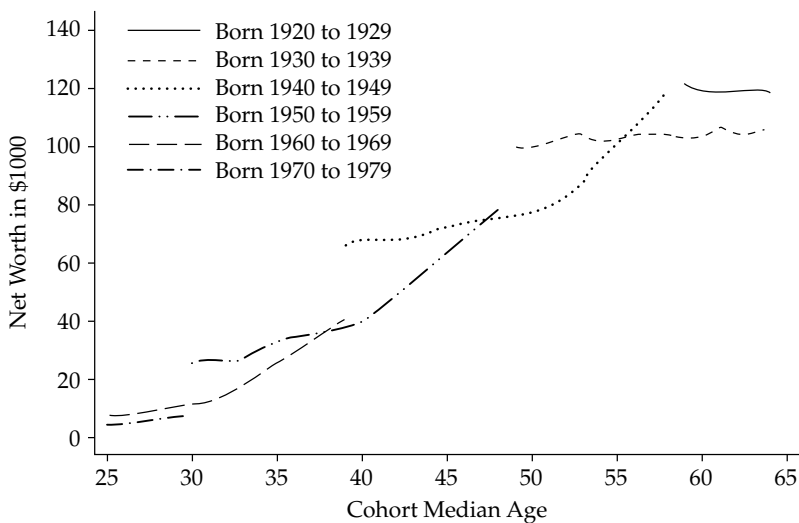
Source: Author's compilation.

Figure 3.17   **Age Profile of Net Worth, Evolution of Immigrant Birth Cohorts, 1984 to 2003**

Legend:
- Born 1920 to 1929
- Born 1930 to 1939
- Born 1940 to 1949
- Born 1950 to 1959
- Born 1960 to 1969
- Born 1970 to 1979

Y-axis: Net Worth in $1000
X-axis: Cohort Median Age
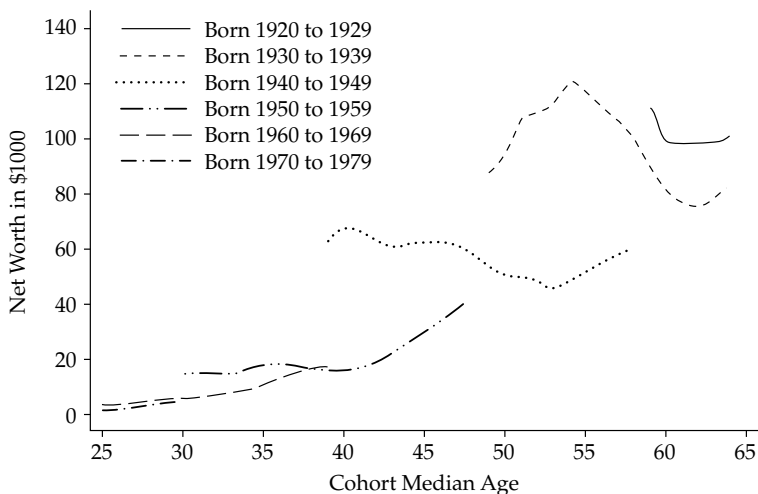
Source: Author's compilation.

Figure 3.18   Age Profile of Net Worth, Evolution of 1950 to 1959 Birth Cohort, 1984 to 2003
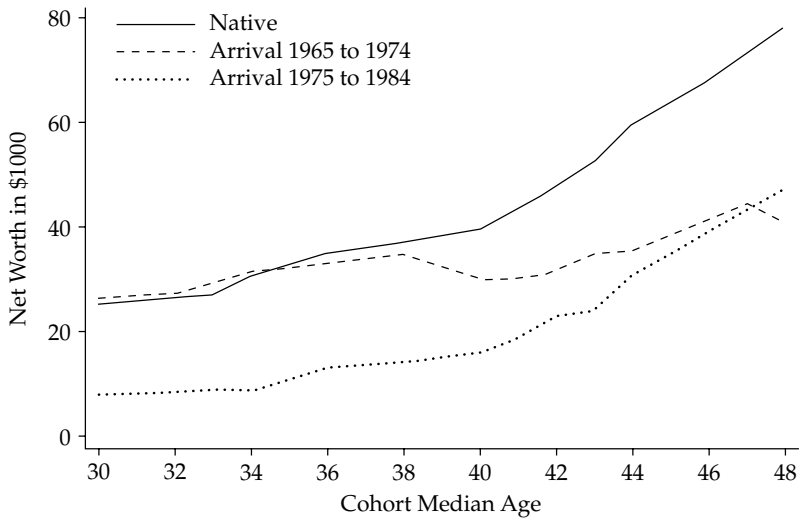
Figure 3.19   Age Profile of Net Worth, Evolution of 1960 to 1969 Birth Cohort, 1984 to 2003
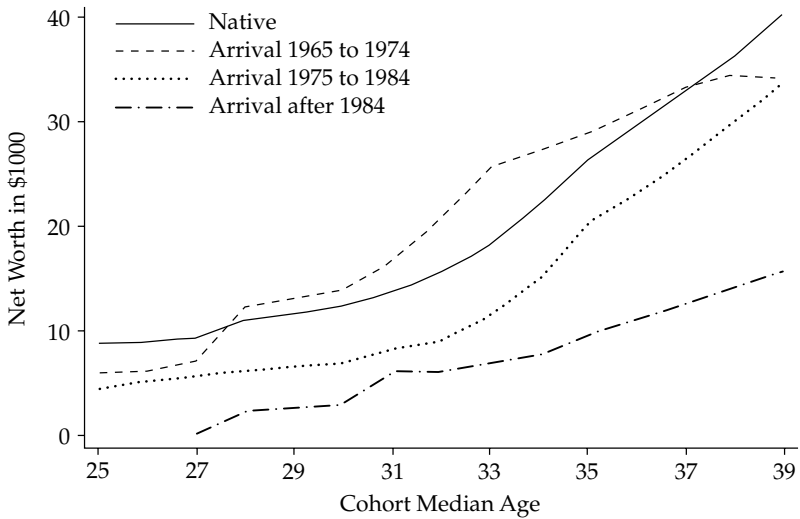
Figure 3.20   Age Profile of Net Worth, Evolution of 1970 to 1979 Birth Cohort, 1984 to 2003
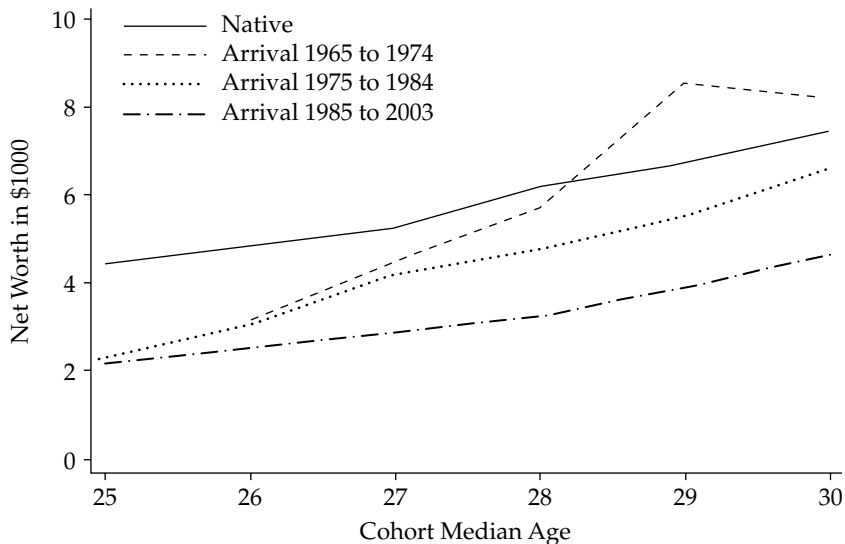
Source: Author's compilation.

Table 3.1   Percentage Distribution of Wealth Holding Status by Nativity and Demographic Characteristics, in Percentages

Group	Sufficient	Insufficient	Asset Poor	Net Debtor	Paycheck-to-Paycheck	% Total Households
Race-ethnicity						
White	55.2	27.2	5.9	10.2	1.4	76.3
Black	25.3	30.8	13.3	16.8	13.7	11.6
Hispanic	29.1	28.9	15.9	16.0	10.1	9.1
Asian	50.4	28.7	7.4	10.5	3.1	3.1
Education						
Bachelor's	62.6	25.0	2.6	9.2	0.5	29.1
Some college	47.0	30.4	7.2	13.4	2.1	27.8
High school	45.2	29.6	9.4	11.5	4.3	30.2
Schooling <12	33.6	24.8	16.6	12.2	12.9	12.9
Nativity						
Native	50.2	27.9	7.2	11.3	3.4	89.8
Immigrant	40.4	27.9	12.8	12.6	6.4	10.2
Age						
25–34	24.2	38.9	12.3	19.5	5.2	25.1
35–44	46.2	30.7	8.1	11.5	3.5	30.8
45–54	61.0	22.9	5.2	8.0	2.9	25.9
55–64	72.2	14.9	4.6	5.3	3.1	18.2

Source: Author's compilation.
Note: The statistics are the average for the years 1984 to 2003.
The data are based on respondents whose net worth is within the lower 99.5 percent of the original net worth distribution in the SIPP data (see appendix for details).

Table 3.2   Selected Percentiles of Net Worth, Asset, and Debt by Race-Ethnicity (2001 Dollars)

Group	5th	10th	25th	50th	75th	90th	95th	99th
Net Worth								
Total	−8,850	−975	4,650	47,874	155,448	353,932	548,575	1,102,228
White	−8,023	−90	10,524	66,501	186,994	400,930	604,642	1,173,296
Black	−11,111	−3,347	0	6,013	43,620	105,756	168,004	414,617
Hispanic	−10,982	−3,125	0	7,510	54,869	154,830	258,840	654,248
Asian	−11,130	−360	6,462	60,335	204,161	440,580	663,984	1,238,326
Assets								
Total	81	2,080	16,932	113,279	248,552	478,310	704,901	1,327,954
White	1,441	5,515	35,086	138,481	283,469	528,943	769,144	1,396,391
Black	0	0	1,559	17,777	97,100	188,370	269,526	559,652
Hispanic	0	0	2,600	21,930	131,282	262,293	396,234	898,767
Asian	532	3,300	17,552	156,096	353,699	639,750	879,467	1,527,597
Debts								
Total	0	0	2,362	28,982	98,205	174,542	233,868	405,700
White	0	0	4,922	39,000	106,037	182,221	244,000	422,969
Black	0	0	0	6,046	44,116	107,236	153,248	261,865
Hispanic	0	0	0	8,167	64,374	142,399	193,936	322,156
Asian	0	0	2,716	49,222	153,371	246,633	320,000	517,622

Source: Author's compilation.
Note: The statistics are the average for the years 1984 to 2003.
Percentiles are based on respondents whose net worth is within the lower 99.5 percent of the original net worth distribution in the SIPP data.

Table 3.3   Selected Percentiles of Net Worth, Asset, and Debt: by Nativity (2001 Dollars)

Percentile	5th	10th	25th	50th	75th	90th	95th	99th
Net Worth								
Native	−8,772	−886	5,361	50,739	158,555	358,350	554,047	1,111,890
Immigrant	−9,416	−1,575	1,217	22,267	123,581	318,376	499,130	1,000,942
Assets								
Native	260	2,658	19,611	116,574	250,587	480,416	707,319	1,335,257
Immigrant	0	552	5,861	70,529	230,160	459,400	676,524	1,271,094
Debts								
Native	0	0	2,934	30,518	98,037	172,752	231,629	400,554
Immigrant	0	0	0	15,373	100,181	191,000	256,500	435,574

Source: Author's compilation using data from the SIPP 1984–2001 panels.
Note: The statistics are the average for the years 1984 to 2003.
Percentiles are based on respondents whose net worth is within the lower 99.5 percent of the original net worth distribution in the SIPP data.

Figure 4.1   Demographics by Latino Group
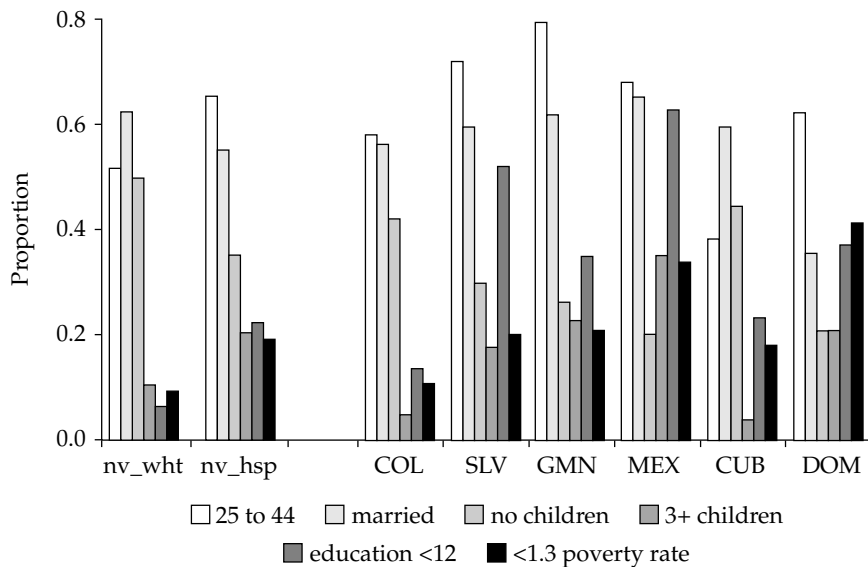
Figure 4.2   Wealth Holding Status by Latino Group
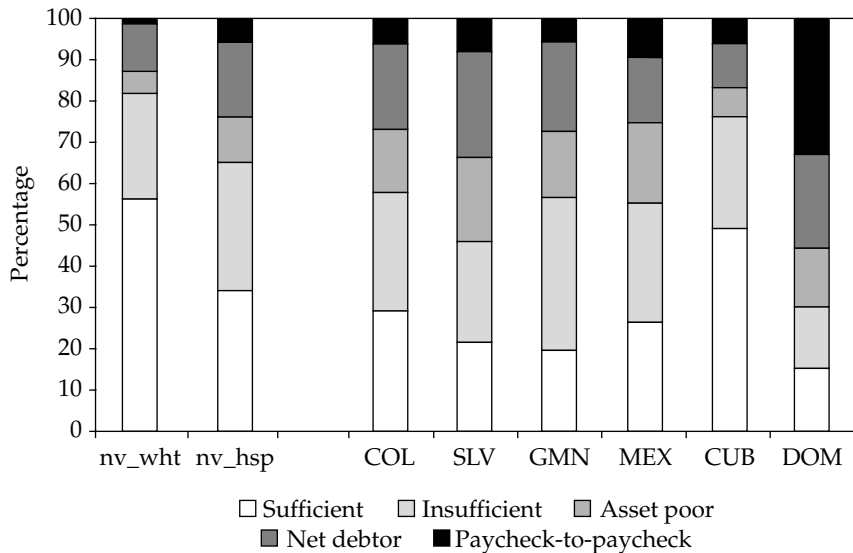
Source: Author's compilation.

Figure 4.3   Percentile Distribution of Net Worth by Latino Group

Legend:
- Native white
- Colombian
- Guatemalan
- Cuban
- Native Hispanic
- Salvadoran
- Mexican
- Dominican
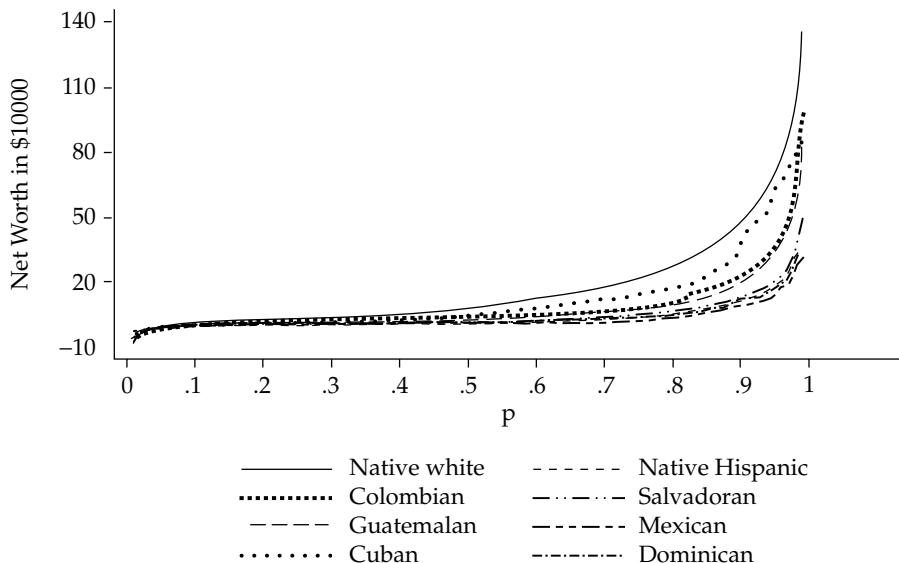
Source: Author's compilation.

Figure 4.4   Net Worth and Debts as Percentage of Native White Assets by Latino Group
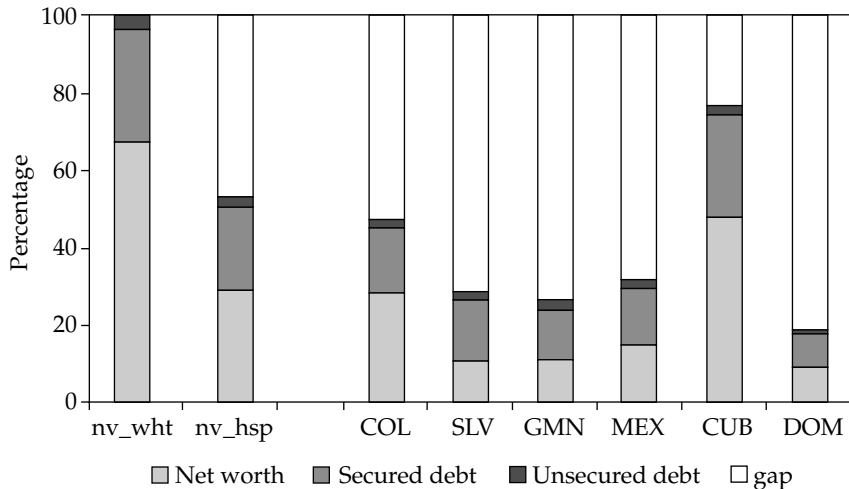
Figure 4.5   Net Worth and Debt as Percentage of Total Assets by Latino Group
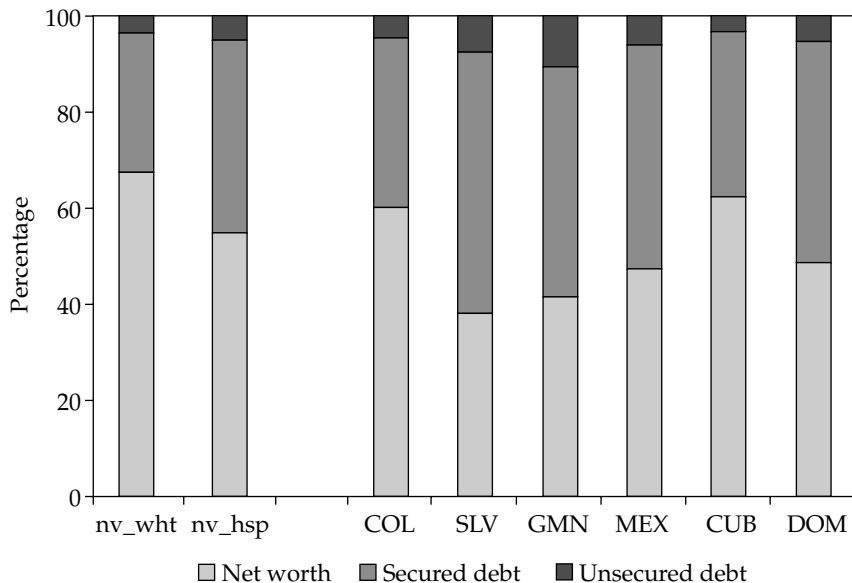
Figure 4.6   Portfolio as Percentage of Total Equity by Latino Group
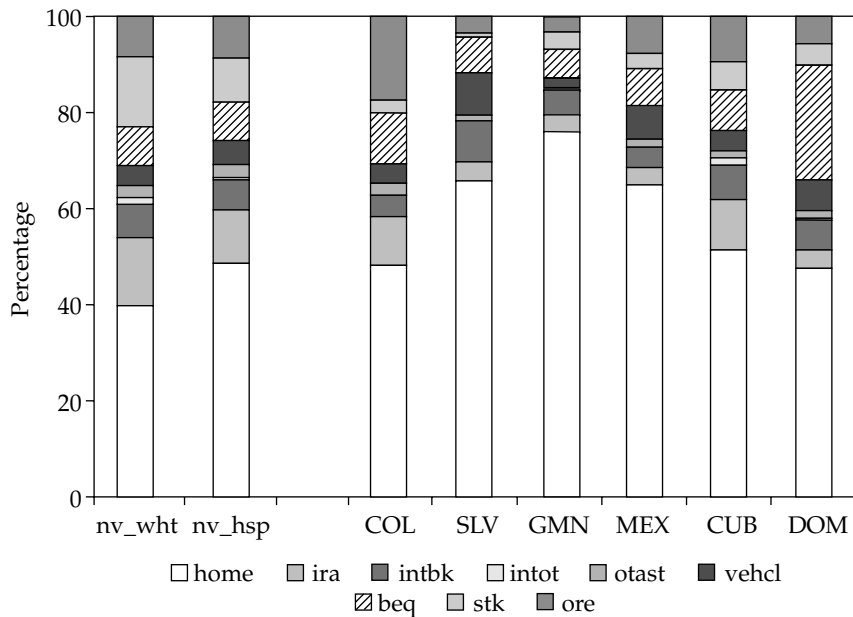
Source: Author's compilation.

Figure 4.7   Crude and Adjusted Homeownership Rates by Latino Group
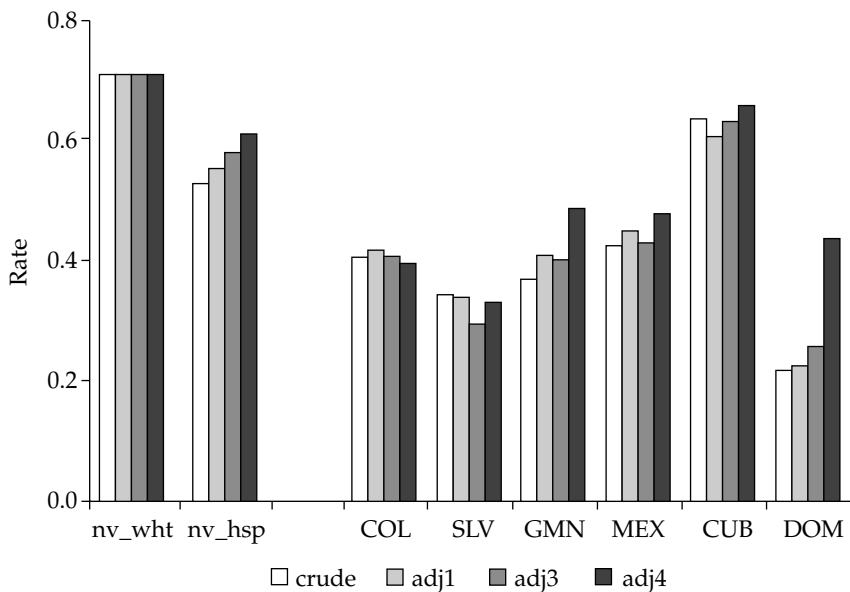
Figure 4.8   Crude and Adjusted Negative Home Equity Rates Among Homeowners, by Latino Group
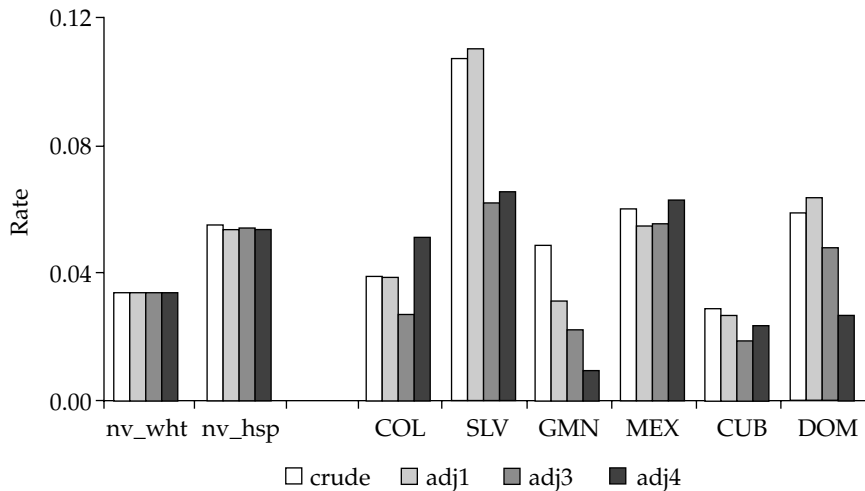
Figure 4.9   Financial Asset Rates by Latino Group
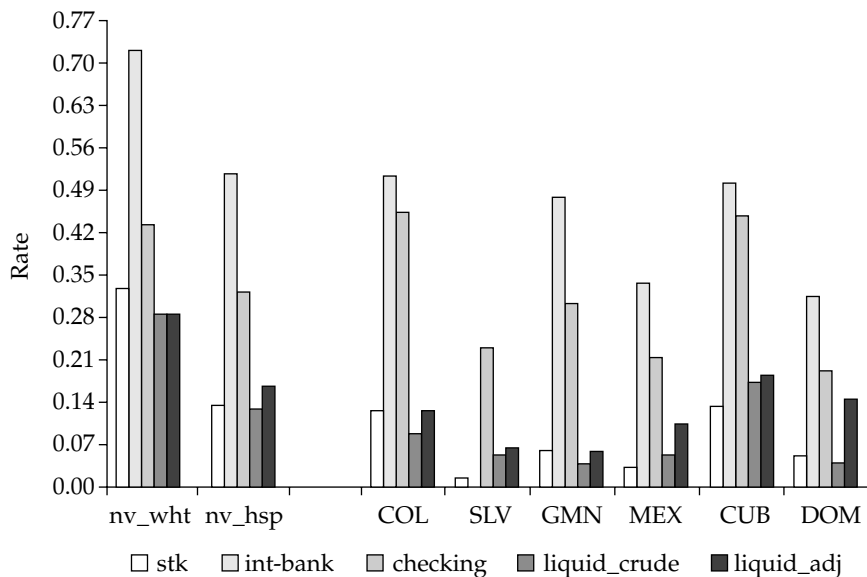
Figure 4.10   Crude and Adjusted Retirement Account Rates by Latino Group
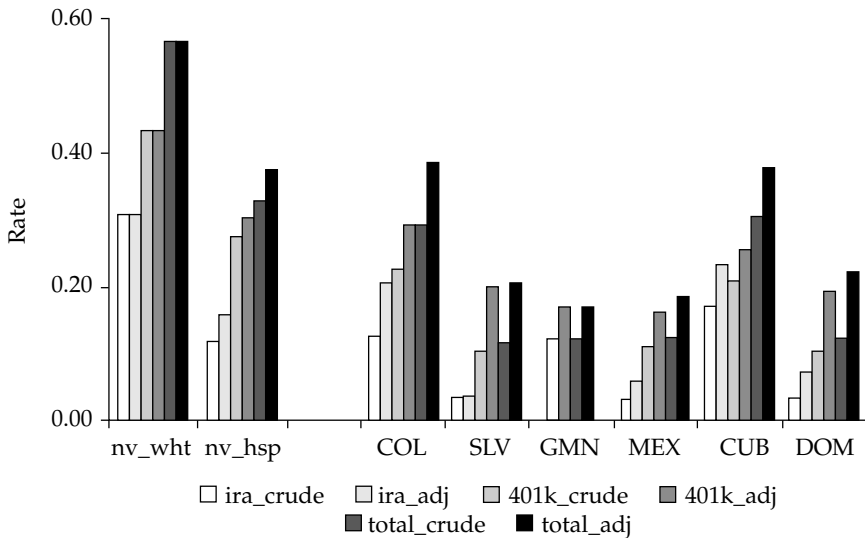
Figure 4.11   Crude and Adjusted Life Insurance Rates by Latino Group
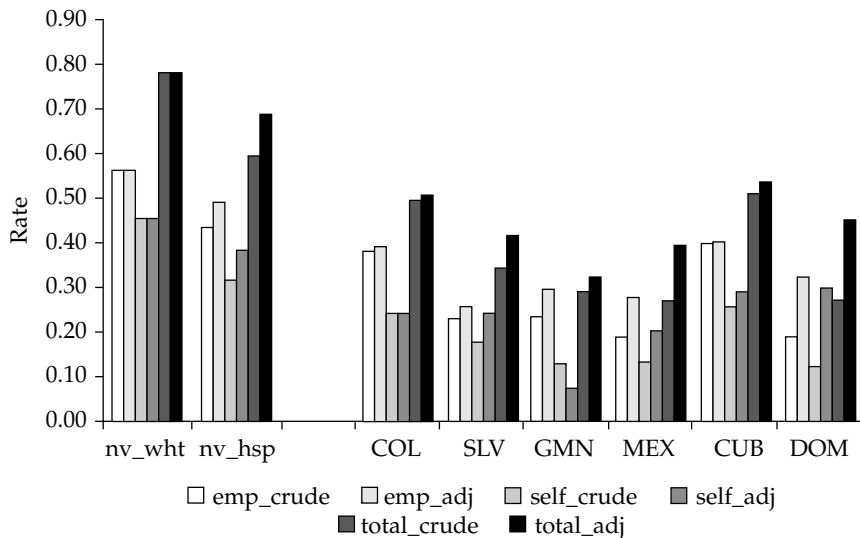
Figure 4.12   Crude and Adjusted Rates of Consumer Debts by Latino Group
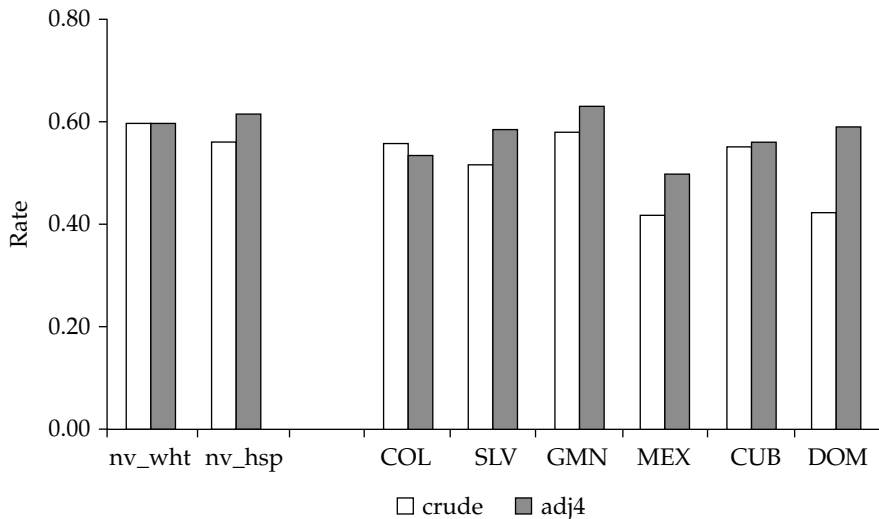
Source: Author's compilation.

Figure 4.13   Crude and Adjusted Rates of Business Ownership by Latino Group
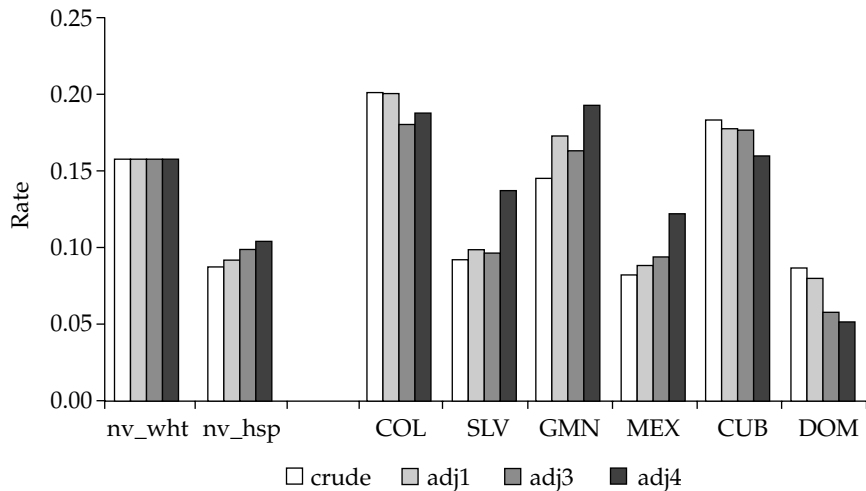
Source: Author's compilation.

Figure 4.14   The Wealth Regime Typology, 2002

INVESTMENT ENVIRONMENT

- **Low**
  - COL*
  - NGA*
  - ETH*
  - HTI*
  - SOM*
  - CUB*

- **Medium** — PURCHASING CAPACITY OF US $
  - **Medium** — GROWTH RATE
    - Negative: KEN*, JAM*
    - Low: MEX*, GTM*, SLV
    - Medium: DOM
  - **High** — GROWTH RATE
    - Low: PHL*, GHA
    - Medium: VNM, IND
    - High: CHN

- **High** — PURCHASING CAPACITY OF US $
  - **Low** — GROWTH RATE
    - Low: JPN
  - **Medium** — GROWTH RATE
    - Medium: KOR, TWN
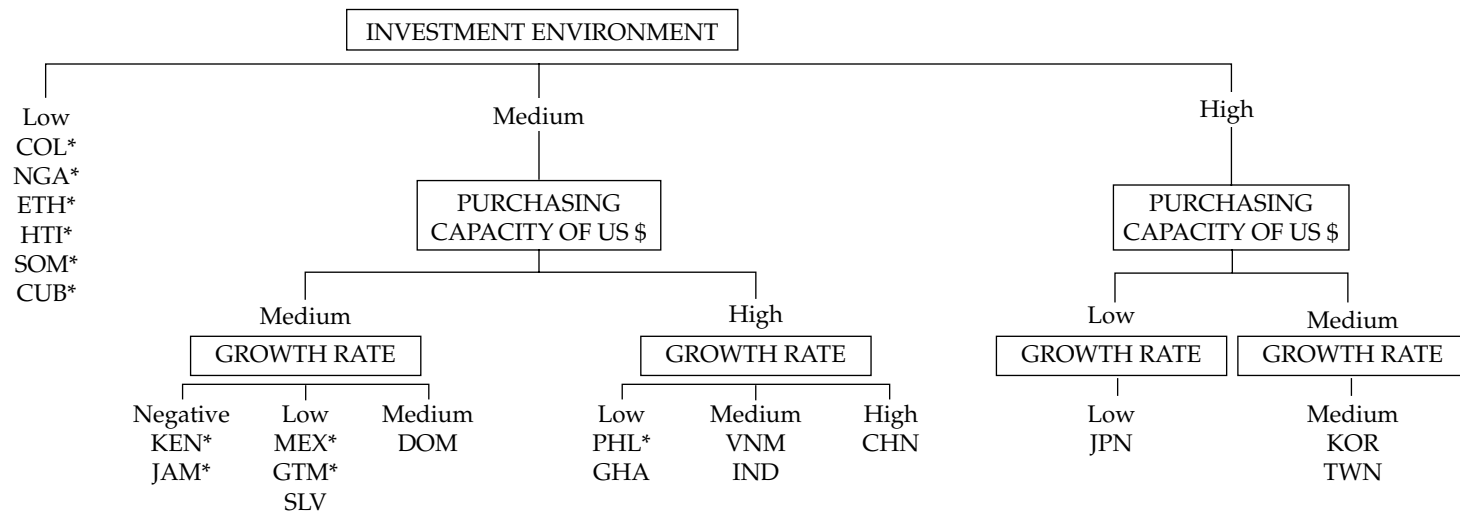
Source: Author's compilation.

Notes: The wealth regime typology is constructed based on 199 countries 1997 to 2002. The graph shows only the types that characterize the sending countries examined in this volume.

* Indicates unstable growth: 2 to 5 negative annual growth during 1997 to 2002.

Table 4.1   Demographic and Socioeconomic Differences by Latino Group

Group	Age (25 to 44)	Married	No Children	3 + Children	Education < 12	Poverty[a]	Sample Size
Native White	0.518	0.626	0.498	0.104	0.064	0.091	98,010
Latino American	0.655	0.552	0.352	0.204	0.222	0.190	5,179
Colombian	0.580	0.561	0.419	0.048	0.136	0.109	209
Salvadoran	0.721	0.594	0.298	0.177	0.522	0.201	422
Guatemalan	0.792	0.617	0.261	0.225	0.350	0.209	177
Mexican	0.681	0.654	0.200	0.352	0.629	0.339	4,362
Cuban	0.384	0.597	0.444	0.041	0.232	0.181	471
Dominican	0.621	0.356	0.211	0.210	0.372	0.413	317

Source: Author's compilation.
[a] Smaller than 130 percent of the official poverty line.

Table 4.2   Wealth Holding Status by Latino Group

	Sufficient	Insufficient	Asset Poor	Net-Debtor	Paycheck-to-Paycheck	Trimmed Annual Income[a]
Native white	0.564	0.257	0.052	0.114	0.014	$52,867
Latino American	0.341	0.310	0.110	0.181	0.058	$48,071
Colombian	0.291	0.288	0.153	0.207	0.062	$41,806
Salvadoran	0.216	0.243	0.203	0.257	0.081	$41,766
Guatemalan	0.196	0.370	0.158	0.217	0.058	$40,607
Mexican	0.263	0.288	0.195	0.158	0.095	$42,228
Cuban	0.490	0.270	0.071	0.107	0.063	$44,284
Dominican	0.152	0.147	0.141	0.228	0.331	$38,900

Source: Author's compilation.
[a] Annual income is trimmed at 130 percent of the poverty line at the bottom and $100,000 at the top.

Table 4.3   Selected Percentiles of Net Worth, Assets, and Debts by Latino Groups

	Net worth			Assets			Debts		
	5th	50th	95th	5th	50th	95th	5th	50th	95th
Native white	−11,670	71,886	685,416	1,693	152,786	847,945	0	47,837	262,501
Latino American	−17,228	15,834	331,626	0	56,052	485,250	0	19,135	225,092
Colombian	−13,475	6,918	341,516	0	19,459	496,247	0	9,379	196,403
Salvadoran	−18,763	1,929	159,233	0	9,996	304,188	0	7,986	186,805
Guatemalan	−16,763	6,069	170,531	0	19,139	238,936	0	14,561	133,885
Mexican	−12,598	5,967	188,939	0	15,946	303,475	0	5,644	174,000
Cuban	−7,457	37,517	630,857	0	112,894	770,452	0	37,471	260,763
Dominican	−9,880	0	124,574	0	850	246,596	0	394	158,924

Source: Author's compilation.

Table 4.4   **Homeownership by Demographic Characteristics and Latino Group**

	Total	25 to 44	45 to 64	Unmarried	Married	No Children	1 to 2 Children	3 + Children	Education < 12	Education ≥ 12
Native white	0.708	0.632	0.790	0.498	0.834	0.643	0.771	0.780	0.485	0.724
Latino American	0.527	0.460	0.653	0.359	0.663	0.474	0.564	0.536	0.414	0.559
Colombian	0.407	0.329	0.513	0.315	0.478	0.311	0.457	0.682	0.430	0.403
Salvadoran	0.343	0.349	0.327	0.090	0.516	0.137	0.340	0.699	0.294	0.406
Guatemalan	0.368	0.337	0.487	0.074	0.550	0.221	0.475	0.294	0.245	0.429
Mexican	0.424	0.374	0.531	0.279	0.501	0.321	0.440	0.462	0.403	0.463
Cuban	0.636	0.485	0.730	0.447	0.763	0.577	0.662	0.944	0.543	0.663
Dominican	0.217	0.192	0.257	0.154	0.330	0.223	0.249	0.120	0.095	0.289

Source: Author's compilation.

Table 4.5 **Odds Ratio of Homeownership by Demographic Characteristics and Latino Group**

	Age (45 to 64)	Married	No Children	3 + Children	Education ≥ 12
Native White	2.19	5.05	0.53	1.05	2.79
Latino American	2.22	3.50	0.69	0.89	1.80
Colombian	2.15	1.99	0.53	2.55	0.90
Salvadoran	0.90	10.79	0.31	4.50	1.64
Guatemalan	1.87	15.27	0.31	0.46	2.31
Mexican	1.89	2.60	0.60	1.09	1.28
Cuban	2.86	3.98	0.70	8.53	1.66
Dominican	1.46	2.72	0.86	0.41	3.86

Source: Author's compilation.

Table 4.6   Negative Home Equity Rates Among Homeowners by Latino Group

	Crude	Adj1[a]	Adj3[b]	Adj4[c]
Native white	0.034	0.034	0.034	0.034
Latino American	0.055	0.054	0.054	0.054
Colombian	0.039	0.039	0.027	0.052
Salvadoran	0.108	0.111	0.062	0.065
Guatemalan	0.049	0.031	0.022	0.009
Mexican	0.060	0.055	0.055	0.062
Cuban	0.028	0.027	0.018	0.023
Dominican	0.058	0.064	0.048	0.026

Source: Author's compilation.
[a] Adj1 adjusts for age composition.
[b] Adj3 adjusts for the composition of age, marital status, and number of children.
[c] Adj4 adjusts for the composition of age, marital status, number of children, and education levels.

Table 4.7   Number of Mortgages by Latino Group

	0	1	2 +
Native white	0.200	0.674	0.126
Latino American	0.217	0.700	0.083
Colombian	0.131	0.806	0.063
Salvadoran	0.145	0.788	0.068
Guatemalan	0.127	0.842	0.032
Mexican	0.210	0.746	0.044
Cuban	0.177	0.713	0.110
Dominican	0.056	0.879	0.065

Source: Author's compilation.

Table 4.8   Mortgages and NHE by Years of Ownership and Latino Group

	Proportion			2+ Mortgages			Prop. NHE		
	< 10	10 to 19	20 +	< 10	10 to 19	20 +	< 10	10 to 19	20 +
Native white	0.580	0.245	0.175	0.129	0.151	0.080	0.053	0.033	0.017
Latino American	0.618	0.213	0.170	0.075	0.136	0.045	0.083	0.062	0.045
Colombian	0.785	0.192	0.022	0.070	0.041	n.a.	0.091	0.065	n.a.
Salvadoran	0.793	0.168	0.038	0.085	0.000	n.a.	0.129	0.032	n.a.
Guatemalan	0.750	0.146	0.104	0.011	n.a.	n.a.	0.130	n.a.	n.a.
Mexican	0.712	0.180	0.108	0.041	0.062	0.031	0.101	0.048	0.037
Cuban	0.563	0.276	0.161	0.074	0.247	0.000	0.038	0.044	0.012
Dominican	0.750	0.111	0.140	0.085	n.a.	n.a.	0.100	n.a.	n.a.

Source: Author's compilation.
Note: n.a. indicates a cell size < 10.

Table 4.9   Program and Interest Rate of First Home Mortgage by Latino Group

	FHA/VA	Interest Rate < 7.0	Interest Rate ≥ 8.5
Native white	0.200	0.331	0.172
Latino American	0.370	0.289	0.218
Colombian	0.285	0.228	0.191
Salvadoran	0.187	0.305	0.203
Guatemalan	0.416	0.213	0.265
Mexican	0.321	0.255	0.238
Cuban	0.196	0.203	0.300
Dominican	0.447	0.305	0.241

Source: Author's compilation.

Table 4.10   Ownership of Liquid Financial Assets by Latino Group

| | Stock and Mutual Fund | Int. Bank Account | Non-Int Checking[a] | $20,000 or More Combined | |
				Liquid Crude	Liquid Adj4[b]
Native white	0.328	0.720	0.434	0.284	0.284
Latino American	0.136	0.517	0.321	0.127	0.165
Colombian	0.125	0.514	0.456	0.088	0.124
Salvadoran	0.013	0.351	0.230	0.053	0.064
Guatemalan	0.059	0.479	0.304	0.037	0.056
Mexican	0.032	0.336	0.213	0.052	0.104
Cuban	0.134	0.503	0.447	0.174	0.186
Dominican	0.052	0.316	0.193	0.037	0.143

Source: Author's compilation.
[a] Among those who have no interest-earning bank accounts.
[b] Adj4 adjusts for the composition of age, marital status, number of children, and education levels.

Table 4.11   Retirement Account Ownership by Latino Group

	IRA-Keogh		401k		Total	
	Crude	Adj[a]	Crude	Adj[a]	Crude	Adj[a]
Native white	0.308	0.308	0.434	0.434	0.568	0.568
Latino American	0.117	0.159	0.274	0.303	0.328	0.375
Colombian	0.125	0.204	0.225	0.292	0.292	0.386
Salvadoran	0.032	0.034	0.102	0.199	0.113	0.207
Guatemalan	0.000	0.000	0.121	0.168	0.121	0.168
Mexican	0.030	0.057	0.108	0.160	0.121	0.184
Cuban	0.168	0.231	0.208	0.254	0.305	0.378
Dominican	0.032	0.069	0.102	0.192	0.120	0.221

Source: Author's compilation.
[a] Adj adjusts for the composition of age and ownership of $20,000 liquid financial asset.

Table 4.12   Life Insurance by Latino Group

	Employer-Provided		Self-Bought		Total	
	Crude	Adj4[a]	Crude	Adj4[a]	Crude	Adj4[a]
Native white	0.564	0.564	0.457	0.457	0.784	0.784
Latino American	0.434	0.493	0.317	0.384	0.598	0.690
Colombian	0.380	0.392	0.241	0.241	0.496	0.507
Salvadoran	0.228	0.257	0.177	0.240	0.346	0.417
Guatemalan	0.233	0.294	0.126	0.071	0.291	0.324
Mexican	0.188	0.275	0.132	0.202	0.269	0.393
Cuban	0.400	0.402	0.254	0.289	0.510	0.537
Dominican	0.187	0.322	0.122	0.297	0.270	0.451

Source: Author's compilation.
[a] Adj4 adjusts for the composition of age, marital status, number of children, and education levels.

Table 4.13   Unsecured Debts by Latino Group

	Crude	Adj4[a]	Credit Card Debts Amount	Trim. Amount
Native white	0.598	0.598	$6,141	$5,658
Latino American	0.560	0.615	$5,704	$5,642
Colombian	0.559	0.534	$5,922	$4,915
Salvadoran	0.517	0.585	$5,489	$5,622
Guatemalan	0.580	0.628	$5,184	$5,220
Mexican	0.416	0.497	$7,828	$4,474
Cuban	0.550	0.560	$6,587	$6,343
Dominican	0.421	0.589	$4,668	$4,726

Source: Author's compilation.
[a] Adj4 adjusts for the composition of age, marital status, number of children, and education levels.

Table 4.14   Business Ownership by Latino Group

	Crude	Adj1[a]	Adj3[b]	Adj4[c]
Native white	0.158	0.158	0.158	0.158
Latino American	0.087	0.092	0.099	0.105
Colombian	0.202	0.201	0.181	0.188
Salvadoran	0.092	0.098	0.096	0.137
Guatemalan	0.145	0.172	0.163	0.192
Mexican	0.082	0.088	0.093	0.121
Cuban	0.183	0.177	0.177	0.159
Dominican	0.086	0.078	0.056	0.050

Source: Author's compilation.
[a] Adj1 adjusts for age composition.
[b] Adj3 adjusts for the composition of age, marital status, and number of children.
[c] Adj4 adjusts for the composition of age, marital status, number of children, and education levels.

Figure 5.1   Demographics by Asian Group
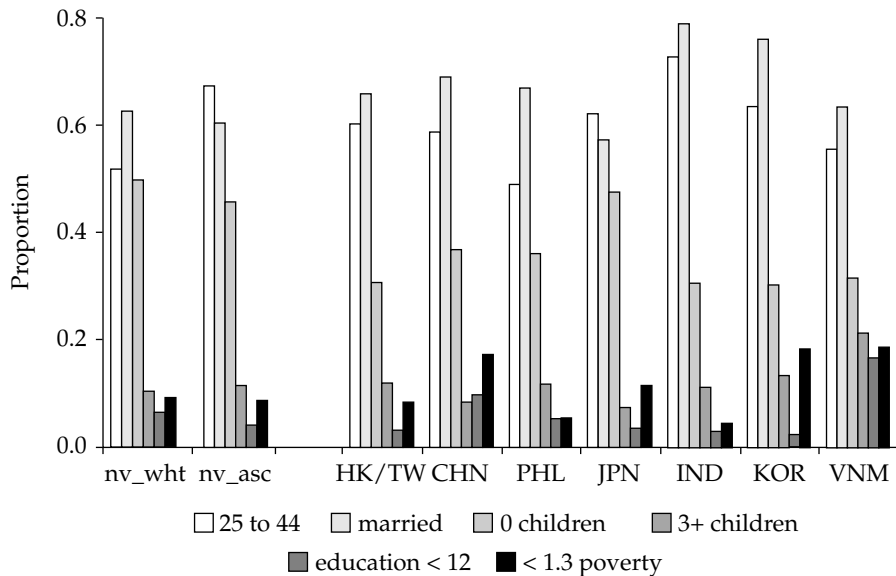
Figure 5.2   Wealth Holding Status by Asian Group
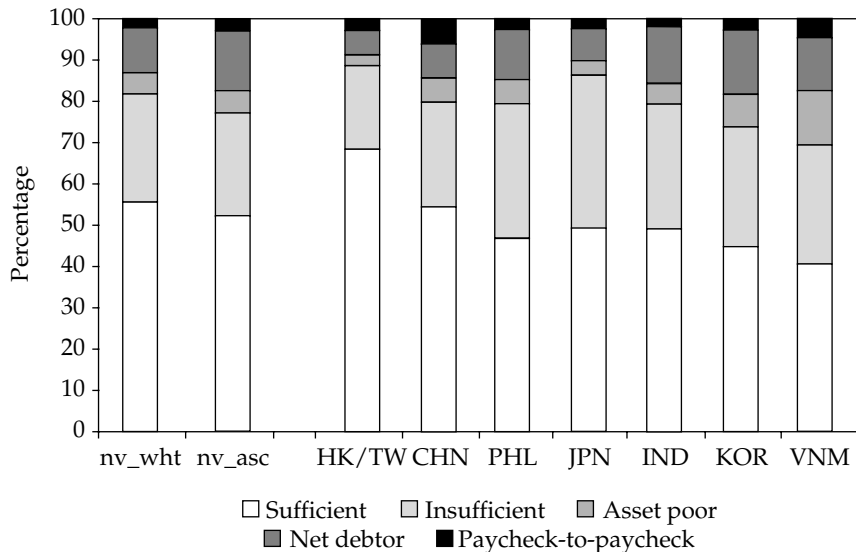
Figure 5.3   Percentile Distribution of Net Worth by Asian Group
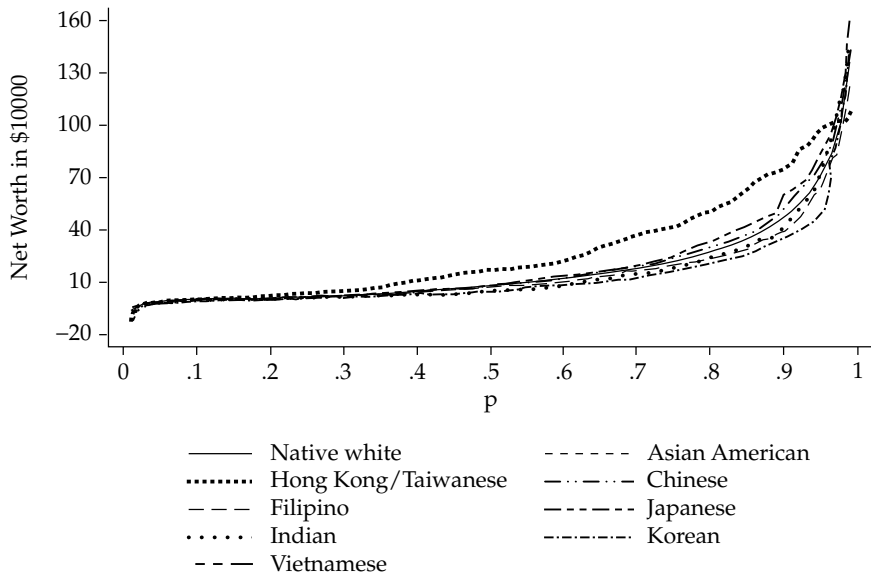
Source: Author's compilation.

Figure 5.4   Net Worth and Debts as Percentage of Hong Kong and Taiwan Assets by Asian Group
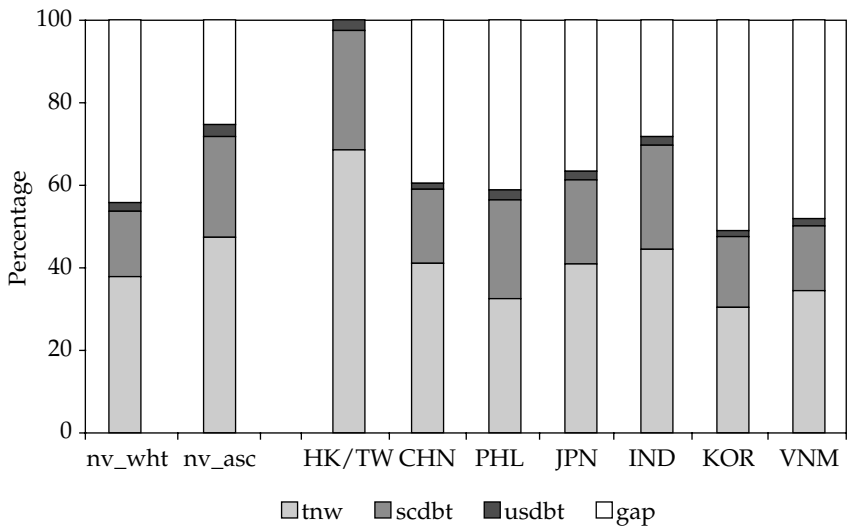
Source: Author's compilation.

Figure 5.5   Net Worth and Debt as Percentage of Total Assets by Asian Group
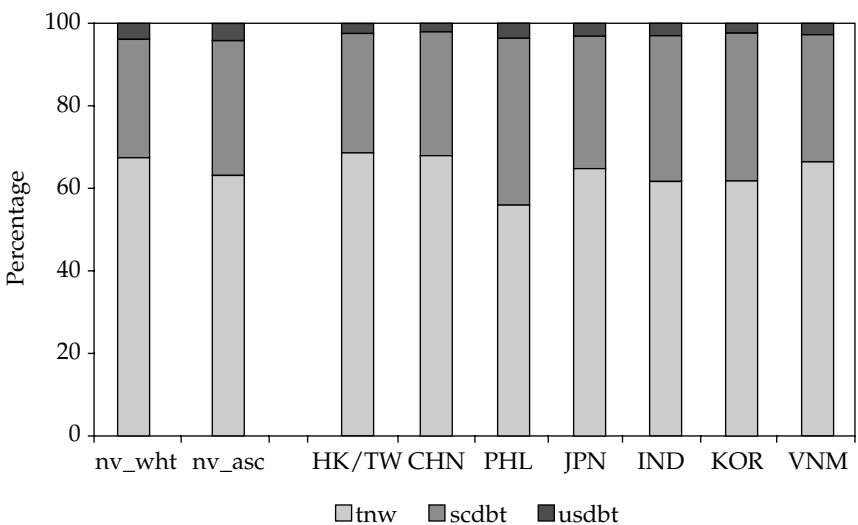
Source: Author's compilation.

Figure 5.6   Portfolio as Percentage of Total Equity by Asian Group
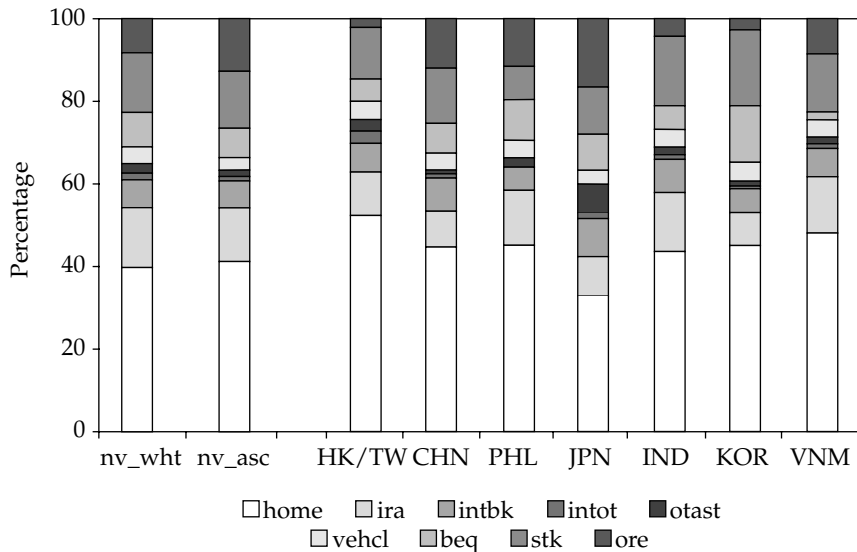
Source: Author's compilation.

Figure 5.7   Crude and Adjusted Homeownership Rates by Asian Group
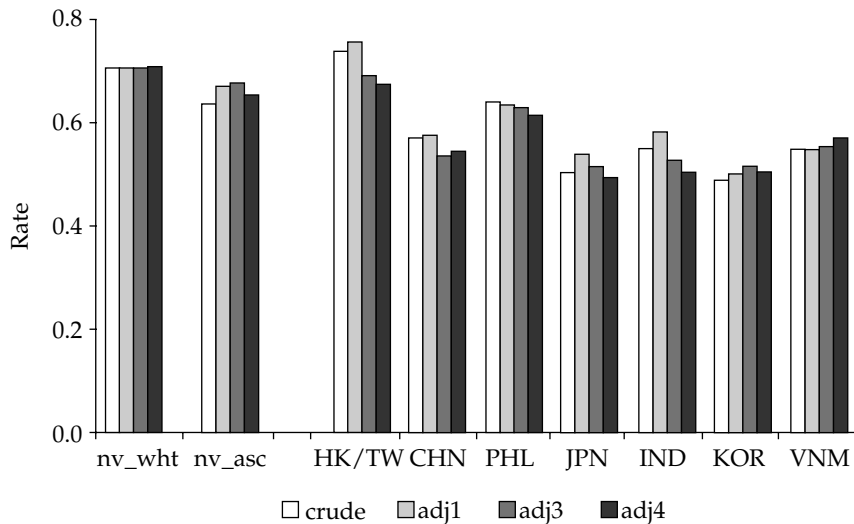
Figure 5.8   Crude and Adjusted Negative Home Equity Rates Among Homeowners by Asian Group
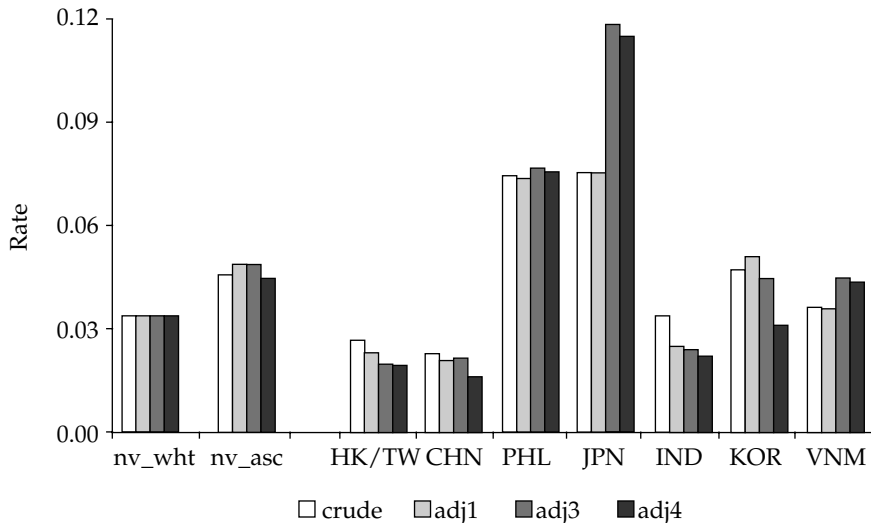
Figure 5.9   Financial Asset Rates by Asian Group
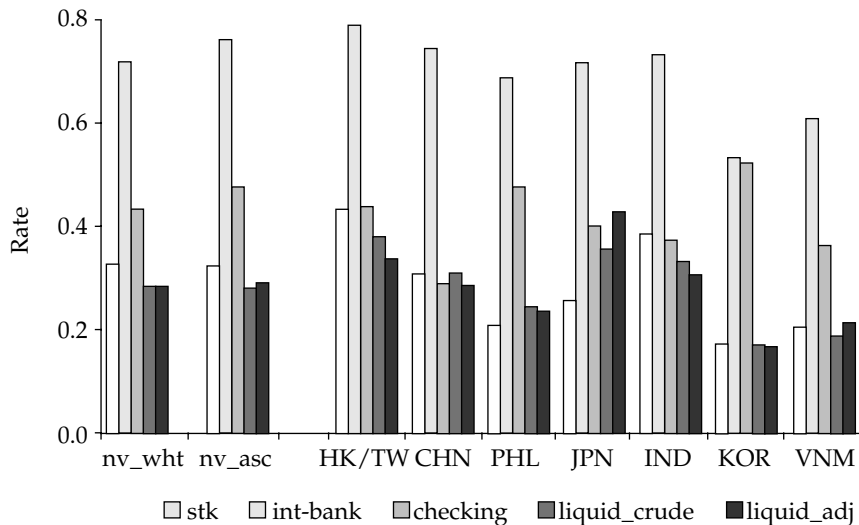
Source: Author's compilation.

Figure 5.10   Crude and Adjusted Retirement Account Rates by Asian Group
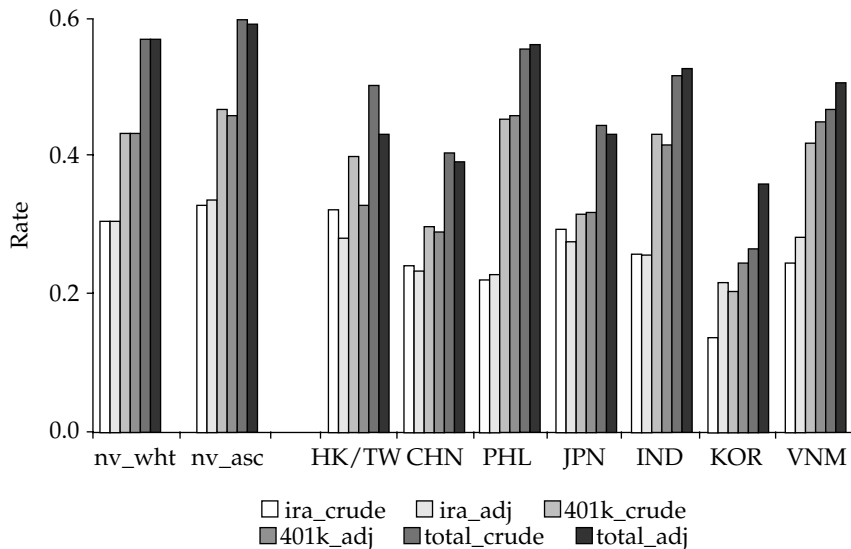
Source: Author's compilation.

Figure 5.11   Crude and Adjusted Life Insurance Rates by Asian Group
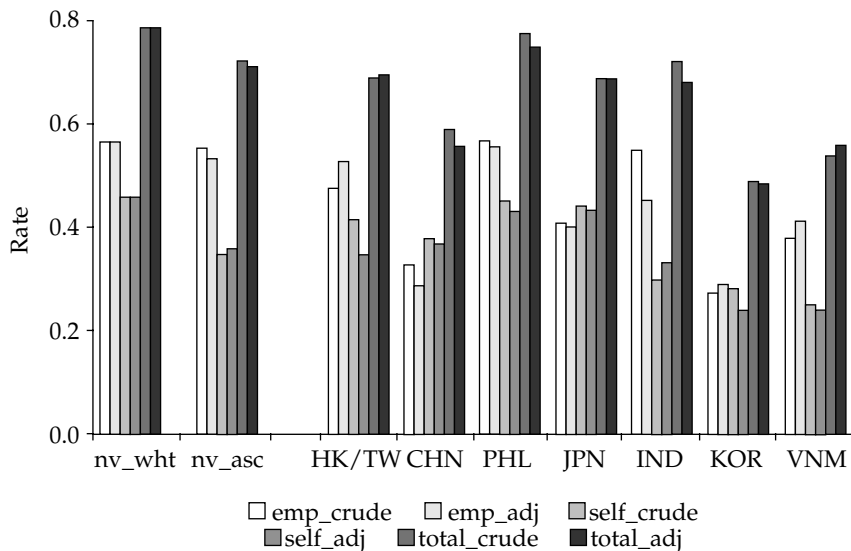
Figure 5.12   Crude and Adjusted Rates of Consumer Debts by Asian Group
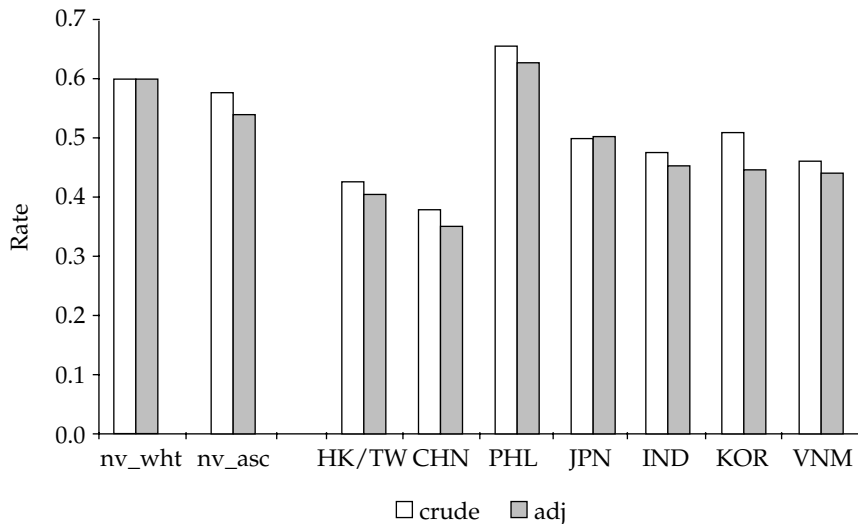
Figure 5.13   Crude and Adjusted Rates of Business Ownership by Asian Group
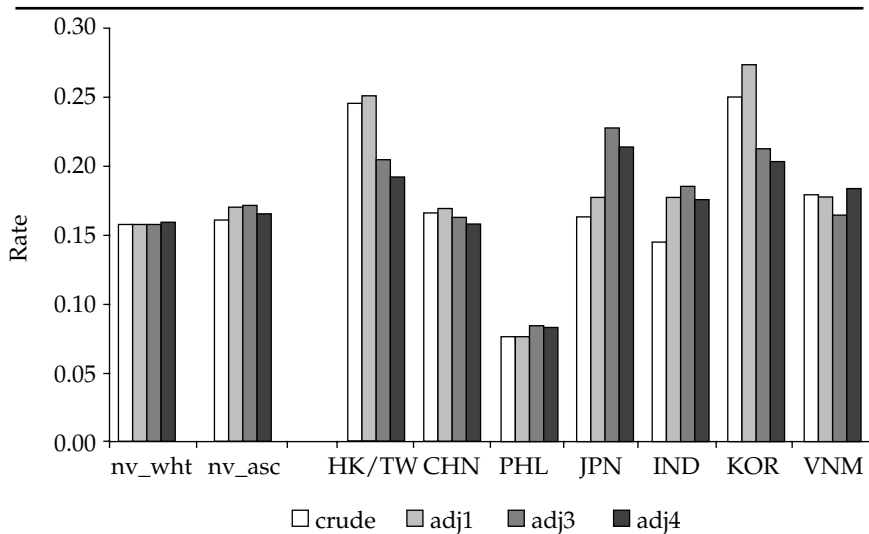
Table 5.1   Demographic and Socioeconomic Differences by Asian Group

	Age (25 to 44)	Married	0 Children	3 + Children	Education < 12	Poverty[a]	Sample Size
Native white	0.518	0.626	0.498	0.104	0.064	0.091	98,010
Asian American	0.674	0.605	0.459	0.115	0.040	0.086	943
HK–Taiwan Chinese	0.603	0.661	0.307	0.120	0.029	0.083	276
Mainland Chinese	0.590	0.693	0.369	0.082	0.096	0.173	448
Filipino	0.492	0.671	0.361	0.116	0.052	0.053	659
Japanese	0.622	0.574	0.479	0.074	0.038	0.115	168
Asian Indian	0.729	0.791	0.307	0.110	0.028	0.044	548
Korean	0.637	0.764	0.304	0.133	0.023	0.185	363
Vietnamese	0.557	0.638	0.318	0.213	0.168	0.187	462

Source: Author's compilation.
[a] Less than 130 percent Poverty Level.

Table 5.2   Wealth Holding Status by Asian Group

	Sufficient	Insufficient	Asset Poor	Net-Debtor	Paycheck-to-Paycheck	Trimmed Annual Income[a]
Native white	0.564	0.257	0.052	0.114	0.014	$52,867
Asian American	0.523	0.251	0.055	0.147	0.024	$57,359
HK–Taiwan Chinese	0.685	0.202	0.027	0.061	0.025	$54,010
Mainland Chinese	0.549	0.250	0.060	0.082	0.059	$52,394
Filipino	0.468	0.325	0.059	0.124	0.023	$54,759
Japanese	0.491	0.373	0.037	0.076	0.024	$56,984
Asian Indian	0.491	0.302	0.053	0.137	0.016	$58,720
Korean	0.451	0.290	0.079	0.159	0.022	$49,184
Vietnamese	0.407	0.287	0.131	0.131	0.045	$51,613

Source: Author's compilation.
[a] Annual income is trimmed at 130 percent poverty line at the bottom and $100,000 at the top.

Table 5.3   Selected Percentiles of Net Worth, Asset, and Debt by Asian Group

	Net Worth			Assets			Debts		
	5th	50th	95th	5th	50th	95th	5th	50th	95th
Native white	−11,670	71,886	685,416	1,693	152,786	847,945	0	47,837	262,501
Asian American	−18,247	66,085	816,792	706	161,054	1,037,901	0	63,996	336,680
HK–Taiwan Chinese	−807	161,254	956,785	3,667	305,769	1,010,827	0	93,788	369,831
Mainland Chinese	−8,267	74,642	756,422	0	160,304	977,757	0	23,599	287,977
Filipino	−13,025	56,900	607,440	1,729	173,979	820,307	0	83,678	322,829
Japanese	−13,546	42,484	716,746	1,309	134,365	977,894	0	39,378	341,603
Asian Indian	−16,911	76,250	632,971	2,658	158,477	871,203	0	55,150	320,930
Korean	−16,221	31,576	475,782	2,282	93,438	640,419	0	24,020	284,100
Vietnamese	−15,330	30,851	693,123	0	100,500	952,600	0	28,220	281,945

Source: Author's compilation.

Table 5.4   Homeownership by Demographic Characteristics and Asian Group

	Total	25 to 44	45 to 64	Unmarried	Married	0	1 to 2 Children	3+	Education < 12	Education ≥ 12
Native white	0.708	0.632	0.790	0.498	0.834	0.643	0.771	0.780	0.485	0.724
Asian American	0.636	0.559	0.796	0.451	0.758	0.533	0.754	0.612	0.648	0.636
HK–Taiwan Chinese	0.740	0.664	0.855	0.513	0.857	0.464	0.842	0.960	0.404	0.750
Mainland Chinese	0.570	0.527	0.631	0.373	0.657	0.425	0.653	0.665	0.231	0.606
Filipino	0.642	0.529	0.751	0.476	0.723	0.608	0.639	0.760	0.623	0.644
Japanese	0.503	0.376	0.713	0.390	0.587	0.362	0.591	0.888	0.596	0.499
Asian Indian	0.551	0.510	0.662	0.252	0.630	0.301	0.640	0.778	0.331	0.557
Korean	0.490	0.459	0.546	0.445	0.504	0.448	0.467	0.685	0.853	0.482
Vietnamese	0.548	0.547	0.549	0.383	0.642	0.450	0.674	0.419	0.264	0.603

Source: Author's compilation.

Table 5.5   Odds Ratio of Homeownership by Demographic Characteristics and Asian Group

	45 to 64	Married	0 Children	3 + Children	Education ≥ 12
Native white	2.19	5.05	0.53	1.05	2.79
Asian American	3.07	3.81	0.37	0.51	0.95
HK–Taiwan Chinese	2.98	5.68	0.16	4.51	4.42
Mainland Chinese	1.54	3.21	0.39	1.06	5.10
Filipino	2.68	2.88	0.88	1.79	1.09
Japanese	4.13	2.23	0.39	5.51	0.67
Asian Indian	1.89	5.04	0.24	1.97	2.54
Korean	1.42	1.27	0.92	2.48	0.16
Vietnamese	1.01	2.89	0.40	0.35	4.24

Source: Author's compilation.

Table 5.6 Negative Home Equity Rates Among Homeowners by Asian Group

	Crude	Adj1[a]	Adj3[b]	Adj4[c]
Native white	0.034	0.034	0.034	0.034
Asian American	0.046	0.048	0.049	0.045
HK–Taiwan Chinese	0.027	0.023	0.020	0.019
Mainland Chinese	0.023	0.021	0.022	0.016
Filipino	0.075	0.074	0.077	0.076
Japanese	0.076	0.075	0.118	0.115
Asian Indian	0.034	0.025	0.024	0.022
Korean	0.047	0.051	0.045	0.031
Vietnamese	0.036	0.036	0.045	0.044

Source: Author's compilation.
[a] Adj1 adjusts for age composition.
[b] Adj3 adjusts for the composition of age, marital status, and number of children.
[c] Adj4 adjusts for the composition of age, marital status, number of children, and education levels.

Table 5.7   Number of Mortgages Among Homeowners by Asian Group

	0	1	2+
Native white	0.200	0.674	0.126
Asian American	0.136	0.718	0.146
HK–Taiwan Chinese	0.191	0.724	0.085
Mainland Chinese	0.180	0.759	0.061
Filipino	0.067	0.805	0.129
Japanese	0.065	0.734	0.201
Asian Indian	0.069	0.818	0.113
Korean	0.149	0.756	0.095
Vietnamese	0.164	0.766	0.070

Source: Author's compilation.

Table 5.8   Mortgages and NHE among Homeowners by Years of Ownership and Asian Group

	Proportion			2 + Mortgages			Prop. NHE		
	< 10	10 ~ 19	20 +	< 10	10 ~ 19	20 +	< 10	10 ~ 19	20 +
Native white	0.580	0.245	0.175	0.129	0.151	0.080	0.053	0.033	0.017
Asian American	0.670	0.216	0.114	0.142	0.154	0.161	0.059	0.060	0.027
HK–Taiwan Chinese	0.713	0.245	0.042	0.075	0.077	0.309	0.052	0.018	0.000
Mainland Chinese	0.700	0.199	0.101	0.037	0.117	n.a.	0.027	0.000	0.043
Filipino	0.633	0.269	0.098	0.098	0.180	n.a.	0.104	0.069	0.000
Japanese	0.642	0.298	0.060	0.147	0.296	0.298	0.104	0.070	0.000
Asian Indian	0.789	0.184	0.027	0.113	0.129	n.a.	0.054	0.000	n.a.
Korean	0.691	0.253	0.056	0.075	0.168	0.000	0.082	0.034	0.000
Vietnamese	0.752	0.217	0.031	0.065	0.071	n.a.	0.060	0.015	n.a.

Source: Author's compilation.
Note: n.a. indicates a cell size < 10.

Table 5.9   **Program and Interest Rate of First Home Mortgage by Asian Group**

	FHA–VA	< 7.0	≥ 8.5
Native white	0.200	0.331	0.172
Asian American	0.205	0.371	0.102
HK–Taiwan Chinese	0.104	0.429	0.066
Mainland Chinese	0.131	0.399	0.147
Filipino	0.270	0.261	0.212
Japanese	0.111	0.345	0.200
Asian Indian	0.132	0.513	0.071
Korean	0.133	0.277	0.133
Vietnamese	0.246	0.401	0.123

Source: Author's compilation.

Table 5.10   Ownership of Liquid Financial Assets by Asian Group

	Stock Mutual Fund	Int. Bank Account	Non-Interest Checking[a]	$20,000 or More Combined	
				Crude	Adj4[b]
Native white	0.328	0.720	0.434	0.284	0.284
Asian American	0.323	0.764	0.477	0.281	0.292
HK–Taiwan Chinese	0.438	0.795	0.443	0.383	0.339
Mainland Chinese	0.309	0.748	0.290	0.310	0.285
Filipino	0.209	0.690	0.478	0.245	0.235
Japanese	0.258	0.719	0.404	0.361	0.430
Asian Indian	0.388	0.735	0.376	0.336	0.308
Korean	0.174	0.537	0.528	0.172	0.167
Vietnamese	0.206	0.611	0.365	0.190	0.216

Source: Author's compilation.
[a] Among those who have no interest-earning bank accounts.
[b] Adj4 adjusts for the composition of age, marital status, number of children, and education levels.

Table 5.11   Retirement Account Ownership by Asian Group

	IRA–Keogh		401k		Total	
	Crude	Adj[a]	Crude	Adj[a]	Crude	Adj[a]
Native white	0.308	0.308	0.434	0.434	0.568	0.568
Asian American	0.330	0.337	0.467	0.459	0.595	0.590
HK–Taiwan Chinese	0.322	0.282	0.400	0.329	0.500	0.430
Mainland Chinese	0.242	0.233	0.297	0.290	0.404	0.393
Filipino	0.222	0.229	0.453	0.458	0.552	0.560
Japanese	0.293	0.275	0.317	0.318	0.444	0.428
Asian Indian	0.258	0.257	0.430	0.414	0.515	0.526
Korean	0.138	0.218	0.204	0.244	0.267	0.358
Vietnamese	0.245	0.282	0.420	0.450	0.464	0.503

Source: Author's compilation.
[a] Adj adjusts for the composition of age and ownership of $20,000 liquid financial asset.

Table 5.12   Life Insurance by Asian Group

	Employer-Provided		Self-Bought		Total	
	Crude	Adj[a]	Crude	Adj[a]	Crude	Adj[a]
Native white	0.564	0.564	0.457	0.457	0.784	0.784
Asian American	0.553	0.534	0.349	0.361	0.722	0.710
HK–Taiwan Chinese	0.475	0.527	0.414	0.348	0.686	0.693
Mainland Chinese	0.328	0.288	0.378	0.368	0.591	0.556
Filipino	0.566	0.556	0.452	0.430	0.775	0.746
Japanese	0.406	0.402	0.441	0.432	0.685	0.687
Asian Indian	0.548	0.451	0.300	0.331	0.719	0.677
Korean	0.273	0.288	0.281	0.239	0.488	0.482
Vietnamese	0.378	0.410	0.247	0.238	0.536	0.556

Source: Author's compilation.

[a] Adj4 adjusts for the composition of age, marital status, number of children, and education levels.

Table 5.13   Consumer Debts by Asian Group

| | Credit Card Debts | | | |
	Crude	Adj4[a]	Amount	Trim. Amount
Native white	0.598	0.598	$6,141	$5,658
Asian American	0.578	0.539	$6,840	$6,704
HK–Taiwan Chinese	0.426	0.404	$11,175	$5,729
Mainland Chinese	0.378	0.351	$5,863	$6,177
Filipino	0.655	0.627	$7,349	$6,769
Japanese	0.498	0.501	$8,749	$7,740
Asian Indian	0.475	0.453	$7,150	$6,623
Korean	0.510	0.447	$6,513	$6,460
Vietnamese	0.461	0.440	$6,270	$6,339

Source: Author's compilation.
[a] Adj4 adjusts for the composition of age, marital status, number of children, and education levels.

Table 5.14   Business Ownership by Asian Group

	Crude	Adj1[a]	Adj3[b]	Adj4[c]
Native white	0.158	0.158	0.158	0.158
Asian American	0.161	0.171	0.173	0.165
HK–Taiwan Chinese	0.247	0.253	0.206	0.193
Mainland Chinese	0.167	0.170	0.163	0.159
Filipino	0.077	0.076	0.085	0.084
Japanese	0.164	0.179	0.229	0.215
Asian Indian	0.146	0.179	0.188	0.176
Korean	0.252	0.275	0.214	0.205
Vietnamese	0.181	0.179	0.166	0.185

Source: Author's compilation.

[a] Adj1 adjusts for age composition.

[b] Adj3 adjusts for the composition of age, marital status, and number of children.

[c] Adj4 adjusts for the composition of age, marital status, number of children, and education levels.

Figure 6.1   Demographics by Black Group
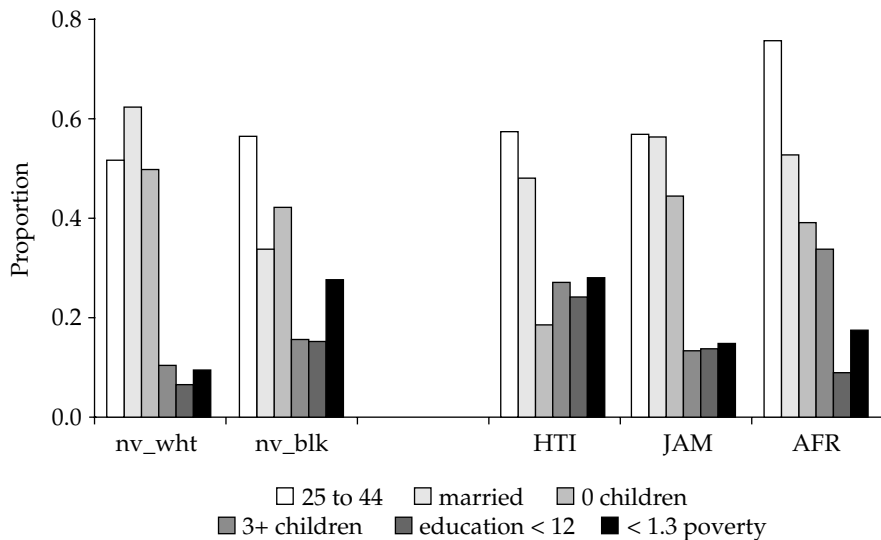
Source: Author's compilation.

Figure 6.2   Wealth Holding Status by Black Group
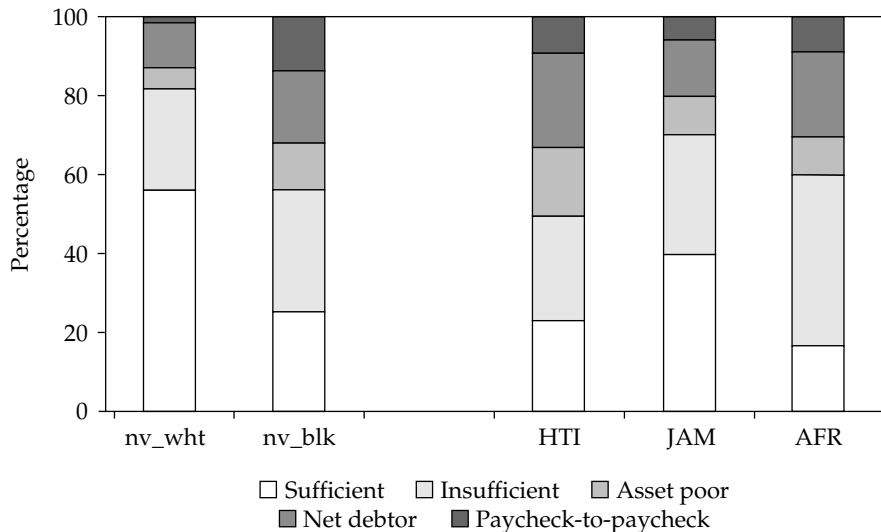
Source: Author's compilation.

Figure 6.3   Percentile Distribution of Net Worth by Black Group
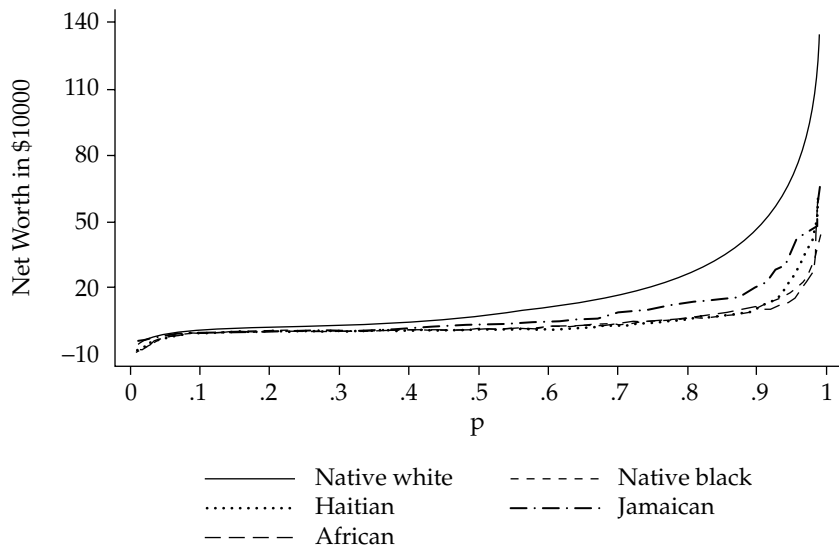
Source: Author's compilation.

Figure 6.4   Net Worth and Debts as Percentage of Native Whites' Total
Asset by Black Group
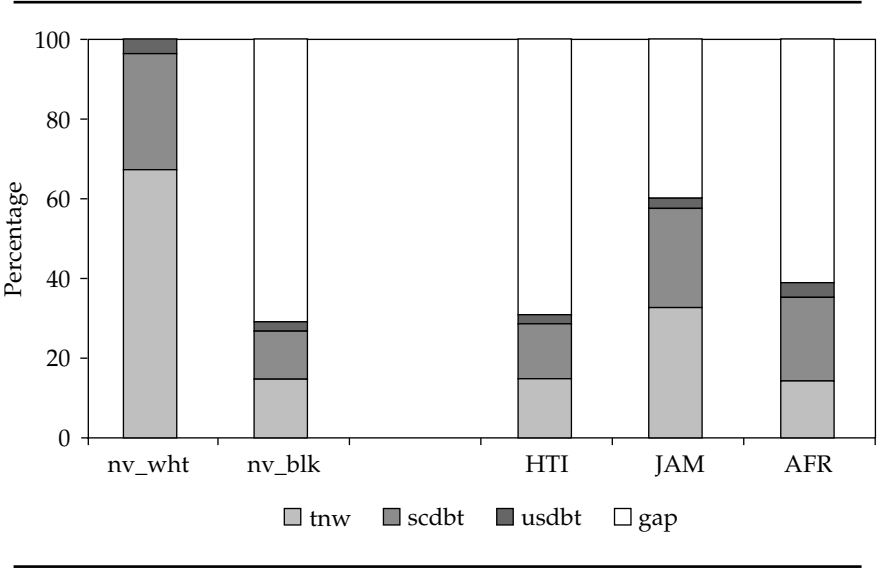
Source: Author's compilation.

Figure 6.5   Net Worth and Debts as Percentage of Total Asset by Black Group
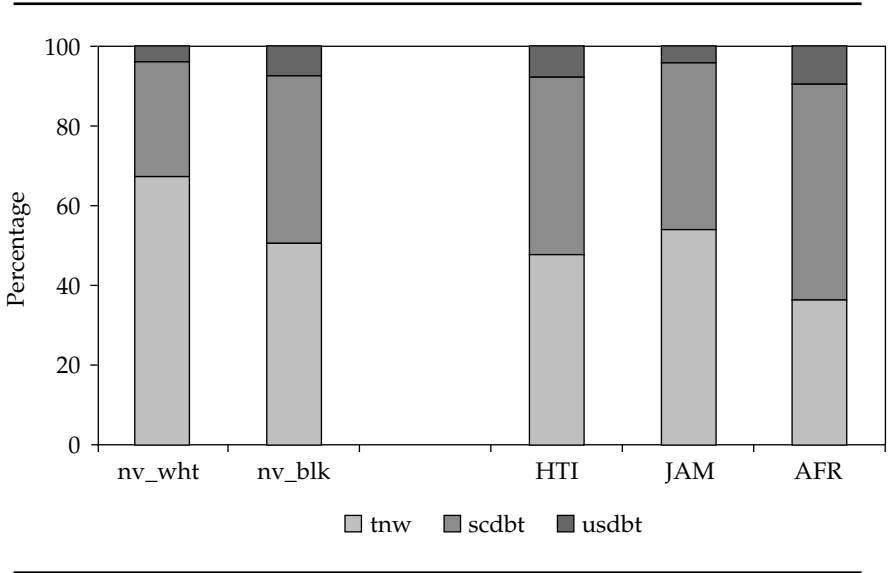
Source: Author's compilation.

Figure 6.6.   Portfolio as Percentage of Total Equity by Black Group
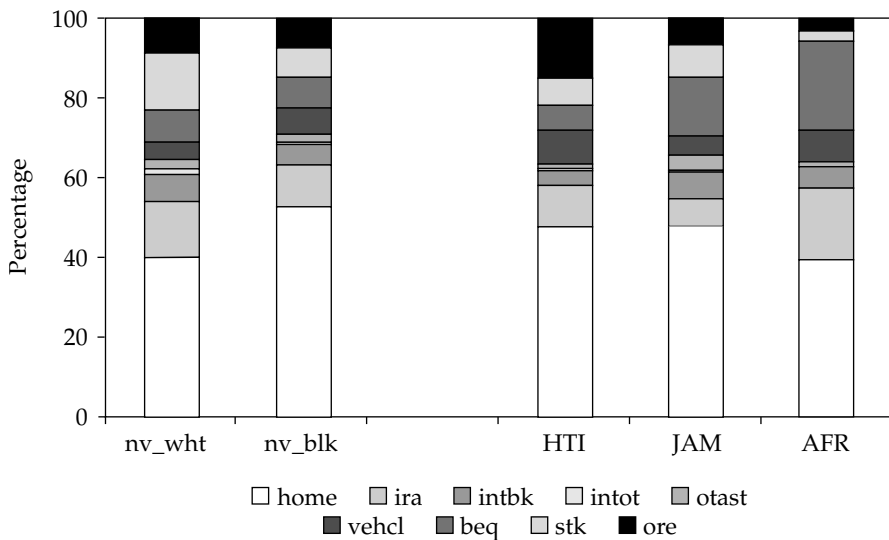
Source: Author's compilation.

Figure 6.7   Crude and Adjusted Homeownership Rates by Black Group
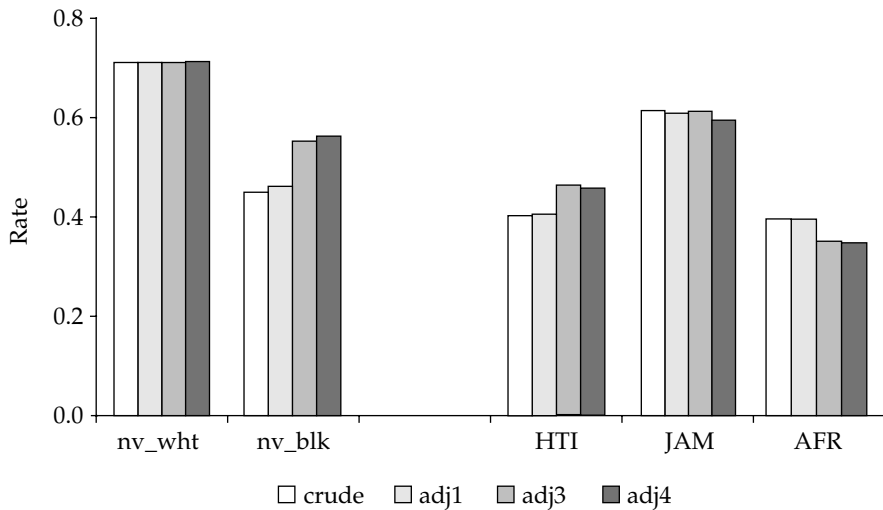
Source: Author's compilation.

Figure 6.8   Crude and Adjusted Negative Home Equity Rates Among Homeowners by Black Group
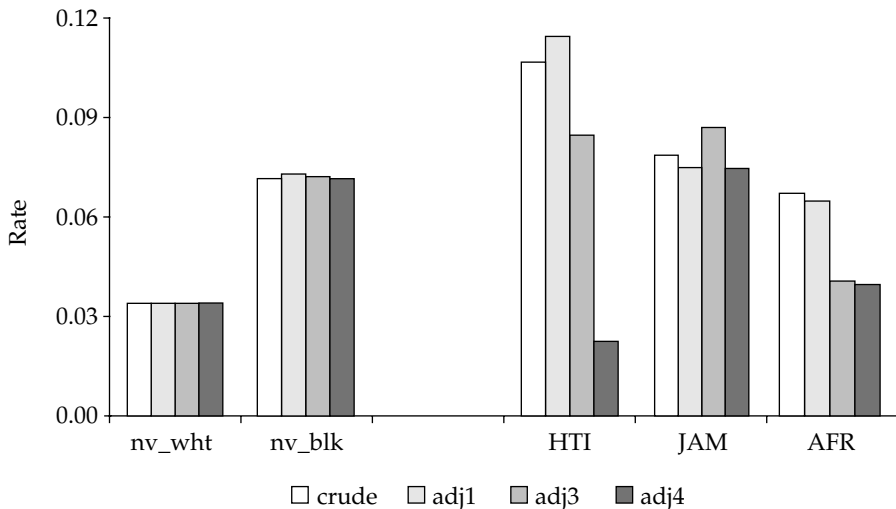
Source: Author's compilation.

Figure 6.9   Financial Asset Rates by Black Group
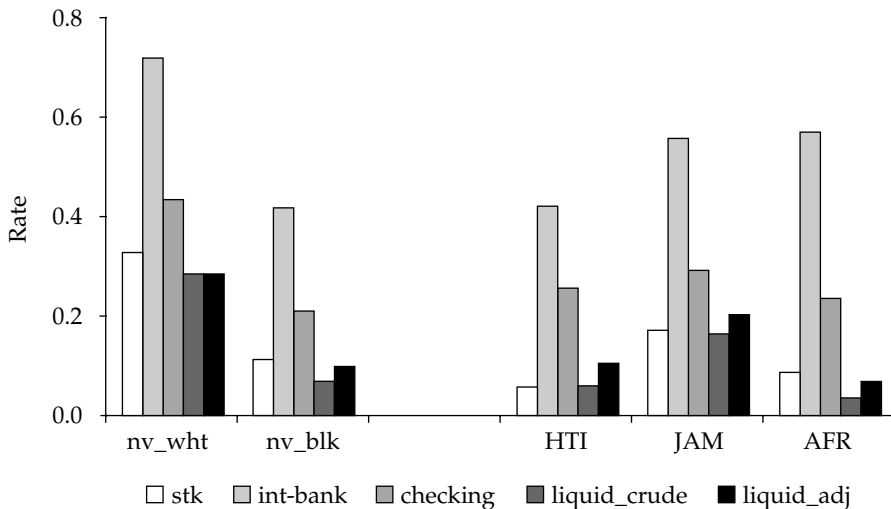
Figure 6.10   Crude and Adjusted Rates of Retirement Accounts by Black Group
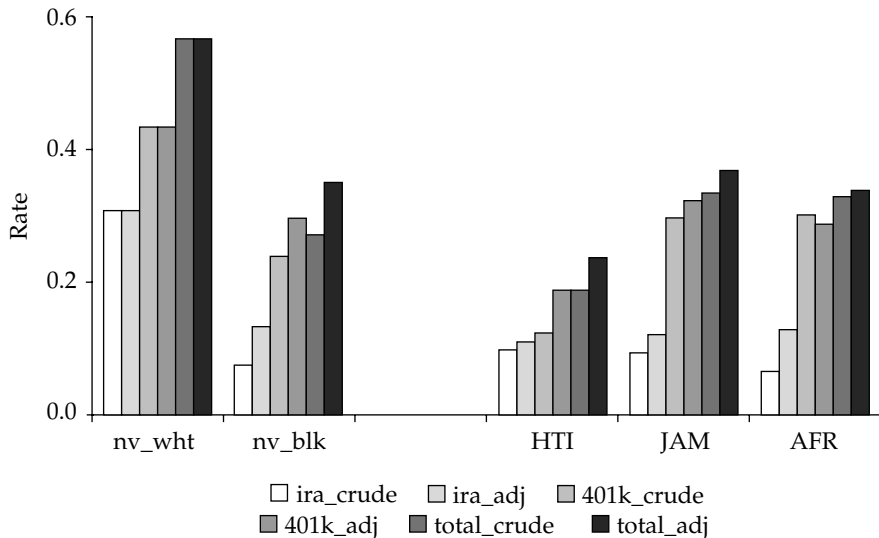
Figure 6.11   Crude and Adjusted Rates of Life Insurance by Black Group
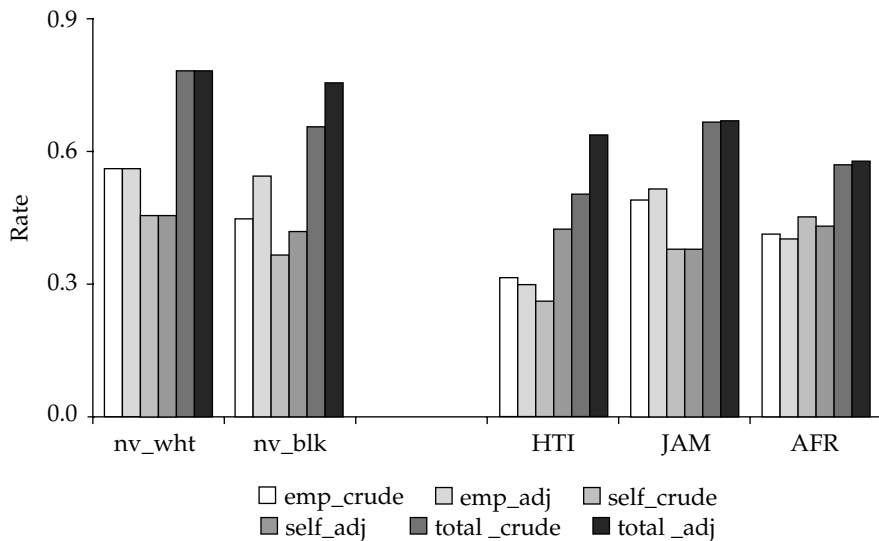
Source: Author's compilation.

Figure 6.12   Crude and Adjusted Rates of Consumer Debts by Black Group
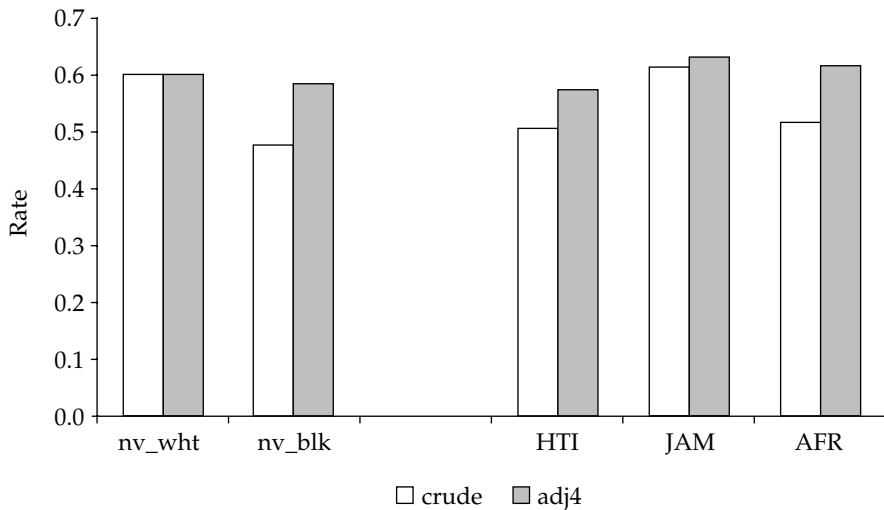
Source: Author's compilation.

**Figure 6.13   Crude and Adjusted Rates of Business Ownership by
Black Group**
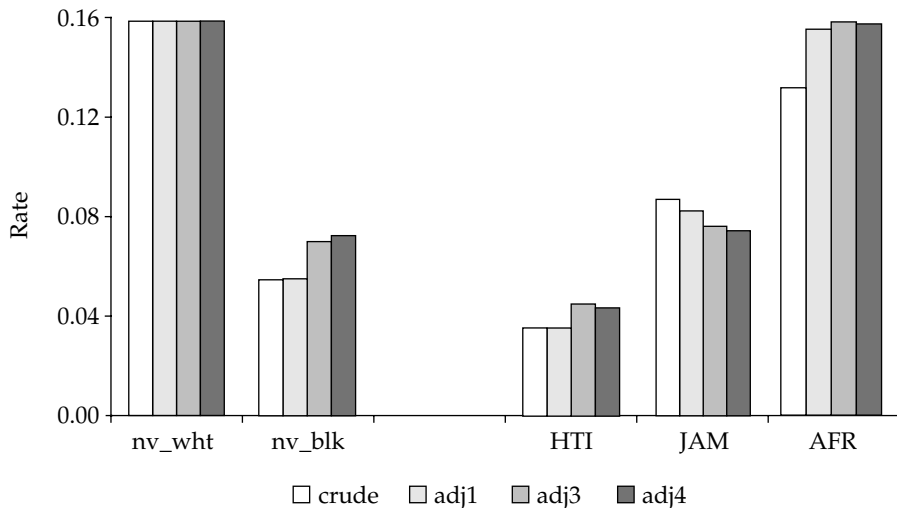
Source: Author's compilation.

Table 6.1   Demographic and Socioeconomic Differences by Black Group

	25 to 44	Married	0 Children	3 + Children	Education < 12	Poverty[a]	Sample
Native white	0.518	0.626	0.498	0.104	0.064	0.091	98,010
African American	0.564	0.338	0.421	0.155	0.150	0.275	14,322
Haitian	0.575	0.482	0.183	0.272	0.240	0.279	204
Jamaican	0.567	0.562	0.443	0.132	0.134	0.145	247
African immigrant	0.755	0.526	0.388	0.335	0.087	0.173	184

Source: Author's compilation.
[a] Less than 130 percent poverty level.

Table 6.2   Wealth Holding Status by Black Group (Percentage)

	Sufficient	Insufficient	Asset Poor	Net Debtor	Paycheck-to-paycheck	Trimmed Annual Income[a]
Native white	0.564	0.257	0.052	0.114	0.014	$52,867
African American	0.256	0.307	0.120	0.184	0.134	$40,330
Haitian	0.233	0.263	0.173	0.239	0.091	$38,637
Jamaican	0.400	0.302	0.098	0.142	0.059	$54,030
African immigrant	0.167	0.432	0.096	0.215	0.089	$47,224

Source: Author's compilation.
[a] Annual income is trimmed at 130% poverty line at the bottom and $100,000 at the top.

Table 6.3   Selected Percentiles of Net Worth, Asset, and Debt by Black Group

	Net Worth			Assets			Debts		
	5th	50th	95th	5th	50th	95th	5th	50th	95th
Native white	−11,670	71,886	685,416	1,693	152,786	847,945	0	47,837	262,501
African American	−14,625	6,183	174,963	0	20,000	277,776	0	7,782	157,784
Haitian	−30,701	3,696	233,808	0	12,852	331,918	0	6,773	166,300
Jamaican	−14,161	27,705	373,885	0	108,289	462,069	0	40,500	244,949
African immigrant	−21,931	5,976	133,524	0	19,285	314,725	0	13,500	240,300

Source: Author's compilation.

Table 6.4   Homeownership by Demographic Characteristics and Black Group

	Total	25 to 44	45 to 64	Unmarried	Married	0 Children	1 to 2 Children	3 +	Education < 12	Education ≥ 12
Native white	0.708	0.632	0.790	0.498	0.834	0.643	0.771	0.780	0.485	0.724
African American	0.447	0.338	0.588	0.333	0.669	0.437	0.481	0.380	0.303	0.473
Haitian	0.399	0.370	0.439	0.211	0.602	0.278	0.365	0.551	0.296	0.435
Jamaican	0.612	0.633	0.584	0.579	0.637	0.643	0.613	0.503	0.615	0.611
African immigrant	0.395	0.396	0.391	0.226	0.547	0.147	0.446	0.641	0.115	0.423

Source: Author's compilation.

Table 6.5   Odds Ratio of Homeownership by Demographic Characteristics and Black Group

	45 to 64	Married	0 Children	3 + Children	Education ≥ 12
Native white	2.19	5.05	0.53	1.05	2.79
African American	2.80	4.04	0.84	0.66	2.07
Haitian	1.33	5.66	0.67	2.13	1.83
Jamaican	0.81	1.27	1.14	0.64	0.98
African immigrant	0.98	4.13	0.21	2.22	5.63

Source: Author's compilation.

Table 6.6   Negative Home Equity Rates by Black Group

	Crude	Adj1[a]	Adj3[b]	Adj4[c]
Native white	0.034	0.034	0.034	0.034
African American	0.072	0.073	0.072	0.072
Haitian	0.106	0.114	0.084	0.022
Jamaican	0.078	0.075	0.087	0.074
African immigrant	0.067	0.064	0.040	0.039

Source: Author's compilation.
[a] Adj1 adjusts for age composition.
[b] Adj3 adjusts for the composition of age, marital status, and number of children.
[c] Adj4 adjusts for the composition of age, marital status, number of children, and education levels.

Table 6.7   Number of Mortgages Among Homeowners by Black Group

	0	1	2 +
Native white	0.200	0.674	0.126
African American	0.246	0.690	0.064
Haitian	0.155	0.770	0.075
Jamaican	0.117	0.794	0.090
African immigrant	0.090	0.732	0.177

Source: Author's compilation.

Table 6.8   Mortgages and NHE Among Homeowners by Years of Ownership and Black Group

	Proportion			2 + Mortgages			Prop. NHE		
	< 10	10 ~ 19	20 +	< 10	10 ~ 19	20 +	< 10	10 ~ 19	20 +
Native white	0.580	0.245	0.175	0.129	0.151	0.080	0.053	0.033	0.017
African American	0.515	0.248	0.236	0.064	0.070	0.055	0.111	0.065	0.048
Haitian	0.701	0.231	0.067	0.064	0.133	n.a.	0.134	0.082	0.000
Jamaican	0.687	0.227	0.085	0.060	0.192	0.059	0.133	0.051	0.284
African immigrant	0.831	0.096	0.073	0.180	n.a.	n.a.	0.100	n.a.	n.a.

Source: Author's compilation.
Note: n.a. indicates cell size < 10.

Table 6.9   Program and Interest Rate of First Home Mortgage by Black Group

	FHA/VA	< 7.0	≥ 8.5
Native white	0.200	0.331	0.172
African American	0.452	0.257	0.317
Haitian	0.252	0.149	0.333
Jamaican	0.357	0.377	0.219
African immigrant	0.456	0.193	0.244

Source: Author's compilation.

Table 6.10   Ownership of Liquid Financial Assets by Black Group

	Stock Mutual Fund	Int. Bank Account	Non-Interest Checking[a]	$20,000 or More Combined Liquid Crude	$20,000 or More Combined Liquid Adj4[b]
Native white	0.328	0.720	0.434	0.284	0.284
African American	0.111	0.417	0.209	0.065	0.098
Haitian	0.055	0.418	0.253	0.057	0.101
Jamaican	0.168	0.554	0.290	0.160	0.199
African immigrant	0.082	0.567	0.231	0.031	0.065

Source: Author's compilation.

[a] Among those which have no interest-earning bank accounts.

[b] Adj4 adjusts for age composition, marital status, number of children, and education levels.

Table 6.11   Crude and Adjusted Rates of Retirement Accounts by Black Group

	Ira/Keo		401k		Total	
	Crude	Adj[a]	Crude	Adj[a]	Crude	Adj[a]
Native white	0.308	0.308	0.434	0.434	0.568	0.568
African American	0.072	0.131	0.239	0.296	0.272	0.351
Haitian	0.095	0.107	0.122	0.186	0.186	0.236
Jamaican	0.092	0.120	0.297	0.323	0.333	0.370
African immigrant	0.062	0.126	0.301	0.287	0.329	0.338

Source: Author's compilation.
[a] Adj adjusts for the composition of age and ownership of $20,000 liquid financial asset.

Table 6.12   Crude and Adjusted Rates of Life Insurance by Black Group

	Employer-provided		Self-bought		Total	
	Crude	Adj4[a]	Crude	Adj4[a]	Crude	Adj4[a]
Native white	0.564	0.564	0.457	0.457	0.784	0.784
African American	0.450	0.546	0.366	0.422	0.658	0.755
Haitian	0.317	0.299	0.258	0.424	0.503	0.638
Jamaican	0.491	0.513	0.379	0.378	0.667	0.668
African immigrant	0.410	0.398	0.282	0.274	0.568	0.575

Source: Author's compilation.
[a] Adj4 adjusts for the composition of age, marital status, number of children, and education levels.

Table 6.13   Crude and Adjusted Consumer Debts by Black Group

	Crude	Adj4[a]	Amount	Trim. Amount
Native white	0.598	0.598	$6,141	$5,658
African American	0.477	0.587	$5,233	$5,068
Haitian	0.508	0.573	$5,551	$5,346
Jamaican	0.616	0.633	$5,268	$5,328
African immigrant	0.517	0.619	$6,243	$6,400

Source: Author's compilation.
[a] Adj4 adjusts for the composition of age, marital status, number of children, and education levels.

Table 6.14   Business Ownership by Black Group

	Crude	Adj1[a]	Adj3[b]	Adj4[c]
Native white	0.158	0.158	0.158	0.158
African American	0.054	0.055	0.070	0.072
Haitian	0.035	0.035	0.044	0.043
Jamaican	0.086	0.082	0.075	0.074
African immigrant	0.131	0.154	0.157	0.156

Source: Author's compilation.
[a] Adj1 adjusts for age composition.
[b] Adj3 adjusts for the composition of age, marital status, and number of children.
[c] Adj4 adjusts for the composition of age, marital status, number of children, and education levels.

Figure 7.1   Testing the Structure of the Race-Education-Nativity Stratification System for Wealth

Race, Education, Nativity

M1

All Primary Factors

Race and Education are Primary Factors

M2

Independence

Interdependence

Elimination of Nativity

Dominance of Race and Education
Interdependence of Race and Education

Differentiation by Immigrant Characteristics
Differentiation by Nativity

M3

M4   M5

CHANGE
Transforming stratification order

Nativity and immigrant characteristics blur color lines
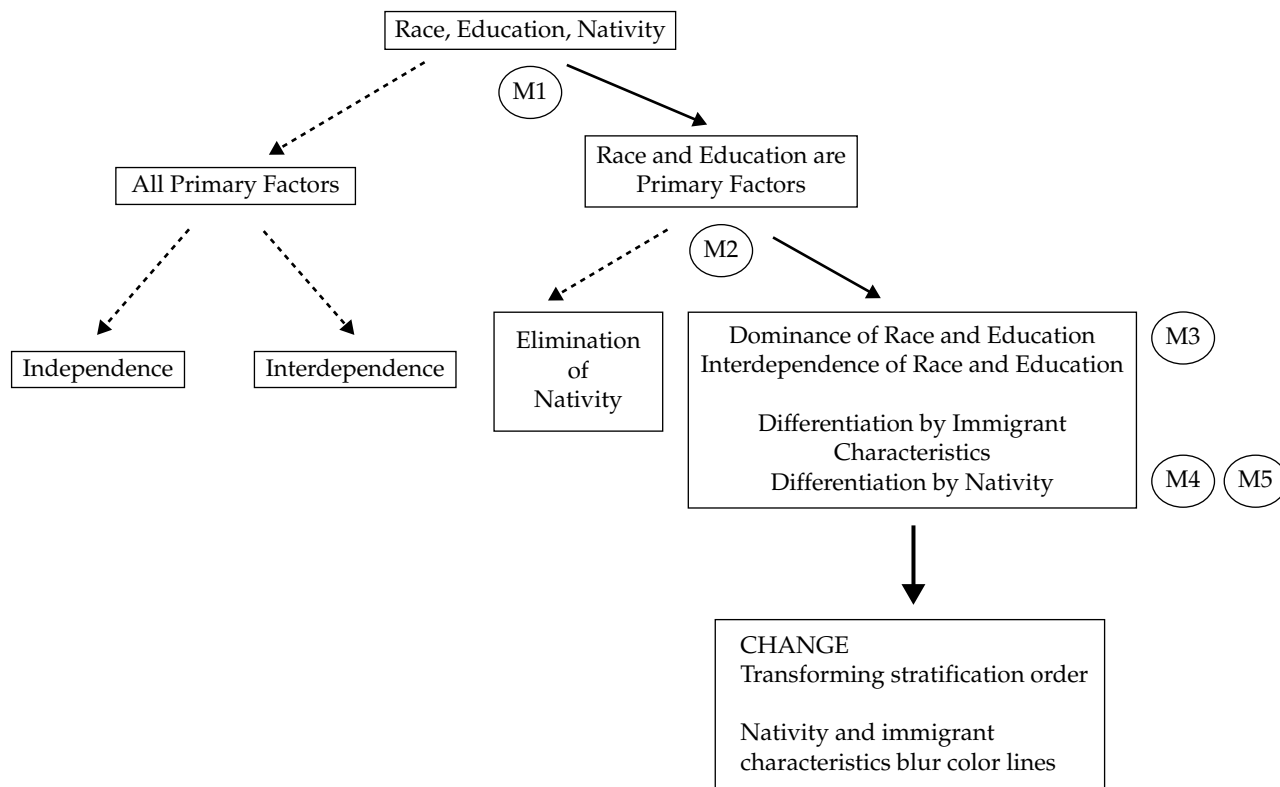
Figure 7.2   Differential Effects of Race-Ethnicity on Positive Net Worth
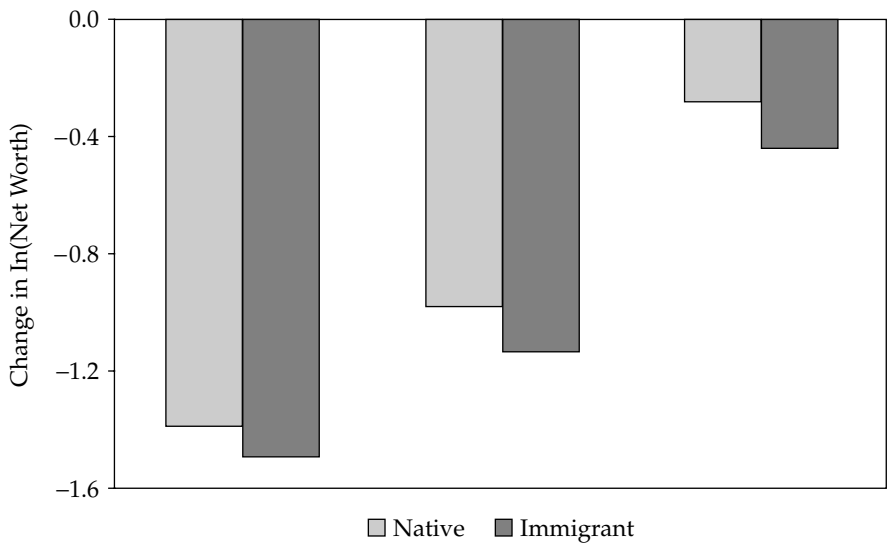
Figure 7.3   Differential Effects of Education on Positive Net Worth
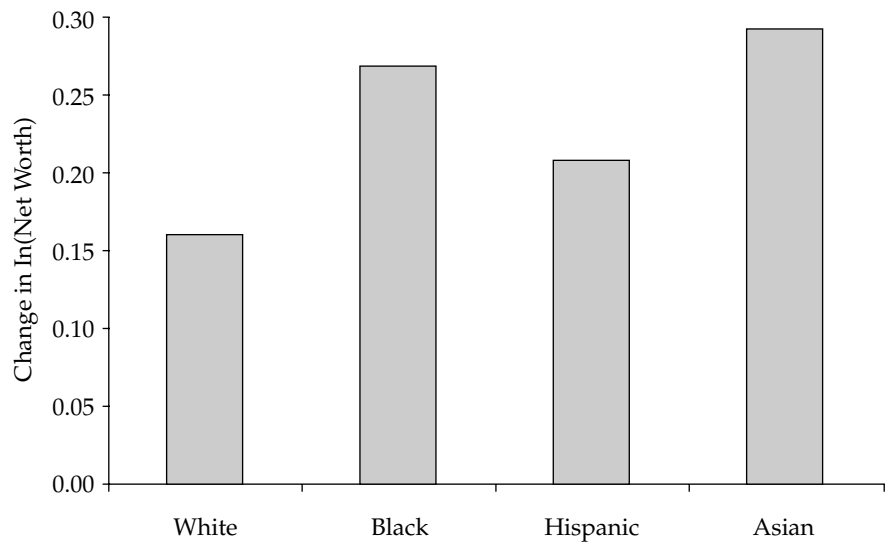
Figure 7.4   Differential Effect of Education on Amount of Positive Net Worth, by Nativity
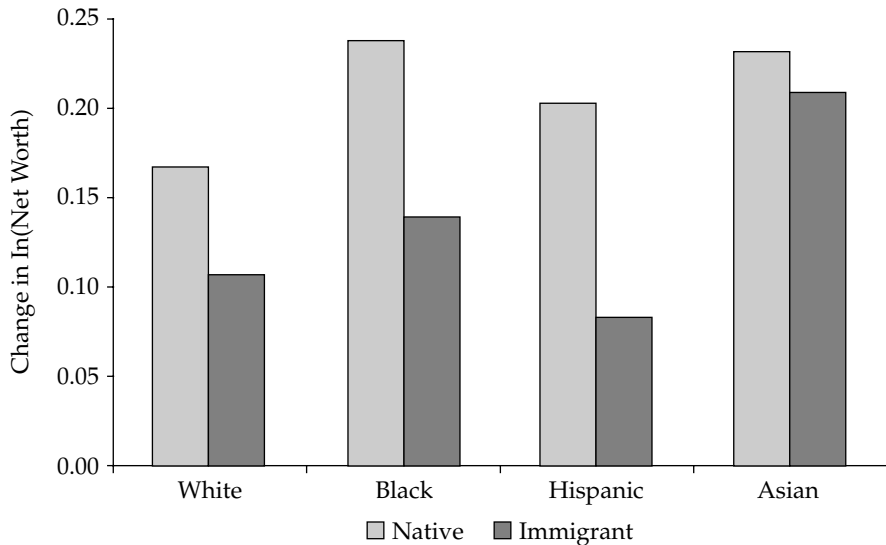
Figure 7.5   Effects of Latino and Puerto Rican Origin on Amount of Positive Net Worth Compared with Native-Born Latinos
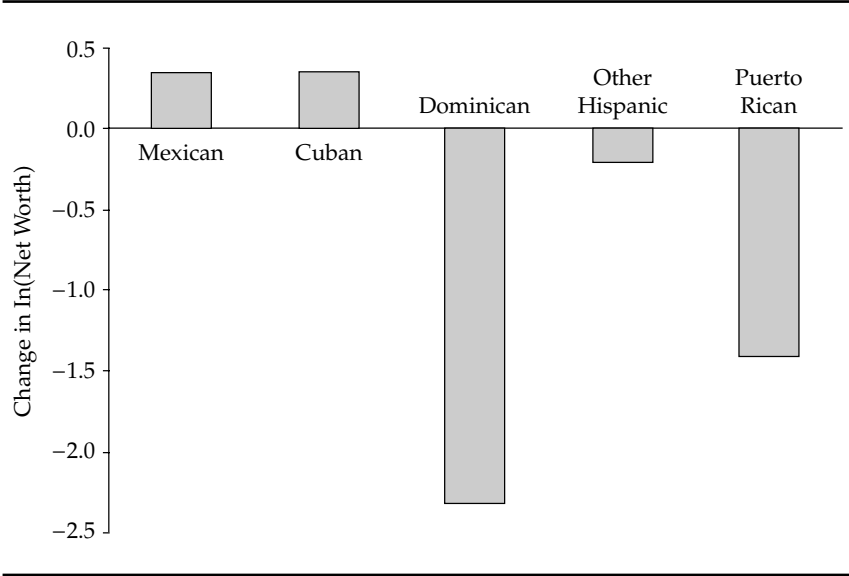
Source: Author's compilation.
Note: Puerto Ricans are excluded from the basis of comparison (native-born Latinos). Puerto Ricans, who are U.S. citizens, are separated from other native-born Latinos and compared with Latino immigrant groups because many Puerto Ricans experienced migration.

Figure 7.6   Effects of Asian Origin on Amount of Positive Net Worth Compared with Native-Born Asians
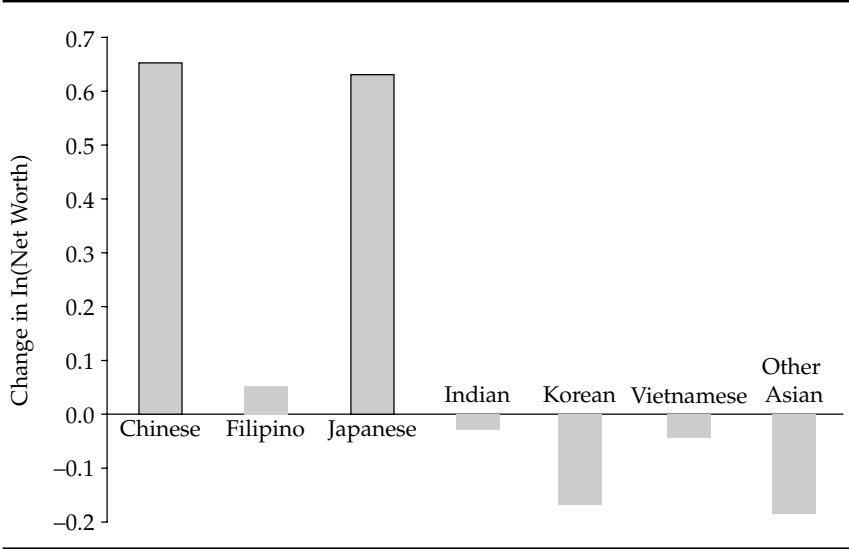
Source: Author's compilation.
Note: Bars without a border indicate insignificant effects.

Figure 7.7   Nativity Difference in Wealth Profile Among Hispanics
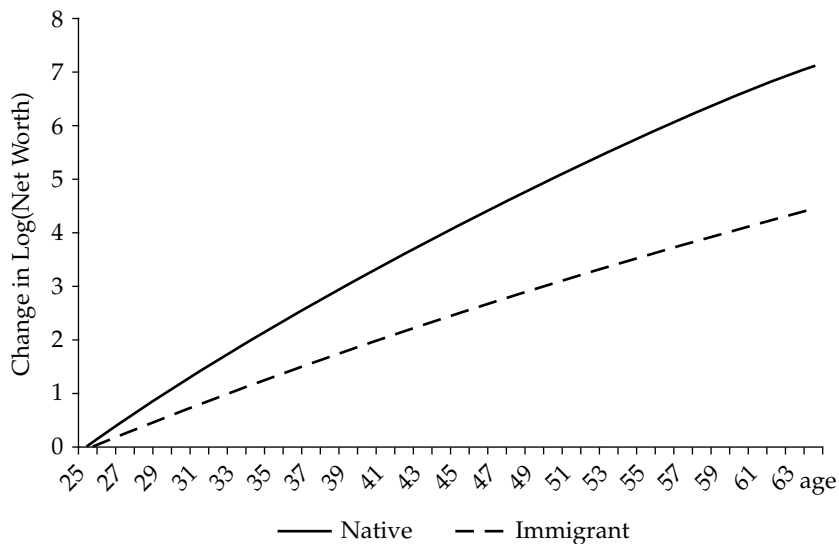
Source: Author's compilation.

Figure 7A.1   Distribution of Positive Net Worth, Raw Scale
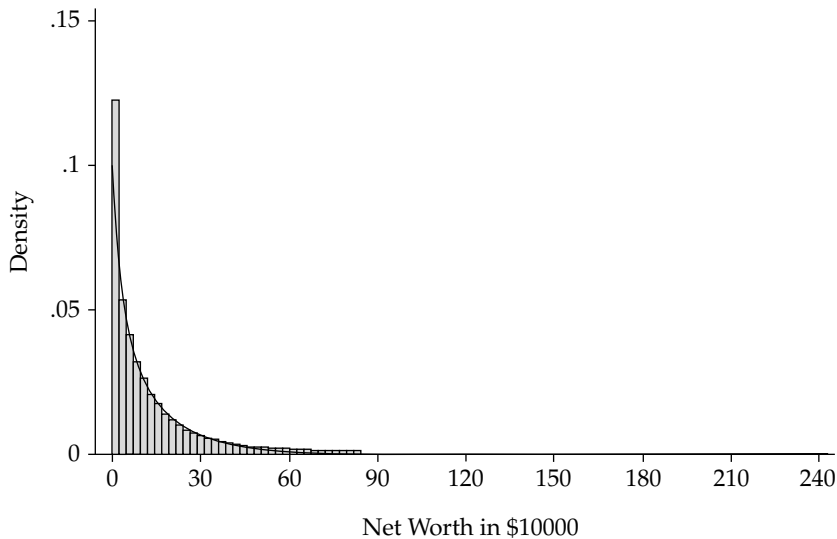
Figure 7A.2   Distribution of Positive Net Worth, Log Scale
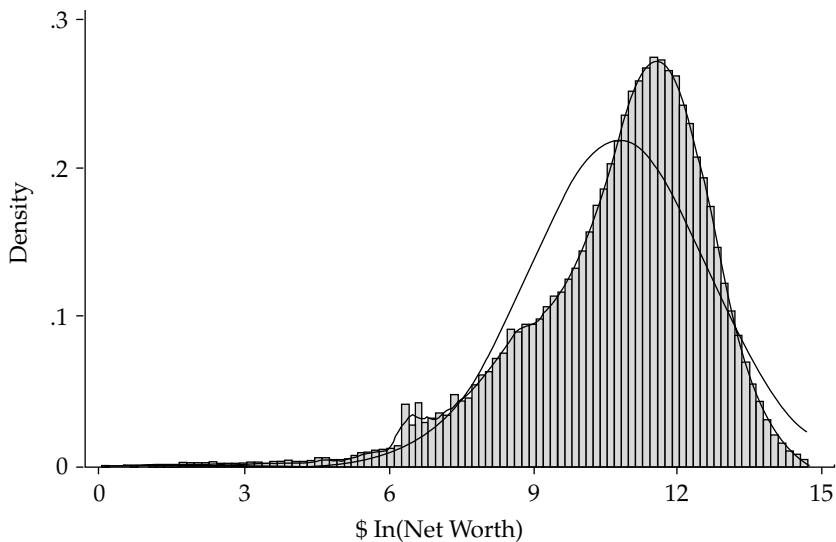
Source: Author's compilation.

Table 7.1 Sample Size of Race-Ethnicity and Nationality Groups

Ethnicity or Nationality	White	Black	Hispanic	Asian
Native white	175,973			
Western European	3,056			
Eastern European	590			
Former Soviet	404			
Polish	162			
Native black		23,562		
Mexican			5,909	
Cuban			781	
Dominican			451	
Puerto Rican			2,452	
Mexican American			6,268	
Cuban American			2,284	
Asian American				1,601
Chinese				1,041
Filipino				912
Japanese				254
Indian				602
Korean				549
Vietnamese				613
Other immigrant	2,004	1,154	2,397	879
Total	182,189	24,716	20,542	6,451

Source: Author's compilation.

Table 7.2   Wealth Stratification Factors: Race-Ethnicity, Education, and Nativity

Variable	M1	M2
Effect on positive net worth		
Race-Ethnicity		
Black	−1.962 **	−1.388 **
Hispanic	−1.346 **	−0.983 **
Asian	−0.456 **	−0.285 **
Education		
Years of schooling	0.232 **	0.160 **
Nativity		
Immigrant status	−0.005	0.011
Race × Nativity		
Black × Immigrant status	—	−0.106
Hispanic × Immigrant status	—	−0.156 **
Asian × Immigrant status	—	−0.161 ^
Education × Nativity		
Years of schooling × Immigrant status	—	−0.096 **
Race × Education		
Black × Years of schooling	—	0.109 **
Hispanic × Years of schooling	—	0.049 **
Asian × Years of schooling	—	0.134 **
Effect on probability of positive net worth		
Race-Ethnicity		
Black	−0.037 **	−0.117 **
Hispanic	−0.022 **	−0.083 **
Asian	−0.006 **	−0.024 **
Education	—	
Years of schooling	0.003 **	0.013 **
Nativity		
Immigrant status	0.000	0.001
Race × Nativity		
Black × Immigrant status	—	−0.009
Hispanic × Immigrant status	—	−0.013 **
Asian × Immigrant status	—	−0.014 ^
Education × Nativity		
Years of schooling × Immigrant status	—	−0.008 **
Race × Education		
Black × Years of schooling	—	0.009 **
Hispanic × Years of schooling	—	0.004 **
Asian × Years of schooling	—	0.011 **
Fraction positive net worth	.852	.852
n	233,898	233,898

Source: Author's compilation.
Note: Models 1 and 2 control for household characteristics and period effects.
**p < .01
*p < .05
^p < .10

Table 7.3   Differentiation by Nativity (M3)

Variable	White	Black	Hispanic	Asian
Effect on positive net worth				
Nativity				
Immigrant status	−0.026	−0.024	−0.254 **	−0.180 *
Education				
Years of schooling	0.167 **	0.237 **	0.203 **	0.231 **
Education × Nativity				
Years of schooling × Immigrant status	−0.060 **	−0.098 **	−0.120 **	−0.022
Effect on probability of positive net worth				
Nativity				
Immigrant status	−0.002	−0.003	−0.028 **	−0.014 *
Education				
Years of schooling	0.012 **	0.029 **	0.023 **	0.018 **
Education × Nativity				
Years of schooling × Immigrant status	−0.004 **	−0.012 **	−0.013 **	−0.002
Fraction positive net worth	0.885	0.701	0.740	0.859
n	182,189	24,716	20,542	6,451

Source: Author's compilation.
Note: Model 3 controls for household characteristics and period effects.
** p < .01
* p < .05
^ p < .10

Table 7.4   Differentiation by Immigrant Characteristics (M4)

Variable	Effect on Positive Net Worth	Effect on Probability of Positive Net Worth
White		
Western European	0.523 **	0.038 **
Eastern European	0.167	0.012
Former Soviet	–0.937 **	–0.067 **
Polish	0.108	0.008
Other white immigrant	–0.031	–0.002
Age at arrival	–0.028 **	–0.002 **
Non-naturalized	–0.437 **	–0.031 **
Education	0.165 **	0.012 **
Education received at home country	–0.218 ^	–0.016 ^
Black		
Black immigrant	0.550 **	0.067 **
Age at arrival	–0.014	–0.002
Non-naturalized	–0.644 **	–0.078 **
Education	0.229 **	0.028 **
Education received at home country	0.104	0.013
Hispanic		
Mexican	0.355 **	0.040 **
Cuban	0.355 **	0.040 **
Dominican	–2.327 **	–0.264 **
Other Hispanic immigrant	–0.219 *	–0.025 *
Puerto Rican	–1.423 **	–0.161 **
Age at arrival	–0.032 **	–0.004 **
Non-naturalized	–0.514 **	–0.058 **
Education	0.134 **	0.015 **
Education received at home country	–0.031	–0.003
Asian		
Chinese	0.654 **	0.051 **
Filipino	0.056	0.004
Japanese	0.630 **	0.049 **
Indian	–0.033	–0.003
Korean	–0.174	–0.014
Vietnamese	–0.049	–0.004
Other Asian immigrant	–0.191	–0.015
Age at arrival	–0.038 **	–0.003 **
Non-naturalized	–0.616 **	–0.048 **
Education	0.194 **	0.015 **
Education received at home country	0.094	0.007

Source: Author's compilation.
Note: Model 4 controls for household characteristics and period effects.
** p < .01
* p < .05
^ p < .10

Table 7.5   Effect of Demographic Characteristics on Wealth Attainment (M1)

Variable	M1
Effect on positive net worth	
Age	0.2245 **
Age-squared	−0.0017 **
Married with children	0.1256 **
Female headed	−1.6279 **
Single man	−1.1245 **
Single woman	−1.4257 **
Other household type	−0.7198 **
Number of children	0.0577 **
Number of children squared	−0.0222 **
Rural residence	−0.0452 **
Effect on probability of positive net worth	
Age	0.0189 **
Age-squared	−0.0001 **
Married with children	0.0106 **
Female headed	−0.1368 **
Single man	−0.0945 **
Single woman	−0.1198 **
Other household type	−0.0605 **
Number of children	0.0049 **
Number of children squared	−0.0019 **
Rural residence	−0.0038 **

Source: Author's compilation.
Note: Other coefficients of model 1 are shown in table 7.2. Model 1 controls for period effects for fourteen years.
** $p < .01$

Table 7.6 Specific Immigrant Wealth Behavior (M5)

Variable	White	Black	Hispanic	Asian
Effect on positive net worth				
Age	0.24916 **	0.13354 **	0.19820 **	0.19994 **
Age × immigrant	−0.00178	0.07781	−0.08249 *	0.07336
Age-squared	−0.00189 **	−0.00070 **	−0.00154 **	−0.00146 *
Age-squared × immigrant	−0.00004	−0.00097	0.00091 *	−0.00113
Married with children	0.05213	0.25502 *	0.23222 *	0.97869 **
Married with children × immigrant	−0.33941 **	−0.37117	−0.21811 *	−0.82489 **
Number of children	0.07927 **	0.05311	−0.07010	−0.44429 *
Number of children × immigrant	0.25903 **	0.20020	0.18999 *	0.43379 *
Number of children squared	−0.02013 **	−0.04475 **	−0.00282	0.01662
Number of children squared × immigrant	−0.05284 **	−0.03031	−0.01257	−0.03479
Effect on probability of positive net worth				
Age	0.01788 **	0.01613 **	0.02204 **	0.01544 **
Age × immigrant	−0.00013	0.00940	−0.00917 *	0.00567 *
Age-squared	−0.00014 **	−0.00009 **	−0.00017 **	−0.00011 **
Age-squared × immigrant	0.00000	−0.00012	0.00010 *	−0.00009 *
Married with children	0.00374	0.03081 *	0.02582 *	0.07559 *
Married with children × immigrant	−0.02436 **	−0.04484	−0.02425 *	−0.06371 *
Number of children	0.00569 **	0.00642	−0.00779	−0.03432
Number of children × immigrant	0.01859 **	0.02419	0.02113 *	0.03350 *
Number of children squared	−0.00144 **	−0.00541 **	−0.00031	0.00128
Number of children squared × immigrant	−0.00379 **	−0.00366	−0.00140	−0.00269

Source: Author's compilation.
Note: Model 5 controls for education, interaction between education and nativity, and period effects.
** $p < .01$
* $p < .05$

Table 7A.1   Negative, Zero, and Positive Net Worth

Group	Negative	Zero	Positive
Total	0.112	0.362	0.852
Race-ethnicity			
White	0.100	0.014	0.886
Black	0.165	0.140	0.695
Hispanic	0.158	0.100	0.742
Asian	0.105	0.031	0.863
Native			
White	0.100	0.014	0.886
Black	0.164	0.143	0.693
Hispanic	0.160	0.099	0.741
Asian	0.125	0.022	0.853
Immigrant			
White	0.082	0.027	0.891
Black	0.185	0.084	0.731
Hispanic	0.156	0.101	0.743
Asian	0.099	0.035	0.867
Immigrant nationality			
Western European	0.061	0.009	0.930
Eastern European	0.089	0.022	0.890
Former Soviet	0.096	0.106	0.798
Polish	0.122	0.032	0.846
Other white immigrant	0.105	0.035	0.859
Black immigrant	0.185	0.084	0.731
Mexican	0.141	0.091	0.767
Cuban	0.103	0.070	0.827
Dominican	0.192	0.368	0.440
Other Hispanic immigrant	0.200	0.086	0.714
Chinese	0.061	0.031	0.909
Filipino	0.095	0.024	0.880
Japanese	0.072	0.022	0.906
Indian	0.119	0.016	0.865
Korean	0.143	0.022	0.836
Vietnamese	0.106	0.056	0.838
Other Asian immigrant	0.107	0.062	0.831
Native ethnicity			
Native white	0.100	0.014	0.886
Native black	0.164	0.143	0.693
Puerto Rican	0.174	0.217	0.610
Mexican American	0.158	0.057	0.785
Cuban American	0.151	0.090	0.759
Asian American	0.125	0.022	0.853

Source: Author's compilation.

Table 7A.2   Household Characteristics of Race-Ethnicity and Nationality Groups

	Age	Ed.	Children	Metro. residence	Married w/o	Married w/	Female-headed	Single Man	Single Woman	Other HH Type	Age at Arrival	Non-natural.	Foreign Ed.
Total	43.34	13.49	1.06	0.79	0.19	0.41	0.11	0.11	0.09	0.09	—	—	—
Race-ethnicity													
White	43.78	13.86	0.98	0.76	0.22	0.41	0.08	0.11	0.10	0.08	—	—	—
Black	42.55	12.68	1.21	0.83	0.09	0.26	0.29	0.12	0.12	0.11	—	—	—
Hispanic	41.03	10.97	1.55	0.89	0.09	0.47	0.17	0.08	0.06	0.13	—	—	—
Asian	41.94	14.68	1.29	0.95	0.13	0.55	0.06	0.09	0.05	0.11	—	—	—
Immigrant nationality													
Western European	46.81	13.83	0.99	0.90	0.22	0.42	0.09	0.10	0.10	0.08	23.56	0.42	0.24
Eastern European	45.24	13.94	0.94	0.95	0.20	0.46	0.06	0.12	0.09	0.07	27.09	0.44	0.25
Former Soviet	45.64	15.00	1.07	0.98	0.23	0.46	0.07	0.07	0.08	0.08	32.00	0.53	0.45
Polish	42.03	14.86	1.05	0.89	0.26	0.43	0.03	0.13	0.03	0.13	25.23	0.45	0.31
Black immigrant	41.86	12.63	1.28	0.97	0.09	0.35	0.19	0.12	0.10	0.13	25.38	0.51	0.11
Mexican	40.03	8.55	2.05	0.89	0.06	0.60	0.12	0.05	0.02	0.14	22.42	0.75	0.03
Cuban	47.33	12.16	0.87	0.91	0.16	0.42	0.11	0.11	0.08	0.11	24.71	0.46	0.13
Dominican	41.69	11.08	1.55	0.99	0.06	0.26	0.42	0.05	0.06	0.15	24.95	0.59	0.09
Chinese	42.41	14.93	1.20	0.96	0.11	0.60	0.04	0.09	0.07	0.09	27.16	0.43	0.24
Filipino	44.87	14.92	1.26	0.95	0.14	0.55	0.08	0.05	0.06	0.11	27.34	0.30	0.57
Japanese	42.12	15.33	0.88	0.95	0.14	0.41	0.07	0.14	0.13	0.10	26.21	0.70	0.42
Indian	39.05	16.79	1.33	0.94	0.14	0.69	0.01	0.05	0.02	0.10	26.62	0.62	0.51
Korean	42.39	14.74	1.24	0.98	0.18	0.59	0.06	0.04	0.05	0.08	26.63	0.48	0.33
Vietnamese	42.75	12.87	1.52	0.98	0.08	0.56	0.09	0.08	0.02	0.18	27.00	0.32	0.14
Native ethnicity													
Native white	43.73	13.85	0.97	0.75	0.22	0.41	0.08	0.11	0.10	0.08	—	—	—
Native black	42.59	12.68	1.21	0.83	0.09	0.25	0.30	0.12	0.12	0.11	—	—	—
Puerto Rican	41.81	11.68	1.31	0.95	0.09	0.33	0.26	0.10	0.11	0.10	—	—	—
Mexican American	41.11	11.81	1.49	0.84	0.11	0.45	0.17	0.09	0.06	0.12	—	—	—
Cuban American	40.55	12.92	1.16	0.88	0.12	0.34	0.20	0.12	0.08	0.14	—	—	—
Asian American	41.07	14.63	1.12	0.93	0.16	0.45	0.08	0.13	0.06	0.11	—	—	—

Source: Author's compilation.

Table 7A.3   An Illustration of Marginal Effects at the Observed Censoring Rate: Decomposition of Tobit Coefficients

Variable	Tobit Coefficient	Positive Net Worth	Probability of Positive Net Worth
Black	−2.278	−1.962	−0.037
Hispanic	−1.539	−1.346	−0.022
Asian	−0.510	−0.456	−0.006
Observed proportion positive net worth	0.852		
Standard deviation of the error term	4.257		
Factor for effect on positive net worth	0.644		
Factor for effect on probability	0.054		

Source: Author's compilation.

Note: Let z be a value of the random variable for the cumulative probability Fz of the standardized normal distribution, fz is the corresponding density function, and σ is the standard error of the error term in the tobit model. According to McDonald and Moffitt (1980), the factor for the effect on positive net worth is $1 - z\dfrac{fz}{Fz} - \dfrac{fz^2}{Fz^2}$ and the factor for the effect on the probability of having positive net worth is $\dfrac{fz}{\sigma}$. In this case, from the data we get $Fz = 0.852$ and from the estimation we get $\sigma = 4.257$. Given these, we obtain $z = 1.047$ and $fz = .231$, then we calculate factor1=0.644 and factor2=0.054. The resulting decomposed effects are obtained by multiplying the respective factor with the tobit coefficient.

Figure 8.1   Effects of Racial Residential Segregation and Immigrant Share, by Race-Ethnicity
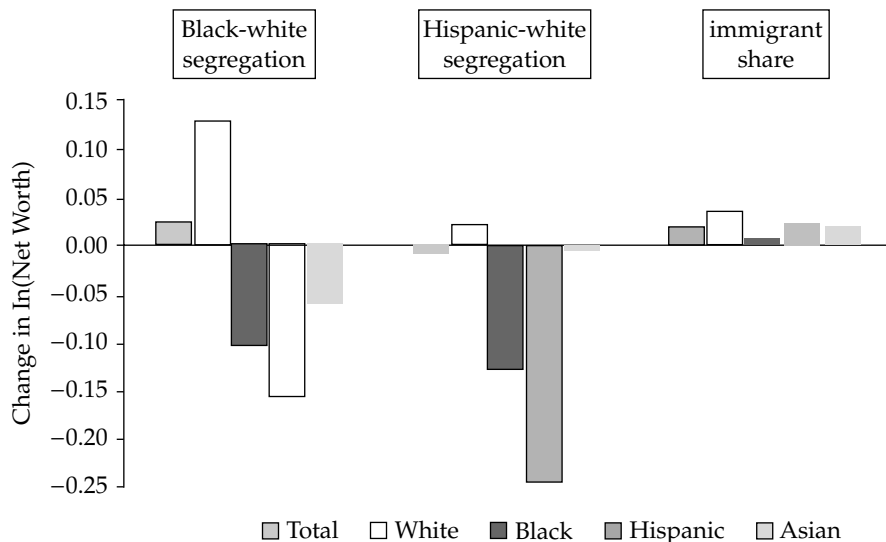
Source: Author's compilation.
Note: Bars without a border indicate insignificant effects.

Figure 8.2   Effects of Black-White Racial Residential Segregation, by Nativity and Race-Ethnicity
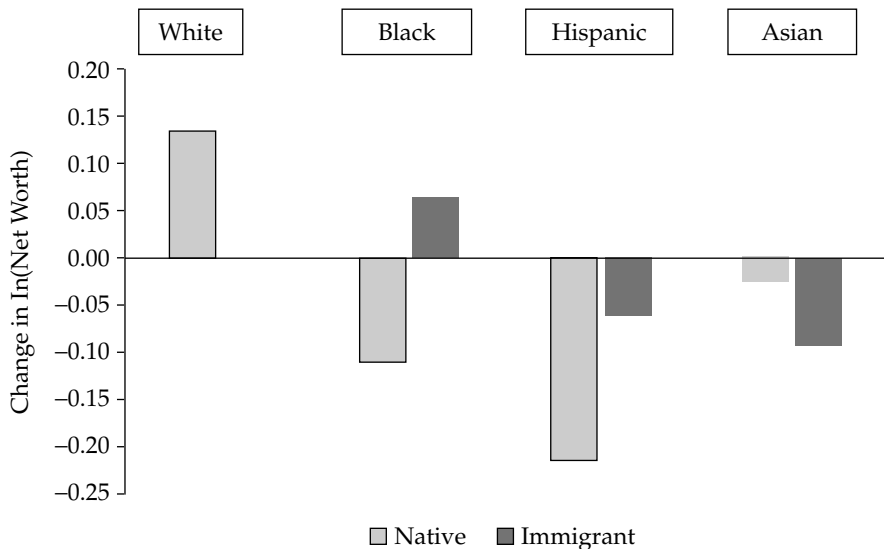
Source: Author's compilation.
Note: Bars without a border indicate insignificant effects.

Figure 8.3   Effects of Hispanic-White Residential Segregation, by Nativity and Race-Ethnicity
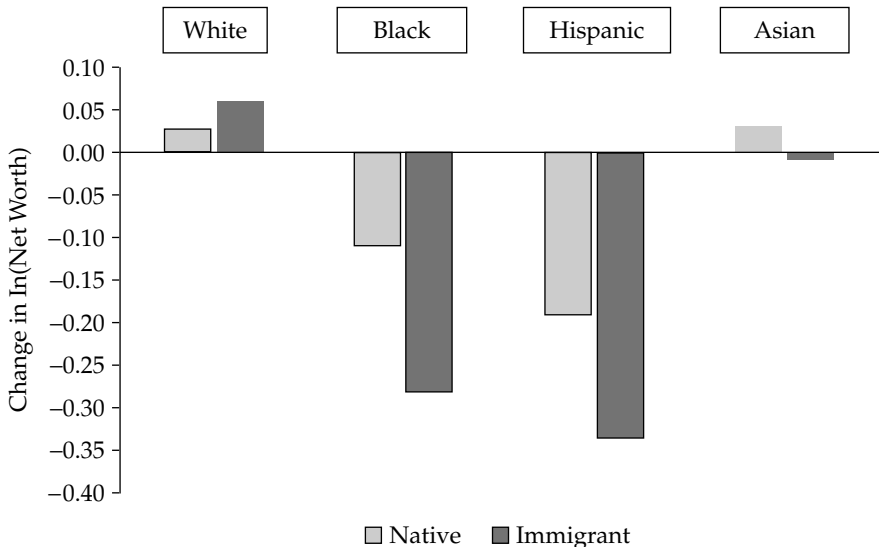
| White | Black | Hispanic | Asian |

Change in ln(Net Worth)

0.10
0.05
0.00
−0.05
−0.10
−0.15
−0.20
−0.25
−0.30
−0.35
−0.40

☐ Native   ■ Immigrant

Source: Author's compilation.
Note: Bars without a border indicate insignificant effects.

Figure 8.4   Effects of Percentage Foreign Born, by Nativity and Race-Ethnicity

Source: Author's compilation.
Note: Bars without a border indicate insignificant effects.

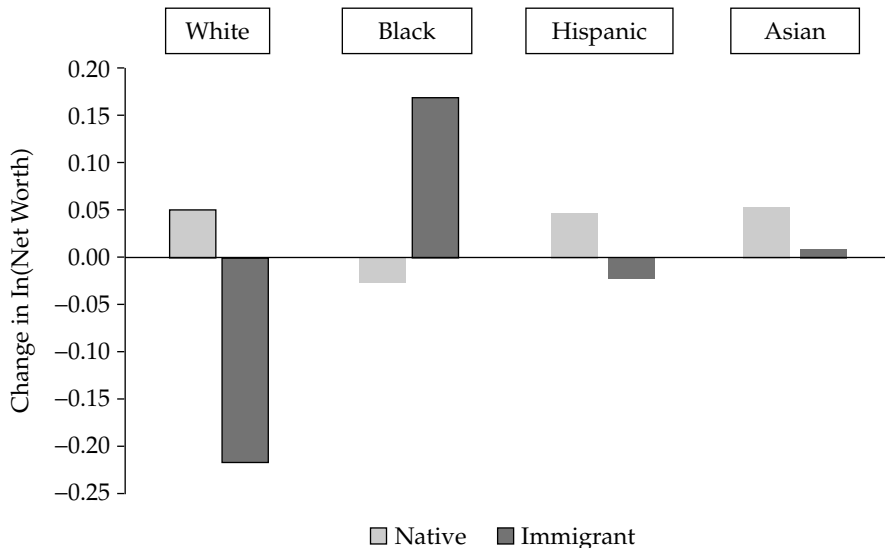**Table 8.1   Contextual Conditions for Race-Ethnicity and Nationality Groups**

Group	Nationwide Unemployment	Black-White D	Hispanic-White D	Percentage Foreign Born
Total	5.63	68.26	48.28	14.85
Race-ethnicity				
White	5.58	68.17	47.25	13.17
Black	5.63	70.73	47.82	13.81
Hispanic	5.96	66.90	53.82	23.52
Asian	5.94	66.68	51.48	22.04
Immigrant nationality				
Western European	5.95	71.17	53.27	19.19
Eastern European	5.74	77.01	58.51	21.82
Former Soviet	5.87	73.50	57.32	24.21
Polish	5.81	69.99	55.88	21.51
Black immigrant	5.60	75.18	56.53	27.33
Mexican	6.15	64.39	54.17	24.09
Cuban	5.43	73.21	50.66	37.96
Dominican	5.91	78.75	62.89	29.23
Chinese	6.00	69.24	54.05	24.79
Filipino	6.07	66.38	51.38	24.02
Japanese	6.12	66.49	51.32	22.49
Indian	5.68	73.43	55.94	21.19
Korean	5.83	69.19	55.06	21.84
Vietnamese	5.99	65.40	49.42	21.20
Native ethnicity				
Native white	5.57	68.00	46.91	12.79
Native black	5.63	70.44	47.24	12.90
Puerto Rican	5.66	75.12	58.88	22.05
Mexican American	6.00	61.12	51.32	20.33
Cuban American	5.95	67.56	50.45	19.80
Asian American	5.95	61.41	47.67	20.97

Source: Author's compilation.
Note: D denotes dissimilarity index.

Table 8.2   Contextual Conditions and Wealth Attainment, a Pooled Analysis (M1a and M1b)

Variable	M1a Nationwide sample	M1b Metropolitan sample	
Effect on positive net worth			
Local economy and labor market			
State unemployment (%)	−0.0376 **	−0.0422 **	−0.0464 **
Segregation			
Black-white segregation (D 10%)	—	—	0.0245 **
Hispanic-white segregation (D 10%)	—	—	−0.0102
Immigration			
Percentage foreign born (10%)	—	—	0.0188 *
Effect on probability of positive net worth			
Local economy and labor market			
State unemployment (%)	−0.0032 **	−0.0036 **	−0.0040 **
Segregation			
Black-white segregation (D 10%)	—	—	0.0021 **
Hispanic-white segregation (D 10%)	—	—	−0.0009
Immigration			
Percentage foreign born (10%)	—	—	0.0016 *
Fraction positive net worth	0.852	0.847	0.847
n	233,898	134,845	134,845

Source: Author's compilation.
Note: The models control for all variables specified in Model 1 (M1) of Chapter 7, including race–ethnicity, household characteristics and period effects.
** p < .01
 * p < .05

Table 8.3   Contextual Conditions and Wealth Attainment, a Separate Analysis (M3a)

Variable	White	Black	Hispanic	Asian
Effect on positive net worth				
State unemployment (%)	−0.0750 **	−0.0377 ^	0.0775 **	0.0381
Black-white segregation (D 10%)	0.1270 **	−0.1023 **	−0.1563 **	−0.0645
Hispanic-white segregation (D 10%)	0.0193 *	−0.1277 **	−0.2471 **	−0.0069
Percentage foreign born (10%)	0.0330 **	0.0058	0.0222	0.0178
Effect on probability of positive net worth				
State unemployment (%)	−0.0052 **	−0.0046 ^	0.0087 **	0.0029
Black-white segregation (D 10%)	0.0088 **	−0.0125 **	−0.0176 **	−0.0049
Hispanic-white segregation (D 10%)	0.0013 *	−0.0156 **	−0.0278 **	−0.0005
Percentage foreign born (10%)	0.0023 **	0.0007	0.0025	0.0013
Fraction positive net worth	0.890	0.687	0.734	0.863
n	97,976	16,099	15,582	5,188

Source: Author's compilation.
Note: The estimates are based on the metropolitan sample. The model adds the presented variables to model M3 of chapter 7, including education, the interaction between education and immigrant status, household characteristics and period effects.
** p < .01
* p < .05
^ p < .10

Table 8.4   Differential Contextual Conditions by Nativity on Wealth Attainment, a Separate Analysis (M3b)

Variable	White	Black	Hispanic	Asian
Effect on positive net worth				
Main effect				
Black-white segregation (D 10%)	0.1344 **	−0.1107 **	−0.2132 **	−0.0251
Hispanic-white segregation (D 10%)	0.0151 ^	−0.1107 **	−0.1932 **	0.0321
Share of foreign born (10%)	0.0515 **	−0.0210	0.0524	0.0599
Interactive effect				
Black-white segregation (D 10%)	−0.1365 **	0.1763	0.1505 **	−0.0677
Hispanic-white segregation (D 10%)	0.0456	−0.1720	−0.1447 *	−0.0463
Percentage foreign born × immigrant	−0.2688 **	0.1918 *	−0.0728	−0.0478
Effect on probability of positive net worth				
Main effect				
Black-white segregation (D 10%)	0.0094 **	−0.0136 **	−0.0240 **	−0.0019
Hispanic-white segregation (D 10%)	0.0010 ^	−0.0136 **	−0.0218 **	0.0024
Share of foreign born (10%)	0.0036 **	−0.0026	0.0059	0.0045
Interactive effect				
Black-white segregation (D 10%)	−0.0095 **	0.0216	0.0170 **	−0.0051
Hispanic-white segregation (D 10%)	0.0032	−0.0211	−0.0163 *	−0.0035
Percentage foreign born × immigrant	−0.0187 **	0.0235 *	−0.0082	−0.0036
Fraction positive net worth	0.890	0.687	0.734	0.863
n	97,976	16,099	15,582	5,188

Source: Author's compilation.
Note: The estimates are based on the metropolitan sample. The model adds the presented variables to model M3 of chapter 7, including education, the interaction between education and immigrant status, household characteristics and period effects.
** $p < .01$
* $p < .05$
^ $p < .10$

Table A1   The SIPP Estimated Aggregate as Percentage of SCF: 1998 to 1999

Type	All Families	Without Wealthy Families (Net Worth < $2 Million)
Net worth	50	75
Assets	55	80
Home	91	100
Vehicles	76	82
Bank accounts	63	79
Stocks and mutual funds	59	84
401(K) and thrift	99	100
IRA/Keogh	55	76
Other real estate	41	74
Business equity	17	50
Other financial assets	71	100
Debts	90	101
Home mortgage	95	—
Vehicle loans	100	—
Other secured debts	100	—
Mortgage on rental property	42	—
Margin and broker accounts	30	—
Credit card and store debt	100	—
Loan from financial inst.	73	—

Source: Author's compilation, Czajka, Jacobson, and Cody 2003.

Table A2   Corresponding SIPP and SCF Percentiles of Net Worth, Assets, and Debts, 1998

Benchmark	Net Worth	Assets	Debts
SCF Percentile		SIPP Percentile	
10	15	13	10
20	26	24	20
25	31	29	25
50	58	56	50
75	81	81	75
90	94	94	90
95	98	98	95

Source: Author's compilation, Czajka, Jacobson, and Cody 2003.

Table A3   SIPP as Proportion of SCF, Selected Percentiles, 1998

Percentile	Net Worth			Asset			Debt		
	Original SIPP	SCF-rew. SIPP	CPS-rew. SIPP	Original SIPP	SCF-rew. SIPP	CPS-rew. SIPP	Original SIPP	CF-rew. SIPP	CPS-rew. SIPP
10	—[a]	—[a]	—[a]	0.38	0.36	0.43	—[a]	—[a]	—[a]
25	0.30	0.33	0.35	0.57	0.60	0.65	—[a]	—[a]	—[a]
50	0.58	0.63	0.65	0.80	0.85	0.87	1.05	1.18	1.22
75	0.66	0.72	0.71	0.75	0.81	0.81	1.04	1.13	1.14
90	0.66	0.74	0.72	0.69	0.78	0.76	1.04	1.11	1.10
95	0.58	0.65	0.64	0.62	0.71	0.68	1.04	1.15	1.14
99	0.32	0.36	0.34	0.59	0.69	0.65	0.83	0.90	0.89

Source: Author's compilation; Czajka, Jacobson, and Cody 2003.
[a] The SCF percentile is zero.

Table A4   Aggregate Shares of Net Worth Excluding Top 1 Percent of Households, 2001

Percentile groups	Net Worth				Assets				Debts			
	SCF	Original SIPP	SCF-rew. SIPP	CPS-rew. SIPP	SCF	Original SIPP	SCF-rew. SIPP	CPS-rew. SIPP	SCF	Original SIPP	SCF-rew. SIPP	CPS-rew. SIPP
0–50	4.1	2.4	2.5	2.8	7.9	11.8	11.0	11.7	27.6	35.3	33.0	34.2
50–90	40.7	50.7	49.4	50.3	42.3	49.8	49.0	49.6	51.0	47.6	47.9	47.7
90–95	18.0	19.2	19.3	19.1	16.6	16.3	16.6	16.4	9.2	9.2	9.8	9.5
95–99	37.2	27.8	28.8	27.8	33.2	22.1	23.4	22.4	12.3	7.9	9.3	8.6

Source: Author's compilation; Kennickell 2003.

Table A5 **Selected Percentiles of Net Worth, Assets and Debts Among Households with Heads Aged Twenty-Five to Sixty-Four, 2001**

	Net Worth			Assets		
Percentile	Original SIPP	SCF-rew. SIPP	CPS-rew. SIPP	Original SIPP	SCF-rew. SIPP	CPS-rew. SIPP
Households						
10	−4,000	−3,400	−3.450	2,600	2,500	2,750
25	3,350	3,800	4,354	15,775	16,500	18,620
50	49,374	54,500	56,500	120,000	128,600	132,520
75	171,354	192,100	192,750	272,104	299,762	300,800
90	402,668	459,550	449,170	530,911	611,609	594,360
95	638,352	751,300	715,375	801,541	926,903	893,775
99	1,536,420	1,816,268	1,717,519	1,752,208	2,130,161	2,026,225
Native households						
10	−3,721	−3,090	−3,092	3,145	3,100	3,600
25	4,650	5,162	5,404	20,854	22,854	25,800
50	55,650	61,400	63,050	128,650	136,850	140,550
75	181,925	203,354	203,300	281,200	309,499	309,922
90	418,707	479,899	468,570	546,425	632,372	611,400
95	659,939	777,062	734,444	823,986	943,228	914,118
Immigrant households						
10	−4,082	−3,410	−3,600	600	600	750
25	750	1,000	1,100	5,356	5,504	5,902
50	17,850	20,804	22,008	59,000	66,120	70,000
75	113,425	130,316	132,625	214,400	238,637	242,275
90	295,750	355,404	347,362	462,625	523,708	523,150
95	485,354	583,318	568,450	680,355	779,675	759,470

Source: Author's compilation.

Table A6   Household Samples in SIPP, 1984 to 2001 Panels

Panel	Wave (year)	Total Sample	Study Sample		
			Total	Native	Immigrant
1984	3 (1984)	19,997	7,394	6,903	491
	7 (1985)	16,078	7,720	7,195	525
1985	3 (1985)	13,799	7,993	7,489	504
	7 (1987)	11,000	7,284	6,800	484
1986	4 (1987)	11,423	7,453	6,898	555
	7 (1988)	10,932	7,262	6,732	530
1987	7 (1988)	11,465	7,639	7,226	413
1990	4 (1991)	22,058	14,766	13,288	1,478
1991	7 (1993)	13,732	7,516	6,845	671
1992	4 (1993)	19,628	13,205	11,994	1,211
1993	7 (1995)	18,963	12,484	11,316	1,168
1996	3 (1996)	33,853	23,763	21,325	2,438
	6 (1997)	30,745	21,321	19,159	2,162
	9 (1998)	29,000	19,949	17,938	2,011
	12 (1999)	28,215	19,321	17,427	1,894
2001	3 (2001)	27,330	18,975	16,730	2,245
	6 (2002)	26,521	17,951	15,841	2,110
	9 (2003)	25,401	17,118	15,140	1,978
Total		370,140	239,114	216,246	22,868

Source: Author's calculation.
Note: To total sample includes households with heads whose age ranges 0 to 93. The study sample is defined as households headed by twenty-five to sixty-four year olds, are members of white, black, Hispanic, or Asian, and having valid data on immigrant status. The study sample also excludes the top 0.5 percent in the net worth distribution in each wave among the twenty-five to sixty-four year olds. The reduction in size from the full sample to the study sample is due to the definition and the fact that wealth data were collected in waves different from the wave when the migration history questions were asked (therefore considerable missing information on immigrant status). The study sample in 1984 is particularly small because the migration history was asked in Wave 8 when only three out of four rotation groups of the sample were interviewed and a larger attrition occurred in this late wave than earlier waves.