

# 2 MODELLING GENERATIONAL CHANGES: USA AS A STUDY CASE (APPENDIX)

Emilian Dobrescu<sup>1</sup>

## Abstract

*The economy is functioning under the simultaneous participation of the coexistent generations in production of goods and services, saving-investment processes, private and public consumption, domestic and foreign trade, research-development of the new products and technologies, and all the other inter-connected economic activities. This complex role of generations can be examined from two perspectives: i) as income relevance, estimated by the shares of the coexistent generations in forming or utilization of disposable revenues; and ii) as socio-economic functional status of its members (wealth property structure, positions held in the micro- and macroeconomic management etc.). The present paper concentrates on the former. The empirical search will be focused on the historical experience of the United States of America, for which there already is available a consistent set of connected sociological studies, as well as exhaustive statistical information.*

**Keywords:** demographic structure, generation, income generational relevance

**JEL Codes:** C82, J11, J17

## Appendix

**Table 4. Probability of surviving at age x comparatively with the first year (BSR)**

Age-group	BSR	Age-group	BSR	Age-group	BSR	Age-group	BSR	Age-group	BSR
1	1.000000	21	0.989641	41	0.964085	61	0.883705	81	0.581411
2	0.994350	22	0.988899	42	0.962224	62	0.875655	82	0.553968
3	0.993985	23	0.988071	43	0.960280	63	0.867078	83	0.524830
4	0.993723	24	0.987167	44	0.958226	64	0.857981	84	0.494082
5	0.993537	25	0.986202	45	0.956033	65	0.848378	85	0.461905
6	0.993390	26	0.985187	46	0.953679	66	0.838270	86	0.428002
7	0.993249	27	0.984128	47	0.951148	67	0.827631	87	0.393061
8	0.993124	28	0.983026	48	0.948425	68	0.816367	88	0.357758
9	0.993010	29	0.981881	49	0.945493	69	0.804443	89	0.321661
10	0.992908	30	0.980694	50	0.942329	70	0.791794	90	0.285288

<sup>1</sup> Centre for Macroeconomic Modelling, NIER. Email: emdobrescu1@gmail.com

Age-group	BSR	Age-group	BSR	Age-group	BSR	Age-group	BSR	Age-group	BSR
11	0.992815	31	0.979462	51	0.938901	71	0.778330	91	0.249225
12	0.992724	32	0.978183	52	0.935192	72	0.764016	92	0.214109
13	0.992625	33	0.976856	53	0.931174	73	0.748865	93	0.180585
14	0.992498	34	0.975475	54	0.926789	74	0.732455	94	0.149267
15	0.992320	35	0.974036	55	0.921982	75	0.715020	95	0.120698
16	0.992074	36	0.972538	56	0.916726	76	0.696291	96	0.095298
17	0.991752	37	0.970972	57	0.911021	77	0.676313	97	0.073335
18	0.991350	38	0.969335	58	0.904877	78	0.654816	98	0.054903
19	0.990865	39	0.967636	59	0.898289	79	0.631808	99	0.039918
20	0.990296	40	0.965885	60	0.891239	80	0.607374	100	0.028140
								101	0.019205

**Table 5. Number of the ‘under one-year children’ (UYC) included in simulations, thousand people**

Year	UYC	Year	UYC	Year	UYC	Year	UYC	Year	UYC
1880	1272.165	1915	2425.478	1950	3024.608	1985	4036.471	2020	4775.433
1881	1276.933	1916	2437.105	1951	3141.117	1986	4070.706	2021	4788.501
1882	1313.804	1917	2338.19	1952	3259.14	1987	4108.163	2022	4792.816
1883	1354.096	1918	2500.228	1953	3378.068	1988	4149.453	2023	4802.152
1884	1397.08	1919	2482.659	1954	3508.561	1989	4194.603	2024	4804.717
1885	1417.948	1920	2478.475	1955	3636.003	1990	4248.546	2025	4811.752
1886	1473.926	1921	2512.477	1956	3755.172	1991	4330.404	2026	4826.58
1887	1498.216	1922	2547.752	1957	3856.285	1992	4410.444	2027	4845.086
1888	1549.209	1923	2571.365	1958	4009.709	1993	4484.262	2028	4863.619
1889	1580.713	1924	2592.591	1959	4168.931	1994	4546.26	2029	4881.057
1890	1633.608	1925	2616.39	1960	4346.618	1995	4598.344	2030	4911.253
1891	1675.959	1926	2634.422	1961	4434.377	1996	4659.019	2031	4939.198
1892	1660.08	1927	2650.852	1962	4495.789	1997	4706.24	2032	4966.098
1893	1744.538	1928	2659.193	1963	4535.551	1998	4741.986	2033	4998.406
1894	1766.845	1929	2655.507	1964	4562.79	1999	4773.553	2034	5031.991
1895	1791.075	1930	2538.688	1965	4578.446	2000	4801.931	2035	5063.345
1896	1830.664	1931	2620.168	1966	4582.301	2001	4811.033	2036	5093.619
1897	1870.343	1932	2598.852	1967	4577.587	2002	4827.24	2037	5123.939
1898	1832.36	1933	2567.591	1968	4562.145	2003	4842.856	2038	5151.707
1899	1942.469	1934	2532.445	1969	4538.554	2004	4848.119	2039	5177.812
1900	1931.202	1935	2501.553	1970	4514.882	2005	4842.531	2040	5201.235
1901	1974.249	1936	2468.658	1971	4470.813	2006	4873.858	2041	5222.906
1902	2017.306	1937	2438.54	1972	4419.293	2007	4890.633	2042	5243.408
1903	2068.414	1938	2419.296	1973	4360.998	2008	4897.397	2043	5259.747

Year	UYC	Year	UYC	Year	UYC	Year	UYC	Year	UYC
1904	2103.581	1939	2405.779	1974	4296.944	2009	4900.911	2044	5270.727
1905	2148.105	1940	2391.309	1975	4231.371	2010	4904.871	2045	5278.65
1906	2192.399	1941	2306.731	1976	4194.304	2011	4899.789	2046	5286.233
1907	2236.834	1942	2410.426	1977	4150.966	2012	4888.113	2047	5289.85
1908	2283.396	1943	2458.417	1978	4106.961	2013	4873.775	2048	5287.804
1909	2331.688	1944	2484.657	1979	4070.176	2014	4861.947	2049	5283.623
1910	2383.89	1945	2574.569	1980	4045.401	2015	4851.575	2050	5278.317
1911	2268.315	1946	2569.088	1981	4027.949	2016	4838.206		
1912	2391.877	1947	2702.984	1982	4019.377	2017	4829.548		
1913	2404.685	1948	2809.051	1983	4018.899	2018	4819.615		
1914	2414.651	1949	2921.501	1984	4024.523	2019	4803.451		

iii) The data concerning the income-age rating (Table 6) are those based on which the Figure F4b was built.

**Table 7. Share of the main age-groups in the total of population**

Age-groups (years)	25_1	50_26	75_51	101_76	
1980	0.441553	0.272317	0.217527	0.068602	1
1981	0.438924	0.274593	0.217126	0.069357	1
1982	0.435969	0.277355	0.216539	0.070137	1
1983	0.432505	0.28083	0.215723	0.070943	1
1984	0.428534	0.28503	0.21466	0.071776	1
1985	0.424009	0.289987	0.213359	0.072645	1
1986	0.41934	0.295316	0.212262	0.073082	1
1987	0.41464	0.300891	0.210713	0.073755	1
1988	0.41	0.306578	0.209067	0.074355	1
1989	0.405475	0.3123	0.20735	0.074875	1
1990	0.401126	0.318002	0.205554	0.075319	1
1991	0.397058	0.323853	0.203407	0.075682	1
1992	0.393293	0.32915	0.201876	0.075681	1
1993	0.389849	0.334066	0.200069	0.076016	1
1994	0.386725	0.338668	0.198401	0.076206	1
1995	0.383891	0.342753	0.197057	0.076299	1
1996	0.381431	0.346574	0.195601	0.076394	1
1997	0.379333	0.349653	0.194514	0.076499	1
1998	0.377586	0.352092	0.193732	0.076589	1
1999	0.376191	0.353869	0.193276	0.076664	1
2000	0.375138	0.35503	0.193104	0.076727	1
2001	0.374277	0.355667	0.193278	0.076778	1
2002	0.373639	0.355758	0.193792	0.076811	1
2003	0.373219	0.355311	0.194662	0.076809	1
2004	0.372965	0.354339	0.195947	0.076749	1

Age-groups (years)	25_1	50_26	75_51	101_76	
2005	0.372808	0.352917	0.197901	0.076374	1
2006	0.3728	0.351061	0.199984	0.076155	1
2007	0.372877	0.348886	0.202387	0.075851	1
2008	0.372989	0.346274	0.20529	0.075447	1
2009	0.373109	0.343241	0.208707	0.074943	1
2010	0.373218	0.339761	0.212667	0.074354	1
2011	0.373226	0.336199	0.216891	0.073684	1
2012	0.373109	0.332652	0.221285	0.072954	1
2013	0.372858	0.329201	0.225758	0.072184	1
2014	0.372465	0.32589	0.230251	0.071394	1
2015	0.371909	0.322774	0.234728	0.070589	1
2016	0.371101	0.319974	0.239306	0.069619	1
2017	0.370062	0.317498	0.243539	0.068901	1
2018	0.36881	0.315351	0.247525	0.068314	1
2019	0.367378	0.313523	0.2513	0.067798	1
2020	0.365772	0.311989	0.254739	0.0675	1
2021	0.36405	0.310786	0.257961	0.067202	1
2022	0.362246	0.309898	0.260659	0.067197	1
2023	0.360412	0.309295	0.262878	0.067415	1
2024	0.35857	0.308975	0.264598	0.067857	1
2025	0.356732	0.308927	0.265847	0.068494	1
2026	0.354966	0.309008	0.266686	0.069341	1
2027	0.353271	0.309247	0.267097	0.070385	1
2028	0.351663	0.309637	0.267086	0.071613	1
2029	0.350178	0.310127	0.266661	0.073034	1
2030	0.348854	0.310649	0.265872	0.074625	1
2031	0.347593	0.311287	0.264765	0.076355	1
2032	0.346447	0.311975	0.263412	0.078166	1
2033	0.345447	0.312664	0.26174	0.08015	1
2034	0.344608	0.313326	0.259765	0.082301	1
2035	0.343927	0.313951	0.257484	0.084637	1
2036	0.34343	0.314459	0.255148	0.086964	1
2037	0.343131	0.314827	0.252822	0.08922	1
2038	0.343033	0.315044	0.250565	0.091358	1
2039	0.34312	0.315114	0.248416	0.09335	1
2040	0.343384	0.315024	0.246419	0.095173	1
2041	0.343824	0.314699	0.244669	0.096807	1
2042	0.344413	0.314165	0.243178	0.098243	1
2043	0.345146	0.313443	0.241949	0.099461	1
2044	0.346028	0.312551	0.240963	0.100458	1

Age-groups (years)	25_1	50_26	75_51	101_76	
2045	0.347076	0.311487	0.240193	0.101244	1
2046	0.348171	0.310341	0.239694	0.101793	1
2047	0.349313	0.309137	0.239441	0.102109	1
2048	0.350414	0.307953	0.239436	0.102197	1
2049	0.351557	0.306761	0.239631	0.102051	1
2050	0.35268	0.305593	0.240035	0.101693	1

