

Consumption and Saving

Intermediate Macroeconomics - UCLA - Econ 102

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UCLA

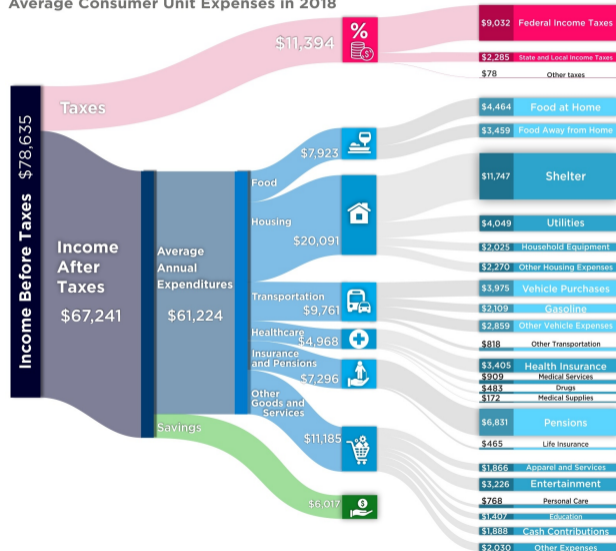
October 7, 2020

Section 1

Consumption

A Breakdown of the Average American Spending

Average Consumer Unit Expenses in 2018



\$ Expenditure for 1st, 5th, 10th Decile (in \$)

	Low	5th	High
Total average annual expenditures	\$23,588	\$43,975	\$136,873
Food	\$ 3,789	\$ 5,891	\$ 14,692
Alcoholic beverages	\$ 143	\$ 312	\$ 1,378
Housing	\$ 9,567	\$15,511	\$ 40,547
Apparel & services	\$ 876	\$ 1,381	\$ 4,493
Transportation	\$ 3,379	\$ 7,638	\$ 17,724
Healthcare	\$ 1,742	\$ 4,144	\$ 8,577
Entertainment	\$ 1,036	\$ 2,042	\$ 7,165
Personal care prod. & services	\$ 317	\$ 534	\$ 1,643
Reading	\$ 65	\$ 98	\$ 300
Education	\$ 928	\$ 478	\$ 5,104
Tobacco prod. & smoking supplies	\$ 290	\$ 360	\$ 219
Miscellaneous expenditures	\$ 355	\$ 1,016	\$ 2,031
Cash contributions	\$ 456	\$ 1,281	\$ 7,711
Personal insurance & pensions	\$ 644	\$ 3,290	\$ 25,290

% Expenditure for 1st, 5th, 10th Decile (in %)

	Low	5th	High
Total average annual expenditures	100%	100%	100%
Food	16.1%	13.4%	10.7%
Alcoholic beverages	0.6%	0.7%	1%
Housing	40.6%	35.3%	29.6%
Apparel & services	3.7%	3.1%	3.3%
Transportation	14.3%	17.4%	12.9%
Healthcare	7.4%	9.4%	6.3%
Entertainment	4.4%	4.6%	5.2%
Personal care products & services	1.3%	1.2%	1.2%
Reading	0.3%	0.2%	0.2%
Education	3.9%	1.1%	3.7%
Tobacco products & smoking supplies	1.2%	0.8%	0.2%
Miscellaneous expenditures	1.5%	2.3%	1.5%
Cash contributions	1.9%	2.9%	5.6%
Personal insurance & pensions	0.5%	0.5%	1.5%

\$ Detailed Expenditure by Decile (in \$)

	Low	5th	High				
Total average annual expenditures	\$23,588	\$43,975	\$136,873	Healthcare	\$ 1,742	\$ 4,144	\$ 8,577
Food	\$ 3,789	\$ 5,891	\$ 14,692	Health insurance	\$ 1,210	\$ 2,922	\$ 5,614
Food at home	\$ 2,407	\$ 3,526	\$ 6,876	Medical services	\$ 255	\$ 664	\$ 1,899
Food away from home	\$ 1,382	\$ 2,364	\$ 7,815	Drugs	\$ 226	\$ 450	\$ 718
Alcoholic beverages	\$ 143	\$ 312	\$ 1,378	Medical supplies	\$ 51	\$ 107	\$ 345
Housing	\$ 9,567	\$15,511	\$ 40,547	Entertainment	\$ 1,036	\$ 2,042	\$ 7,165
Shelter	\$ 5,873	\$ 8,966	\$ 24,593	Entertainment: fees & admissions	\$ 140	\$ 300	\$ 2,633
Utilities, fuels, & public services	\$ 2,121	\$ 3,665	\$ 6,097	Audio & visual equip. & services	\$ 552	\$ 993	\$ 1,832
Household operations	\$ 547	\$ 923	\$ 3,962	Pets, toys, & playground equip.	\$ 275	\$ 561	\$ 1,642
Housekeeping supplies	\$ 388	\$ 582	\$ 1,208	Entertainment: other	\$ 68	\$ 188	\$ 1,057
Household furnishings & equip.	\$ 638	\$ 1,374	\$ 4,686	Personal care products & services	\$ 317	\$ 534	\$ 1,643
Apparel & services	\$ 876	\$ 1,381	\$ 4,493	Reading	\$ 65	\$ 98	\$ 300
Apparel, Men & boys	\$ 261	\$ 298	\$ 1,032	Education	\$ 928	\$ 478	\$ 5,104
Apparel, Women & girls	\$ 351	\$ 537	\$ 1,486	Tobacco products & smoking supplies	\$ 290	\$ 360	\$ 219
Apparel, Children under 2	\$ 14	\$ 33	\$ 118	Miscellaneous expenditures	\$ 355	\$ 1,016	\$ 2,031
Footwear	\$ 139	\$ 352	\$ 873	Cash contributions	\$ 456	\$ 1,281	\$ 7,711
Other apparel products & services	\$ 111	\$ 160	\$ 985	Personal insurance & pensions	\$ 644	\$ 3,290	\$ 25,290
Transportation	\$ 3,379	\$ 7,638	\$ 17,724	Life & other personal insurance	\$ 76	\$ 216	\$ 1,014
Vehicle purchases (net outlay)	\$ 1,139	\$ 3,124	\$ 6,797	Pensions & Social Security	\$ 568	\$ 3,074	\$ 24,276
Gasoline, other fuels, & motor oil	\$ 835	\$ 1,815	\$ 2,931				
Other vehicle expenses	\$ 1,203	\$ 2,374	\$ 5,621				
Public & other transportation	\$ 202	\$ 324	\$ 2,374				

% Detailed Expenditure by Decile (in %)

	Low	5th	High				
Total average annual expenditures	100%	100%	100%	Healthcare	7.4%	9.4%	6.3%
Food	16.1%	13.4%	10.7%	Health insurance	5.1%	6.6%	4.1%
Food at home	10.2%	8%	5%	Medical services	1.1%	1.5%	1.4%
Food away from home	5.9%	5.4%	5.7%	Drugs: Prescription & nonprescription	1%	1%	0.5%
Alcoholic beverages	0.6%	0.7%	1%	Medical supplies	0.2%	0.2%	0.3%
Housing	40.6%	35.3%	29.6%	Entertainment	4.4%	4.6%	5.2%
Shelter	24.9%	20.4%	18%	Entertainment: fees & admissions	0.6%	0.7%	1.9%
Utilities, fuels, & public services	9%	8.3%	4.5%	Audio & visual equipment & services	2.3%	2.3%	1.3%
Household operations	2.3%	2.1%	2.9%	Pets, toys, & playground equipment	1.2%	1.3%	1.2%
Housekeeping supplies	1.6%	1.3%	0.9%	Entertainment: other	0.3%	0.4%	0.8%
Household furnishings & equipment	2.7%	3.1%	3.4%	Personal care products & services	1.3%	1.2%	1.2%
Apparel & services	3.7%	3.1%	3.3%	Reading	0.3%	0.2%	0.2%
Apparel, Men & boys	1.1%	0.7%	0.8%	Education	3.9%	1.1%	3.7%
Apparel, Women & girls	1.5%	1.2%	1.1%	Tobacco products & smoking supplies	1.2%	0.8%	0.2%
Apparel, Children under 2	0.1%	0.1%	0.1%	Miscellaneous expenditures	1.5%	2.3%	1.5%
Footwear	0.6%	0.8%	0.6%	Cash contributions	1.9%	2.9%	5.6%
Other apparel products & services	0.5%	0.4%	0.7%	Personal insurance & pensions	2.7%	7.5%	18.5%
Transportation	14.3%	17.4%	12.9%	Life & other personal insurance	0.3%	0.5%	0.7%
Vehicle purchases (net outlay)	4.8%	7.1%	5%	Pensions & Social Security	2.4%	7%	17.7%
Gasoline, other fuels, & motor oil	3.5%	4.1%	2.1%				
Other vehicle expenses	5.1%	5.4%	4.1%				
Public & other transportation	0.9%	0.7%	1.7%				

\$ Expenditure for 9th, 10th Decile

	9th 10%	High 10%
Total average annual expenditures	80.4%	66.6%
Food	9.5%	7.2%
Alcoholic beverages	0.7%	0.7%
Housing	24.6%	19.7%
Apparel and services	2.3%	2.2%
Transportation	13.3%	8.6%
Healthcare	6.2%	4.2%
Entertainment	4.2%	3.5%
Personal care prod. and services	1%	0.8%
Reading	0.1%	0.1%
Education	1.9%	2.5%
Tobacco prod. and smoking supplies	0.4%	0.1%
Miscellaneous expenditures	1.3%	1%
Cash contributions	2.5%	3.8%
Personal insurance and pensions	12.2%	12.3%
Income after taxes	100%	100%

% Expenditure for 9th, 10th Decile

	9th 10%	High 10%
Total average annual expenditures	\$ 87,432	\$136,873
Food	\$ 10,328	\$ 14,692
Alcoholic beverages	\$ 785	\$ 1,378
Housing	\$ 26,719	\$ 40,547
Apparel and services	\$ 2,526	\$ 4,493
Transportation	\$ 14,495	\$ 17,724
Healthcare	\$ 6,772	\$ 8,577
Entertainment	\$ 4,604	\$ 7,165
Personal care prod. and services	\$ 1,085	\$ 1,643
Reading	\$ 157	\$ 300
Education	\$ 2,097	\$ 5,104
Tobacco prod. and smoking supplies	\$ 386	\$ 219
Miscellaneous expenditures	\$ 1,462	\$ 2,031
Cash contributions	\$ 2,739	\$ 7,711
Personal insurance and pensions	\$ 13,278	\$ 25,290
Income after taxes	\$108,743	\$205,391

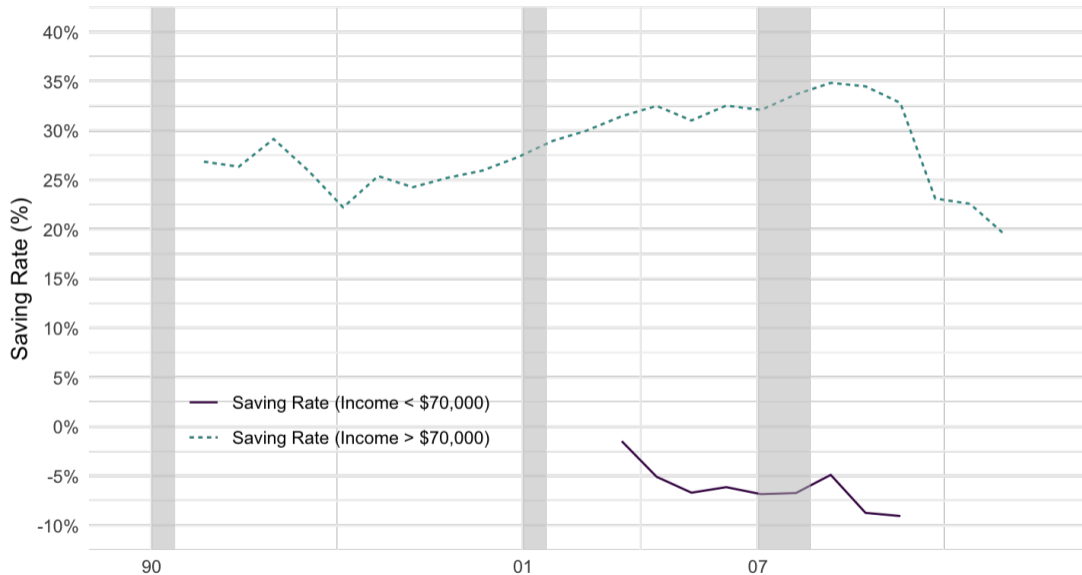
All Deciles

	Income after taxes	Expenditures	Pensions	Mortgage	Housing
All consumer units	\$ 64,175	\$ 57,311	\$ 6,509	\$ 2,889	\$ 18,886
Lowest 10 percent	\$ 6,774	\$ 23,588	\$ 568	\$ 512	\$ 9,567
Second 10 percent	\$ 16,841	\$ 26,675	\$ 544	\$ 579	\$ 10,961
Third 10 percent	\$ 25,423	\$ 34,221	\$ 1,261	\$ 760	\$ 12,829
Fourth 10 percent	\$ 33,404	\$ 39,308	\$ 1,910	\$ 1,193	\$ 14,271
Fifth 10 percent	\$ 42,410	\$ 43,975	\$ 3,074	\$ 1,547	\$ 15,511
Sixth 10 percent	\$ 52,949	\$ 51,351	\$ 4,903	\$ 2,272	\$ 17,119
Seventh 10 percent	\$ 66,676	\$ 59,395	\$ 6,781	\$ 3,198	\$ 19,285
Eighth 10 percent	\$ 83,424	\$ 70,411	\$ 9,099	\$ 4,215	\$ 22,085
Ninth 10 percent	\$ 108,743	\$ 87,432	\$ 12,723	\$ 5,564	\$ 26,719
Highest 10 percent	\$ 205,391	\$ 136,873	\$ 24,276	\$ 9,075	\$ 40,547

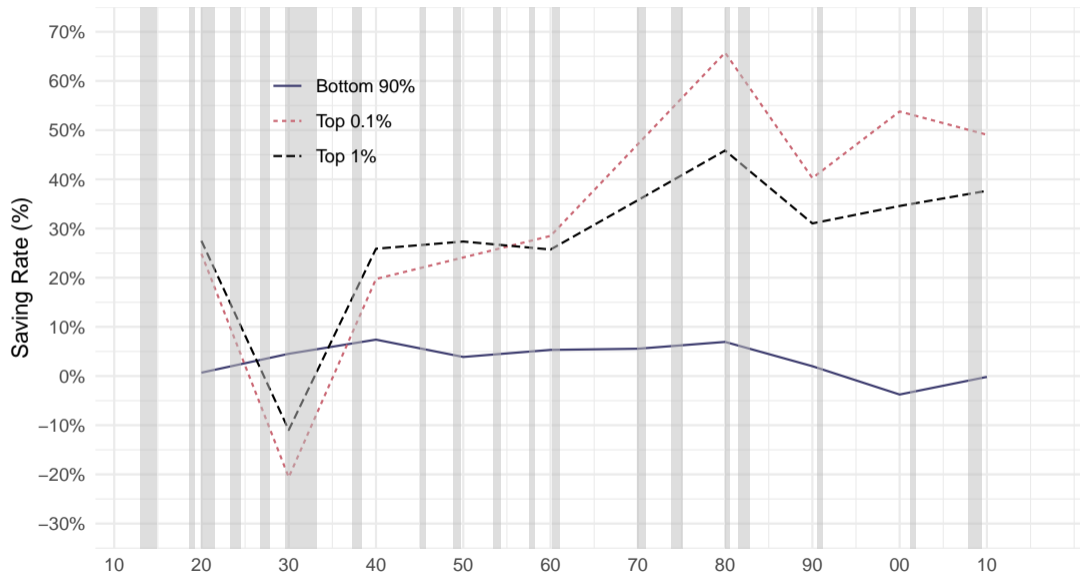
Section 2

Saving

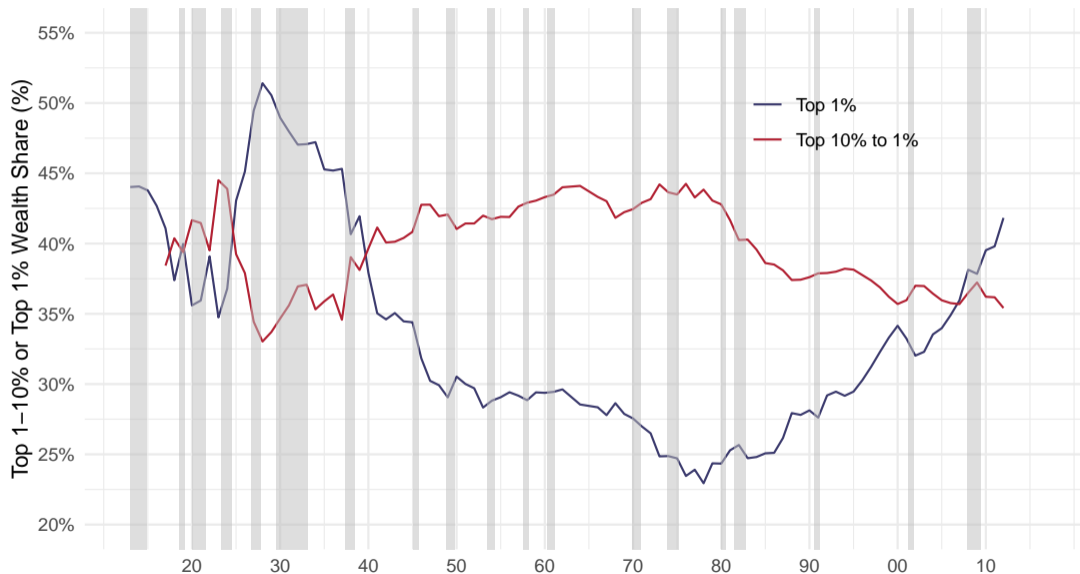
Saez, Zucman (2016) - Saving Rate by Income



Saving Rate by Wealth

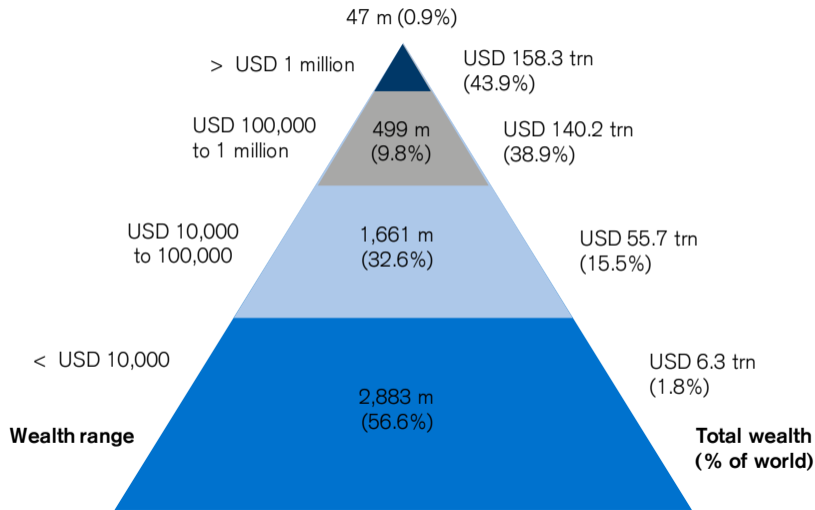


Top 1-10% and Top 1% wealth share

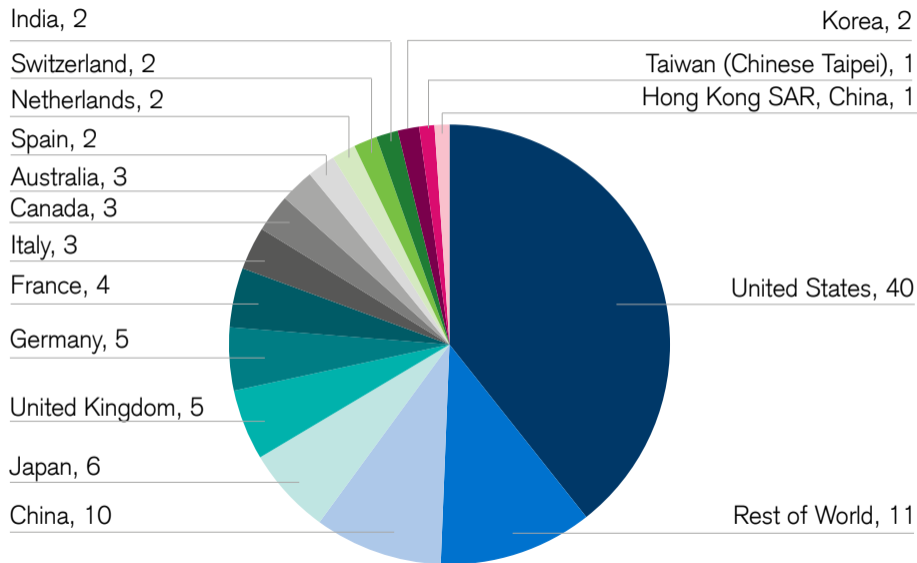


The global wealth pyramid, 2019

Global debt (public + private) = \$188Tn. IMF



Number of dollar millionaires (% of world total)



Change in household wealth by region

	Total wealth	Change in total wealth		Wealth per adult	Change in wealth per adult	Change in financial assets		Change in non-financial assets		Change in debts	
	2019	2018-19	2018-19	2019	2018-19	2018-19	2018-19	2018-19	2018-19	2018-19	2018-19
	USD bn	USD bn	%	USD	%	USD bn	%	USD bn	%	USD bn	%
Africa	4,119	130	3.3	6,488	0.4	1	0.1	164	6.6	35	7.7
Asia-Pacific	64,778	825	1.3	54,211	-0.3	539	1.5	672	1.9	386	4.2
China	63,827	1,889	3.1	58,544	2.6	88	0.2	2,273	7.5	471	10.9
Europe	90,752	1,093	1.2	153,973	1.2	127	0.3	1,156	2.0	190	1.4
India	12,614	625	5.2	14,569	3.3	37	1.4	708	6.9	120	11.5
Latin America	9,906	463	4.9	22,502	3.2	193	4.0	340	5.7	70	5.0
North America	114,607	4,061	3.7	417,694	2.7	3,334	3.6	1,353	3.8	626	3.8
World	360,603	9,087	2.6	70,849	1.2	4,319	2.0	6,666	3.7	1,898	4.0

Section 3

Consumption and Saving from the CEX

Consumption



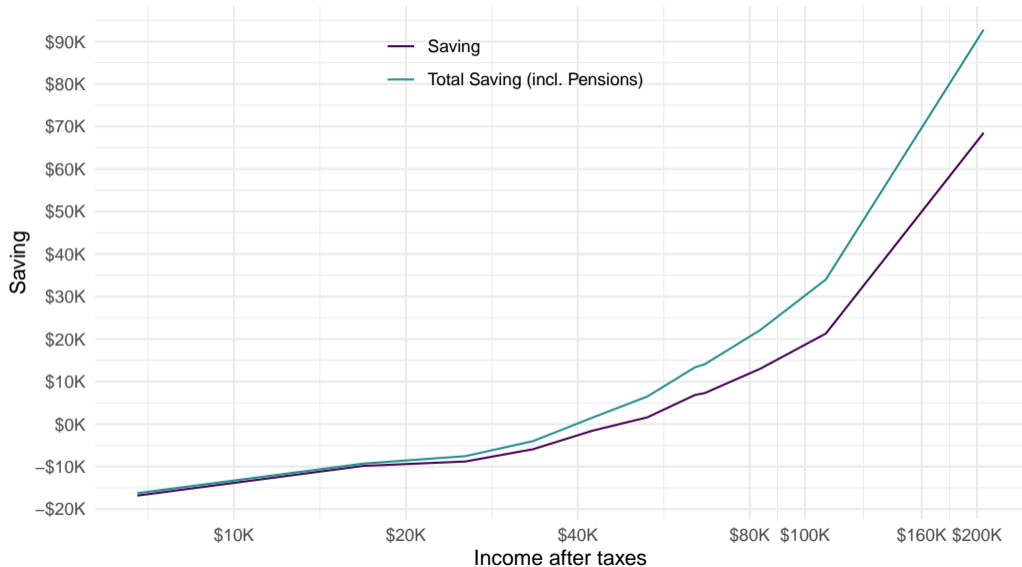
Consumption (Log)



Saving



Saving (Log)



Saving Rate



Saving Rate (Log)



Section 4

Saving of the Very Rich

Adam Smith (1759) - Theory of Moral Sentiments

Chapter 2: The origin of ambition, and differences of rank

It is because mankind are disposed to sympathize more entirely with our joy than with our sorrow that we parade our riches and conceal our poverty. Nothing is so humiliating as having to expose our distress to the public view, and to feel that although our situation is there for everyone to see, *no-one* feels for us a half of what we feel. Indeed, this concern for the sentiments of everyone else is the main reason why we pursue riches and avoid poverty. Consider: what is the purpose of all the toil and bustle of this world? What is the purpose of avarice and ambition, of the pursuit of wealth, power, and pre-eminence? Is it to supply the necessities of nature? The wages of the poorest labourer can supply them: his means afford him food and clothing, and the comfort of a house and of a family. If we strictly examined his personal budget we would find that he spends a great part of his income on conveniences that can be regarded as luxuries. . . . Why, then, are we so concerned to avoid being in his situation, and why should those who have grown up in the higher ranks of life regard it as worse than death to be reduced to live—even without his labour—on the same simple

food as he eats, to dwell under the same lowly roof, and to be dressed in the same humble clothes? Do they imagine that their stomach is better or their sleep sounder in a palace than in a cottage? The contrary of this has often been pointed out, and anyway it is so obvious that everyone would know it even if no-one had pointed it out! Well, then, what is the source of that emulation—that *trying-to-copy*—that runs through all the different ranks of men? What advantages do we expect from that great purpose of human life that we call 'bettering our condition'? The only advantages we can aim to derive from it are being noticed, attended to, regarded with sympathy, acceptance, and approval. It is the vanity—not the ease or the pleasure—that draws us. But vanity is always based on our thinking we are the object of attention and approval. The rich man glories in his riches because he feels that •they naturally attract the world's attention to him, and that •mankind are disposed to go along with him in all the agreeable emotions that the advantages of his situation so readily inspire in him. At the thought of *this* his heart seems to swell within him, and he is fonder of his wealth on *this* account than for all the other advantages it brings him. The poor man, on the other hand, is ashamed of his poverty. He feels that either

- Lee Iacocca, former CEO from Chrysler:
Once you reach a certain level in a material way, what more can you do? You can't eat more than three meals a day; you'll kill yourself. You can't wear two suits one over the other. You might now have three cars in your garage-but six! Oh, you can indulge yourself, but only to a point.

Thus this remarkable system depended for its growth on a double bluff or deception. On the one hand the labouring classes accepted from ignorance or powerlessness, or were compelled, persuaded, or cajoled by custom, convention, authority, and the well-established order of Society into accepting, a situation in which they could call their own very little of the cake, that they and Nature and the capitalists were co-operating to produce. And on the other hand the capitalist classes were allowed to call the best part of the cake theirs and were theoretically free to consume it, on the tacit underlying condition that they consumed very little of it in practice. The duty of “saving” became nine-tenths of virtue and the growth of the cake the object of true religion. There grew round the non-consumption of the cake all those instincts of puritanism which in other ages has withdrawn itself from the world and has neglected the arts of production as well as those of enjoyment. And so the cake increased; but to what end was not clearly contemplated. Individuals would be exhorted not so much to abstain as to defer, and to cultivate the pleasures of security and anticipation. Saving was for old age or for your children; but this was only in theory,—the virtue of the cake was that it was never to be consumed, neither by you nor by your children after you.

Who wants to be a millionaire ?

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Utility for wealth



Scrooge Mc Duck



How to Make \$500K a year and still feel average

How To Make \$500,000 A Year And Still Feel Average	
Gross Salary	\$500,000
401k Contribution Wife	\$18,000
401k Contribution Husband	\$18,000
Salary After 401k Contribution	\$464,000
40% Effective Tax Rate	\$185,600
Net Salary	\$278,400
Expenses	
Childcare (Two Children)	\$42,000
Food for four (includes date nights every two weeks)	\$23,000
Mortgage (P&I)	\$60,000
Home Maintenance	\$5,000
Property Taxes (\$1,500,000 home)	\$20,000
Property Insurance	\$2,500
Three Vacations A Year	\$18,000
Car Payment (BMW 5 Series, Toyota Land Cruiser)	\$9,600
Gas	\$5,000
Car Insurance	\$2,000
Life Insurance (\$3 million term)	\$2,500
Clothes for four people (no fancy bags, shoes, or threads)	\$9,500
Children's Lessons (sports, piano, violin, academics)	\$12,000
Charity (Feed The Children, College Alumni)	\$18,000
Undergrad and Graduate student loan debt (10-20 years)	\$32,000
Miscellaneous (something always comes up)	\$10,000
Total Costs	\$271,100
What's Left	\$7,300
Source: FinancialSamurai.com	

How to spend it



Rich people's problems: how to spend it ?

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Rich people's problems: how to spend it ?

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24K Gold Plated iPhone X

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Section 5

“Ricardian” Equivalence

Complicated story

- Story is very complicated. First, because Ricardo himself did not believe in what is now called “Ricardian” equivalence.
- Moreover, this view is often misrepresented.
- For example, it is a view that is critical of Keynesian economics, but it is not against public debt. It argues that Keynesian stimulus is not efficient.
- But this view is also critical of the crowding-out hypothesis, that is often used to criticize public debt and Keynesian economics. (public debt raises interest rates) Therefore, this view also asserts that the debt hawks were wrong.

3 views

In order to not get lost in Ricardian Equivalence, think that there are 3 views out there:

- 1 One view is the Keynesian view: public debt raises consumption, and thus output.
- 2 Another is the neoclassical view: public debt raises interest rates, and crowds out capital accumulation. To that extent, public debt is “debt we leave to our children”: there will be a lower capital stock in the future.
- 3 Finally, the Ricardian equivalence view states that both are wrong.

Ricardo (1820) 1/4

Suppose a country to be free from debt, and a war to take place which should involve it in an annual additional expenditure of 20 millions—there are three modes by which this expenditure may be provided; first, taxes may be raised to the amount of 20 millions per annum, from which the country would be totally freed on the return of peace; or, secondly, the money might be annually borrowed and funded, in which case, if the interest agreed upon was 5 per cent., a perpetual charge of 1 million per annum taxes would be incurred for the first year's expense, from which there would be no relief during peace, or in any future war,—of an additional million for the second year's expense, and so on for every year that the war might last. At the end of twenty years, if the war lasted so long, the country would be perpetually encumbered

Ricardo (1820) 2/4

with taxes of 20 millions per annum, and would have to repeat the same course on the recurrence of any new war. The third mode of providing for the expenses of the war would be to borrow annually the 20 millions required as before, but to provide by taxes a fund, in addition to the interest, which, accumulating at compound interest, should finally be equal to the debt. In the case supposed, if money was raised at 5 per cent., and a sum of 200,000*l.* per annum in addition to the million for interest were provided, it would accumulate to 20 millions in forty-five years; and by consenting to raise 1,200,000*l.* per annum by taxes for every loan of 20 millions, each loan would be paid off in forty-five years from the time of its creation; and in forty-five years from the termination of the war, if no new debt were created, the whole would be redeemed, and the whole of the taxes would be repealed.

Of these three modes we are decidedly of opinion that the preference should be given to the first. The burdens of the war are undoubtedly great during its continuance, but at its termination they cease altogether. When the pressure of the war is felt at once, without mitigation, we shall be less disposed wantonly to engage in an expensive contest, and if engaged in it, we shall be sooner disposed to get out of it, unless it be a contest for some great national interest. In point of economy there is no real

Ricardo (1820) 4/4

difference in either of the modes, for 20 millions in one payment, 1 million per annum for ever, or 1,200,000*l.* for forty-five years, are precisely of the same value; but the people who pay the taxes never so estimate them, and therefore do not manage their private affairs accordingly. We are too apt to think that the war is burdensome only in proportion to what we are at the moment called to pay for it in taxes, without reflecting on the probable duration of such taxes. It would be difficult to convince a man possessed of 20,000*l.*, or any other sum, that a perpetual payment of 50*l.* per annum was equally burdensome with a single tax of 1000*l.* He would have some vague notion that the 50*l.* per annum would be paid by posterity, and would not be paid by him; but if he leaves his fortune to his son, and leaves it charged with this perpetual tax, where is the difference whether he leaves him 20,000*l.* with the tax, or 19,000*l.* without it? This argument of charging posterity with the interest of our debt, or of relieving them from a portion of such interest, is often used by otherwise well informed people, but we confess we see no weight in it. It may indeed be said that the

Are Government Bonds Net Wealth?

Robert J. Barro

University of Chicago

and Solow 1973, pp. 324–25). The basic type of argument in a full-employment model is, following Modigliani (1961), that an increase in government debt implies an increase in perceived household wealth; hence, an increase in desired consumption (a component of aggregate demand) relative to saving; hence, an increase in interest rates; and, finally, a decline in the fraction of output which goes to capital accumulation. However, this line of reasoning hinges on the assumption that the increase in government debt leads to an increase in perceived household wealth. In a non-full employment context it remains true that the effect of public debt issue on aggregate demand (and, hence, on output and employment) hinges on the assumed increase in perceived household wealth.

Robert Barro has recently reopened the public debt controversy. He argues that taxation and public debt are equivalent in effects. James Buchanan criticized Barro for ignoring earlier literature, especially Ricardo. Buchanan saw Barro as following Ricardo's reasoning. While Buchanan's interpretation of Ricardo is the orthodox one, this note argues that it is erroneous. Ricardo in fact denied that taxation and public debt are equivalent. The "Ricardian Equivalence Theorem" is, consequently, a misnomer, largely because Ricardo was not a Ricardian on this issue. Rather, Ricardo enunciated a nonequivalence theorem.

Buchanan. In the “Funding System” Ricardo considered the differences (if any) between financing a war by taxes, annually borrowing the sum that would otherwise be taxed and funding the interest only, or borrowing the sum and providing a sinking fund to pay off the principal as well as the interest.² Ricardo asserted that “in point of economy, there is no real difference in either of the modes . . .” (1951, 4:186). This is the position that is commonly attributed to Ricardo. But, Ricardo con-

O'Driscoll (1977)

tinued (pp. 186–87) his analysis in a manner that not merely modified it but completely changed it from an “equivalence theorem” to a “nonequivalence theorem”: “. . . But the people who pay the taxes never so estimate them, and therefore do not manage their private affairs accordingly. We are too apt to think, that the war is burdensome only in proportion to what we are at the moment called to pay for it in taxes, without reflecting on the probable duration of such taxes. It would be difficult to convince a man possessed of 20,000 *l.*, or any other sum, that a perpetual payment of 50 *l.* per annum was equally burdensome with a single tax of 1000 *l.*”

Section 6

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