

Education Committee

Economic Background and Issue Review

Montpelier, Vermont
January 22, 2014



Thomas E. Kavet

State Economist and Principal Economic Advisor to the Vermont State Legislature Since 1996

Kavet, Rockler & Associates, LLC
Economic and Public Policy Consulting

985 Grandview Road
Williamstown, Vermont 05679-9003 USA
26 Parker Road
Brookline, Vermont 05345-9793 USA

Telephone: 802-433-1360
Facsimile: 866-433-1360
Cellular: 505-433-1360
Website: www.kavetrockler.com
E-Mail: tek12@columbia.edu

**TABLE 3 - STATE OF VERMONT
LEGISLATIVE JOINT FISCAL OFFICE
AVAILABLE EDUCATION FUND* REVENUE FORECAST UPDATE**
(Partial Education Fund Total - Includes Source General and Transportation Fund Allocations Only)
Consensus JFO and Administration Forecast - January 2015

CURRENT LAW BASIS

* Source General and Transportation

Fund taxes allocated to or associated
with the Education Fund only

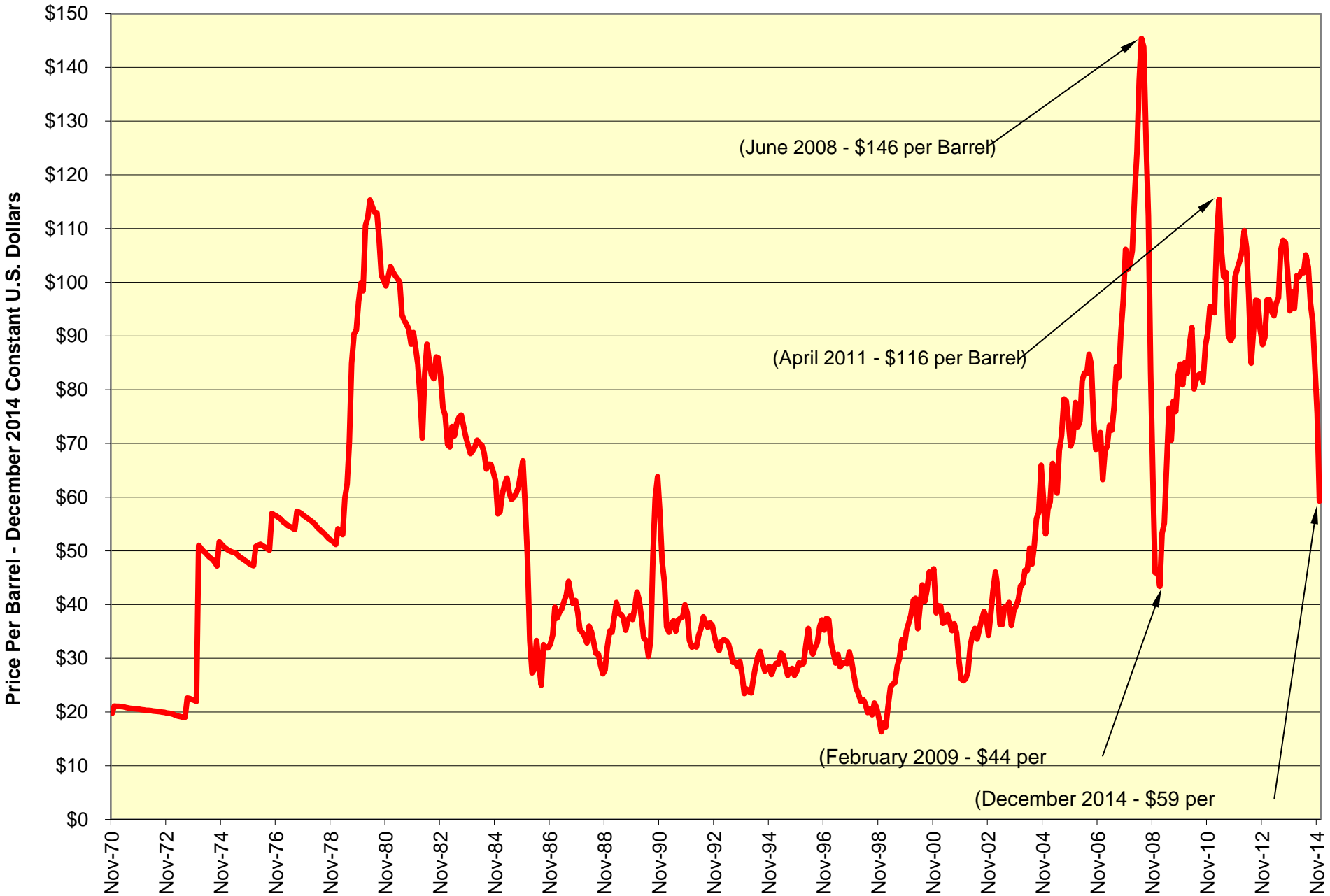
	FY 2013	%	FY 2014	%	FY 2015	%	FY 2016	%	FY 2017	%	FY 2018	%	FY 2019	%	FY2020	%
	(Actual)	Change	(Actual)	Change	(Forecast)	Change	(Forecast)	Change	(Forecast)	Change	(Forecast)	Change	(Forecast)	Change	(Forecast)	Change
GENERAL FUND																
Sales & Use**	\$115.6	1.4%	\$123.8	7.1%	\$128.0	3.4%	\$132.2	3.3%	\$136.3	3.1%	\$140.3	2.9%	\$144.2	2.8%	\$148.0	2.7%
Interest	\$0.1	72.8%	\$0.1	-17.2%	\$0.1	44.7%	\$0.1	20.0%	\$0.2	25.0%	\$0.2	26.7%	\$0.2	5.3%	\$0.2	5.0%
Lottery	\$22.9	2.7%	\$22.6	-1.6%	\$22.6	0.1%	\$23.0	1.8%	\$23.4	1.7%	\$23.8	1.7%	\$24.1	1.3%	\$24.4	1.2%
TRANSPORTATION FUND																
Purchase and Use***	\$27.9	2.0%	\$30.6	9.9%	\$32.6	6.4%	\$34.2	5.0%	\$35.6	4.2%	\$36.8	3.2%	\$37.8	2.8%	\$38.8	2.6%
TOTAL	\$166.5	1.7%	\$177.0	6.3%	\$183.3	3.5%	\$189.6	3.4%	\$195.5	3.1%	\$201.0	2.8%	\$206.3	2.6%	\$211.4	2.5%

** Includes Telecommunications Tax; Includes \$1.25M transfer to T-Fund in FY08 for prior Jet Fuel Tax processing errors; Transfer percentage from the General Fund increases from 33.3% to 35.0% effective in FY14.

*** Includes Motor Vehicle Rental revenues, restated

Epic Oil Price Decline Will Enhance Other Consumer Spending

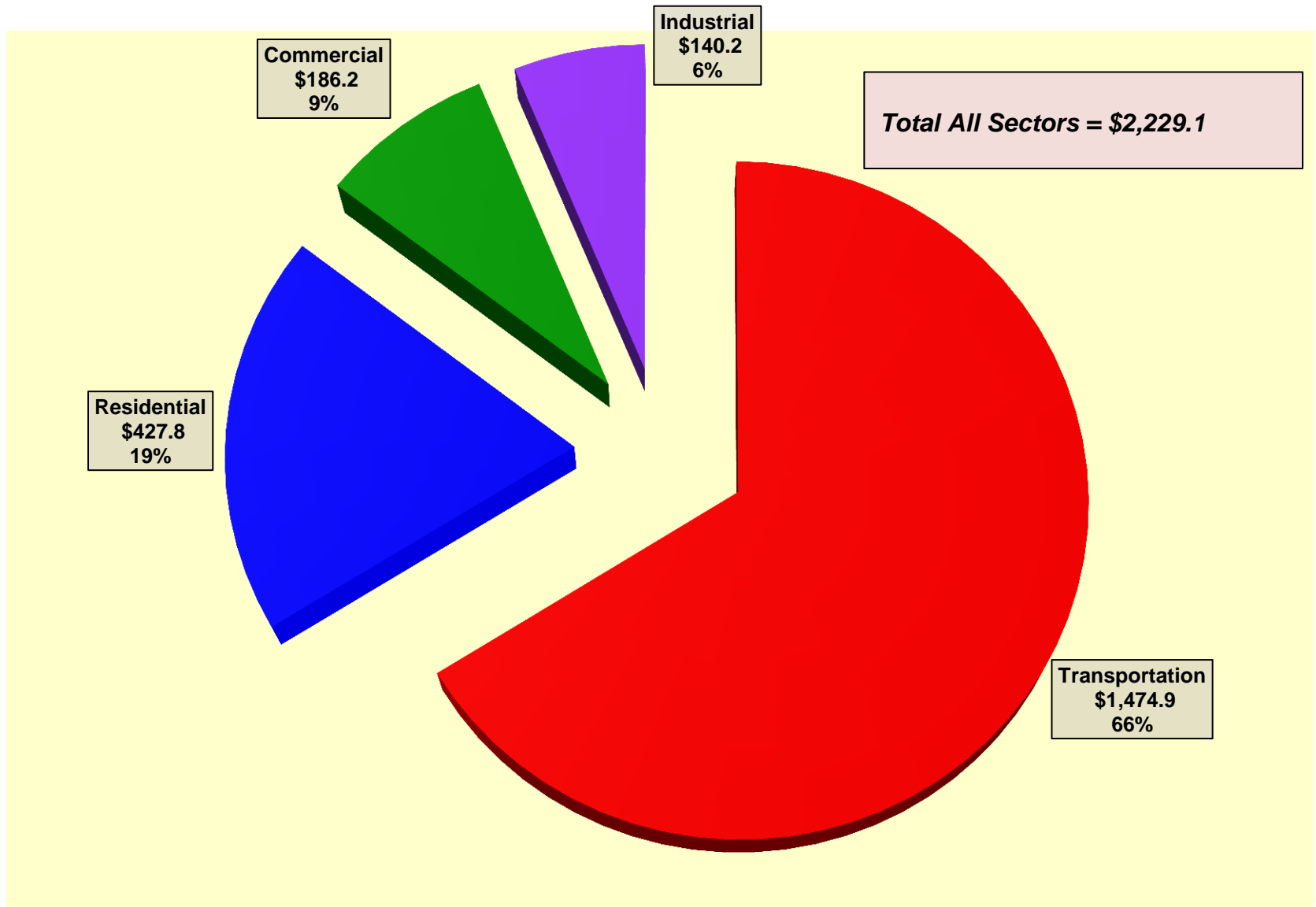
(West Texas Intermediate Crude Oil, PPB in December 2014 Constant Dollars)



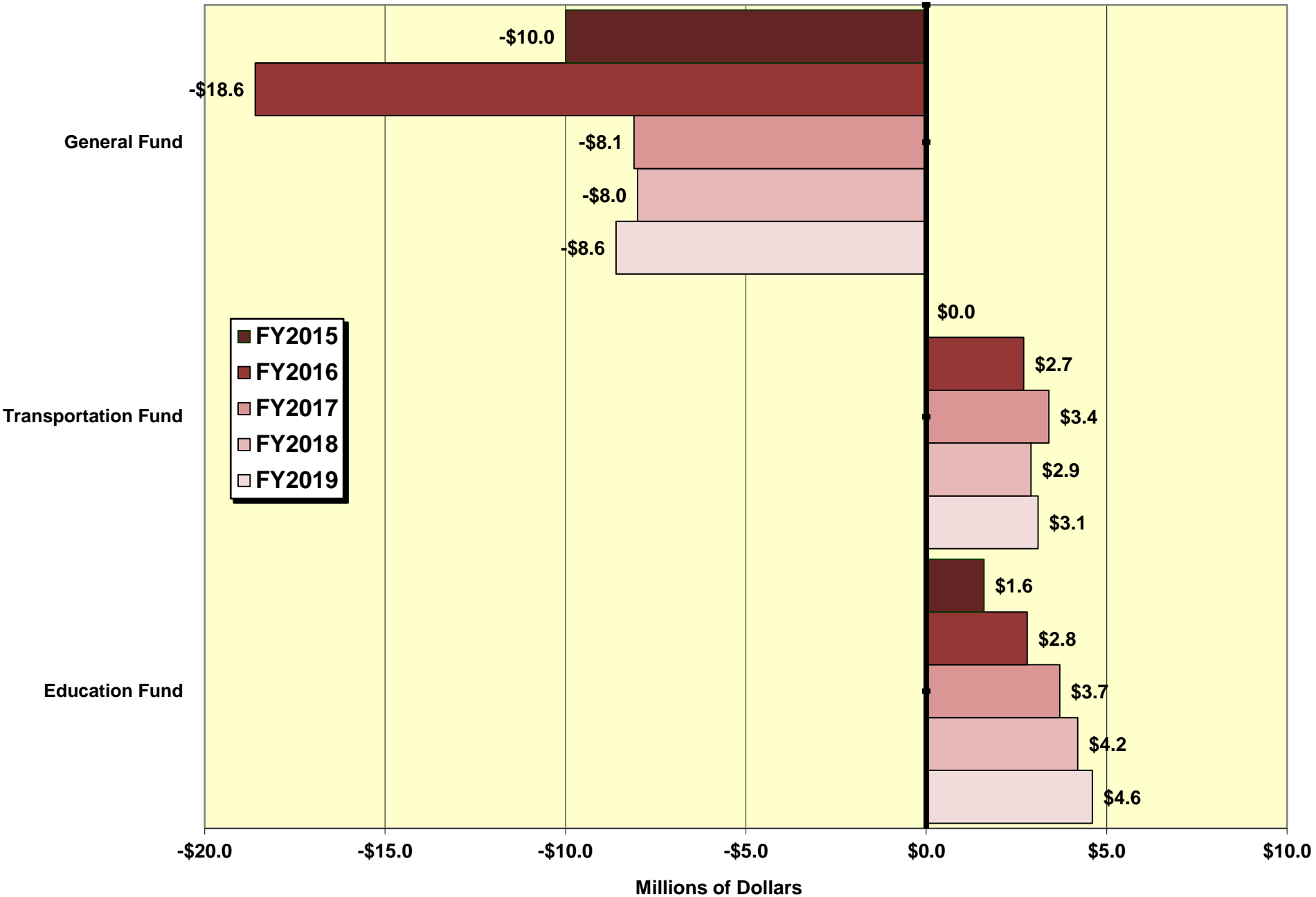
Sources: Wall Street Journal, Moody's Analytics, KRA

Petroleum-Based Energy Expenditures in Vermont, 2012

Millions of Dollars by Consumption Sector, Source: U.S. Energy Information Administration



Recommended Net Revenue Changes from July 2014 Forecast - Current Law Basis

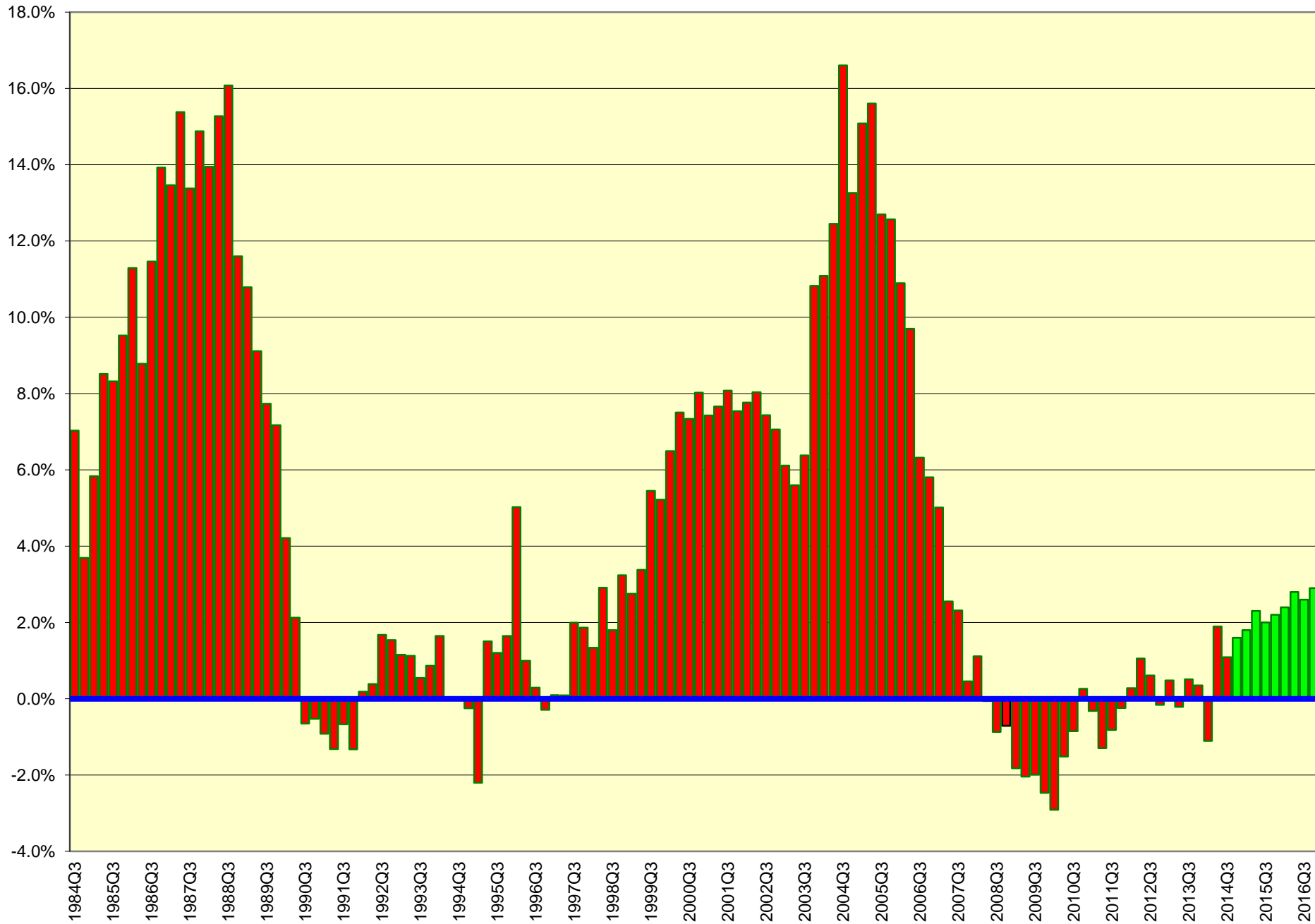


Real Estate Markets have Bottomed Out but Full Recovery is a Long Way Off

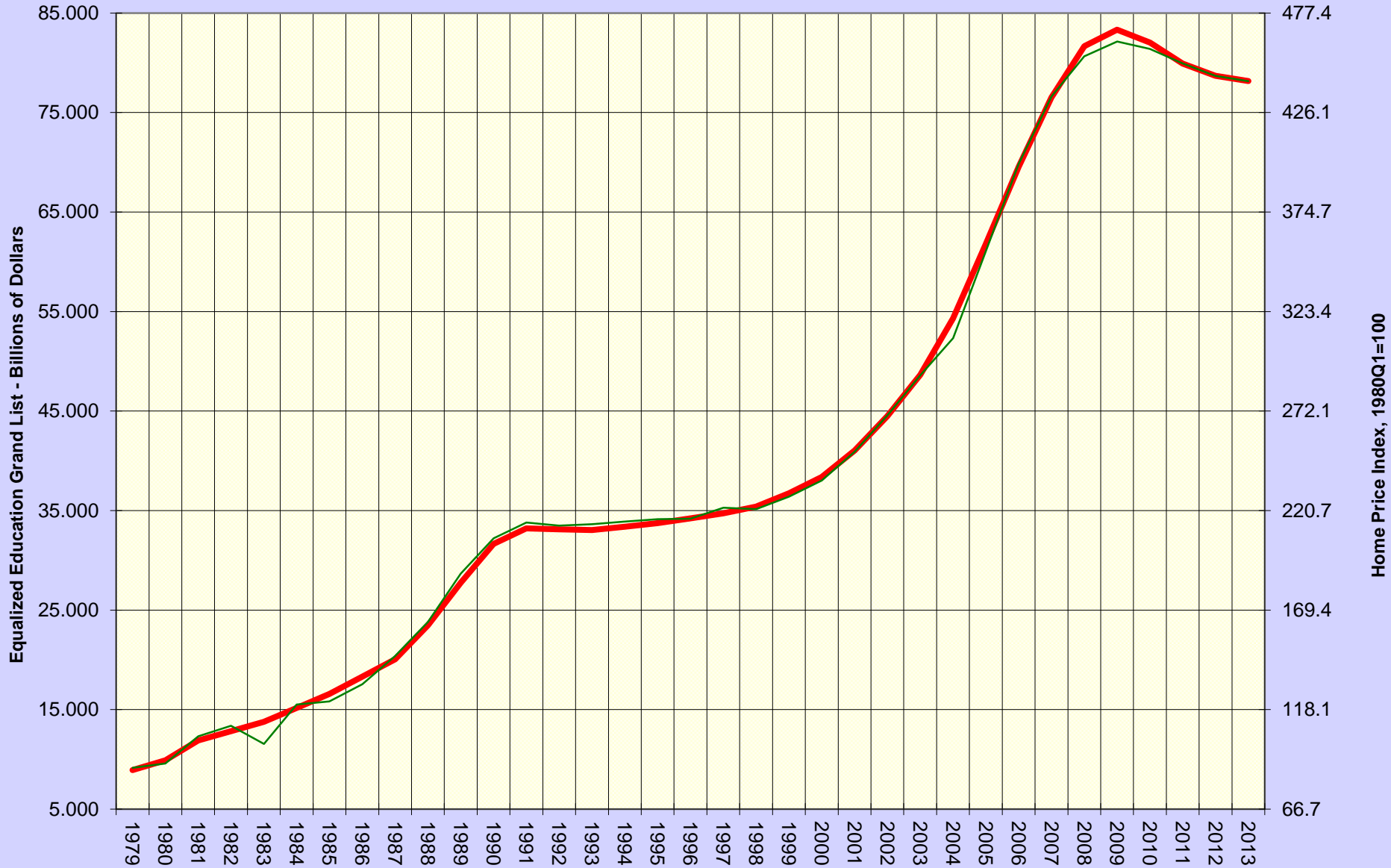
- Real estate markets are characterized by pronounced cyclicity and regional variation
- For the first time in more than 8 years (since the first quarter of 2006), housing prices increased on a year over year basis in every U.S. state for two consecutive quarters. As of the third quarter of 2014 (the most recent available), 14 states equaled or exceeded their pre-recession peak levels (ND, DC, TX, CO, SD, NE, AK, IA, OK, LA, WY, KY, MT and KS)
- Exceptionally weak new construction activity over the past 6 years has accelerated absorption of excess building and set the stage for future growth, as rental vacancy rates are at 20 year lows and household formation rebounds
- Foreclosures have peaked in most states but are still substantial in some markets. Renewed price appreciation will be relatively slow for several years - typical of extended real estate cycles
- Real estate markets attracting international investment - especially large US cities - have experienced some of the strongest price appreciation of late
- The Vermont Property Tax base (Grand List) will not exceed 2009 peak levels until 2017, putting enormous pressure on tax rates to cover rising education costs

Vermont Housing Price Declines Are Probably Over, but E-Fund Tax Base Impacts Will Persist

(FHFA Vermont Housing Price Index Percent Change Vs. Year Ago, Historical Data - Red, Forecast Data - Green)

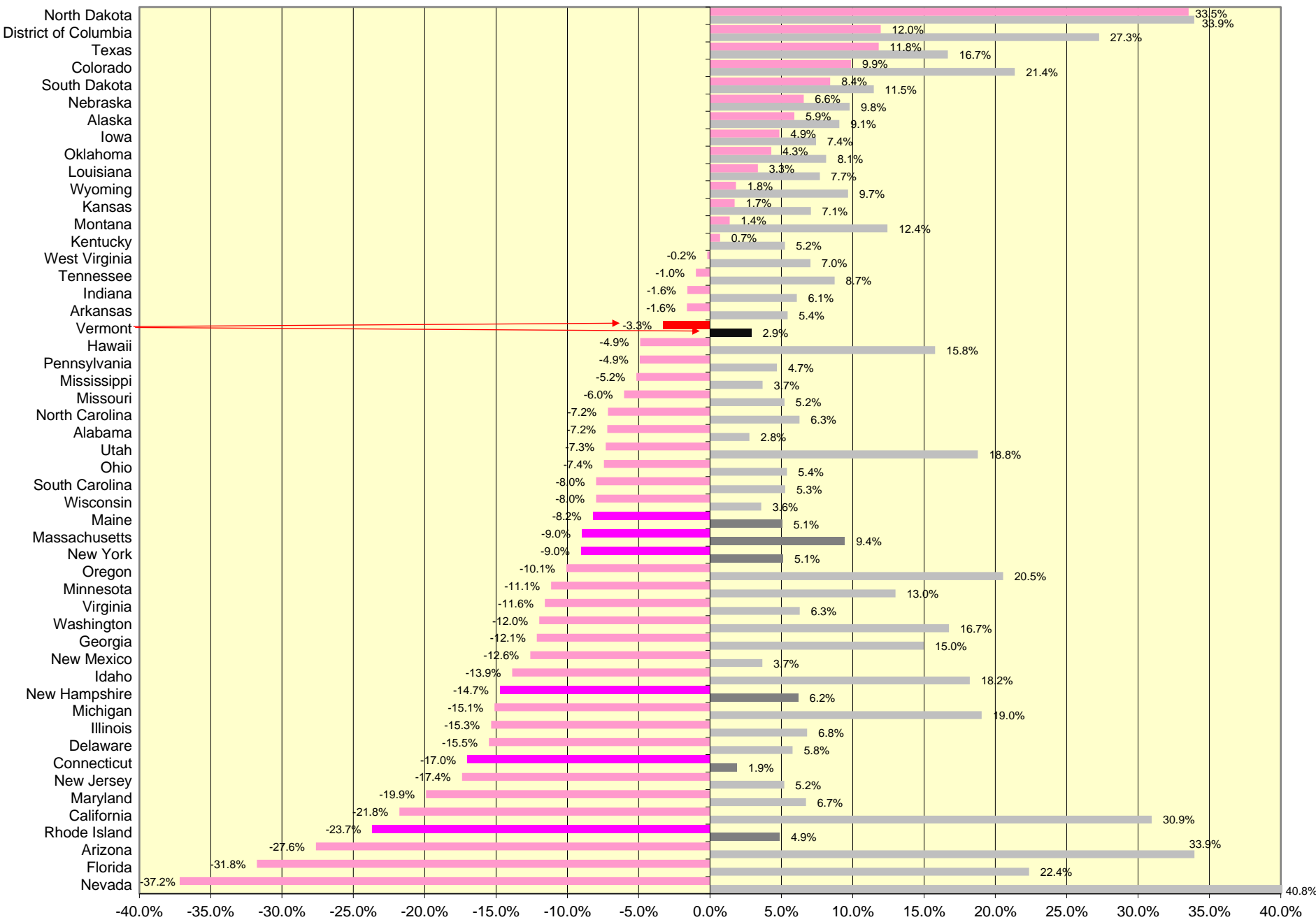


**Vermont Adjusted Equalized Education Grand List (thick red line) Vs.
FHFA Vermont Home Price Index, (Index 1980Q1 = 100)
Lagged Five Quarters (thin green line)**

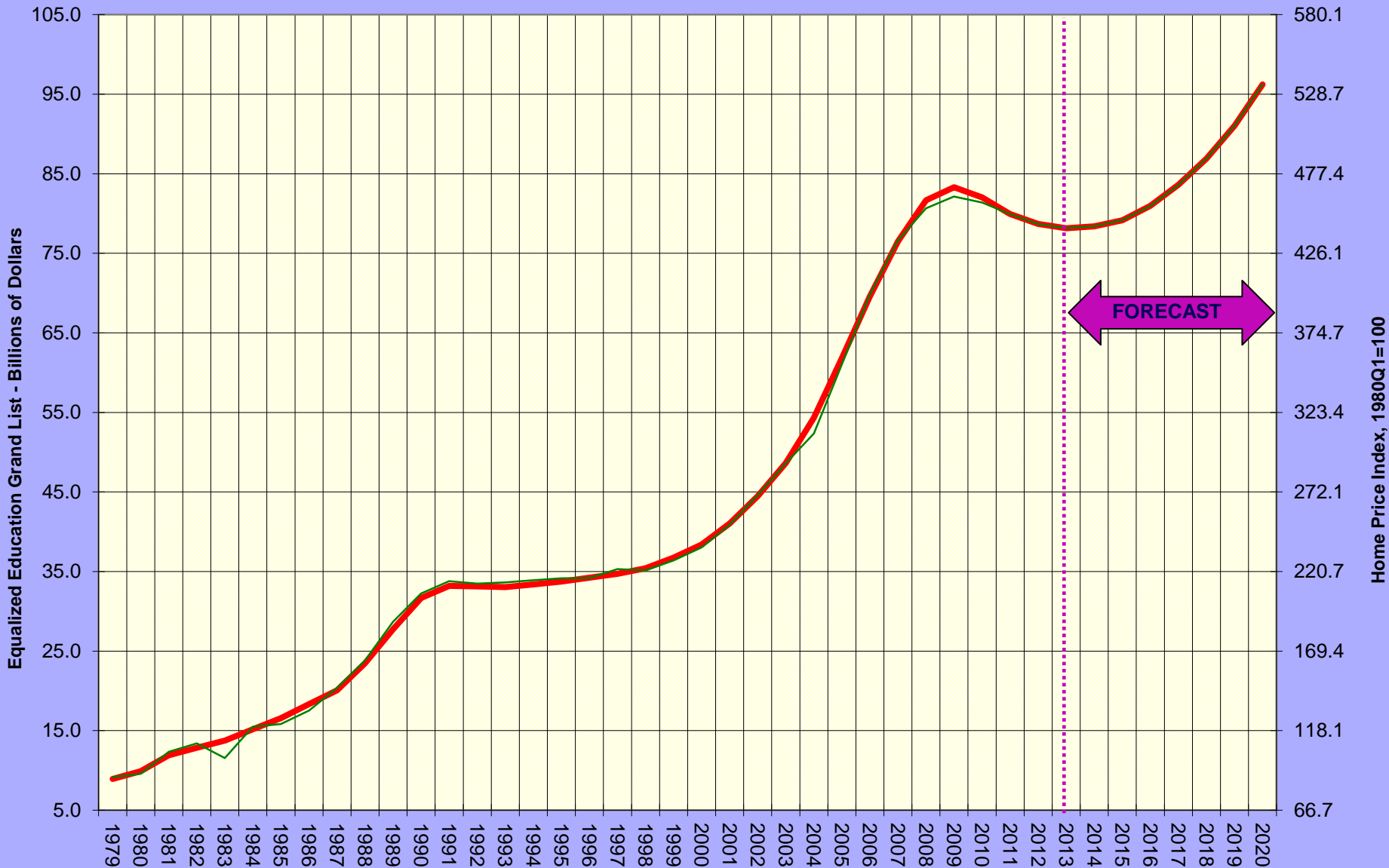


Real Estate Update: Housing Values Relative to Last Peak (pink) and Trough (grey)

Percent Change, 2014Q3 vs. Peak Price by State Reached Between 2005Q3 and 2009Q2 - Pink and 2014Q3 vs. Trough Price Reached Between 2009Q3 and 2014Q3 - Grey
 Source: FHFA H



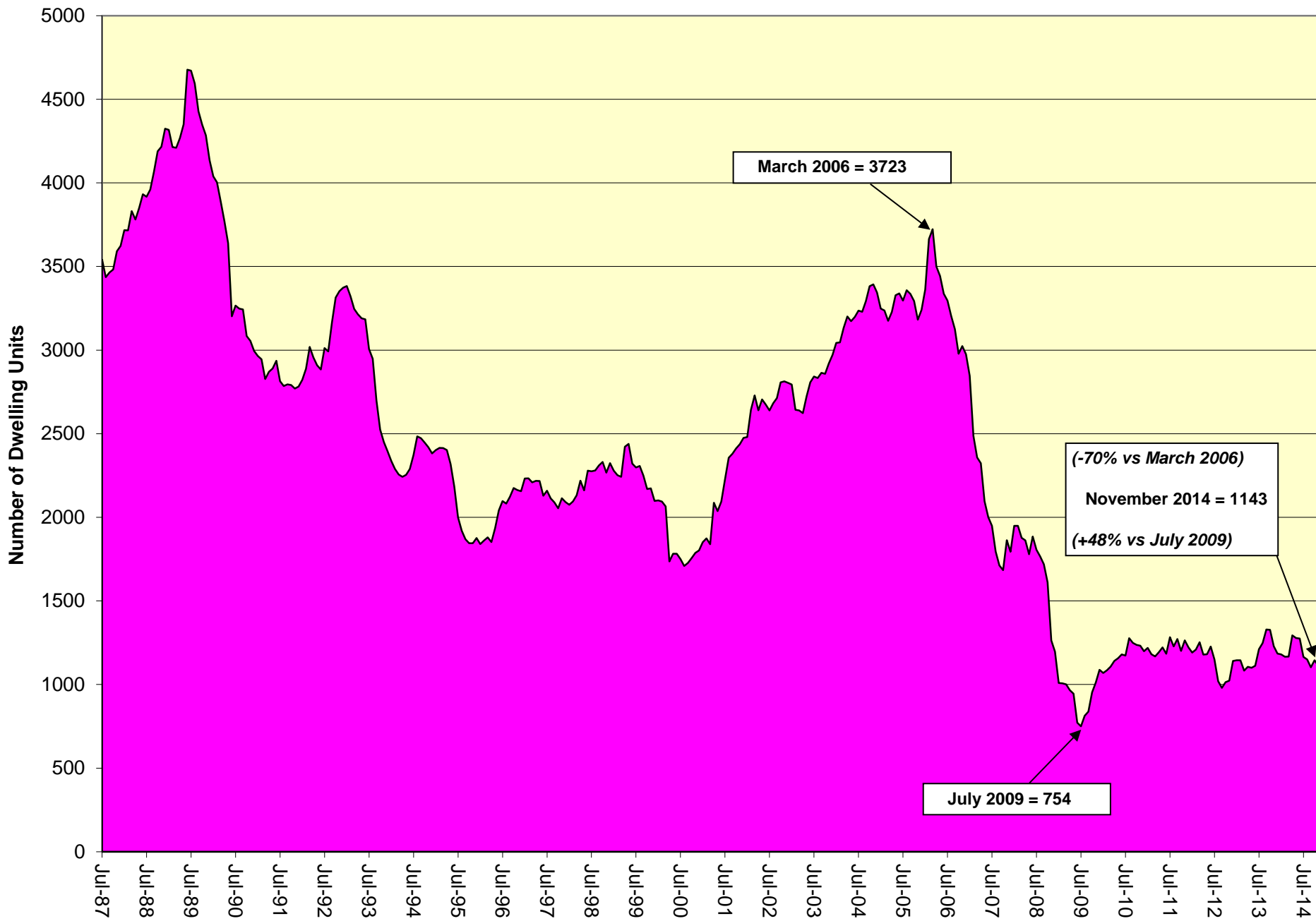
**Vermont Adjusted Equalized Education Grand List (thick red line, left scale) Vs.
FHFA Vermont Home Price Index, (Index 1980Q1 = 100)
Lagged Five Quarters (thin green line, right scale)**



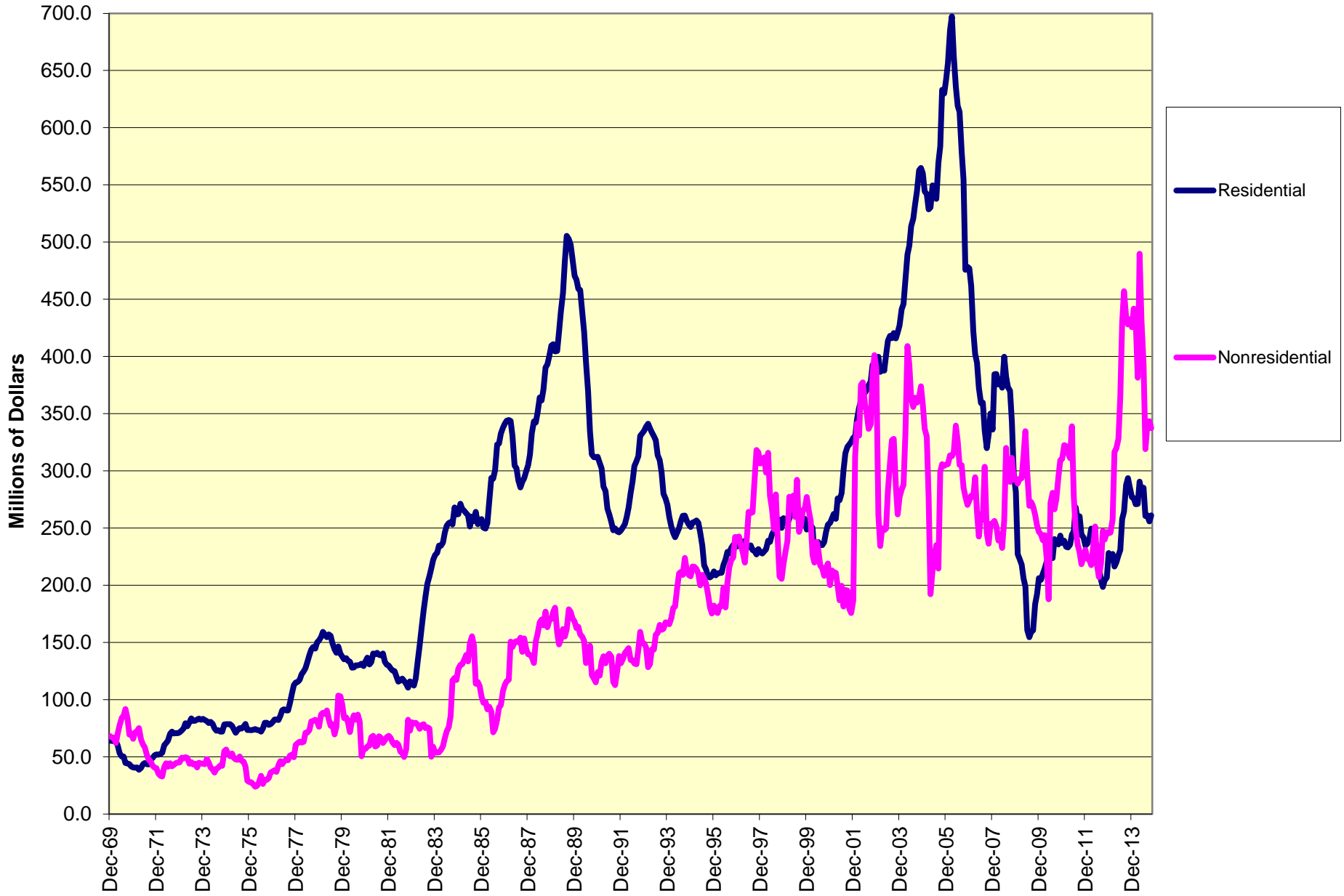
Sources: Vermont PVR; U.S. FHFA; Prepared for the Joint Fiscal Office by Kavet, Rockler & Associates, October 2014

Down 70% and Up 48%? Weak Home Prices Continue to Stall Vermont Residential Construction

(Total Housing Starts, 12 Month Moving Totals, Source: F.W. Dodge Division of McGraw-Hill, Kavet, Rockler & Associates, LLC)



Vermont Construction Markets Will Benefit from Recent Surge in Nonresidential Starts (12 month moving totals)



Source: F.W. Dodge/McGraw-Hill

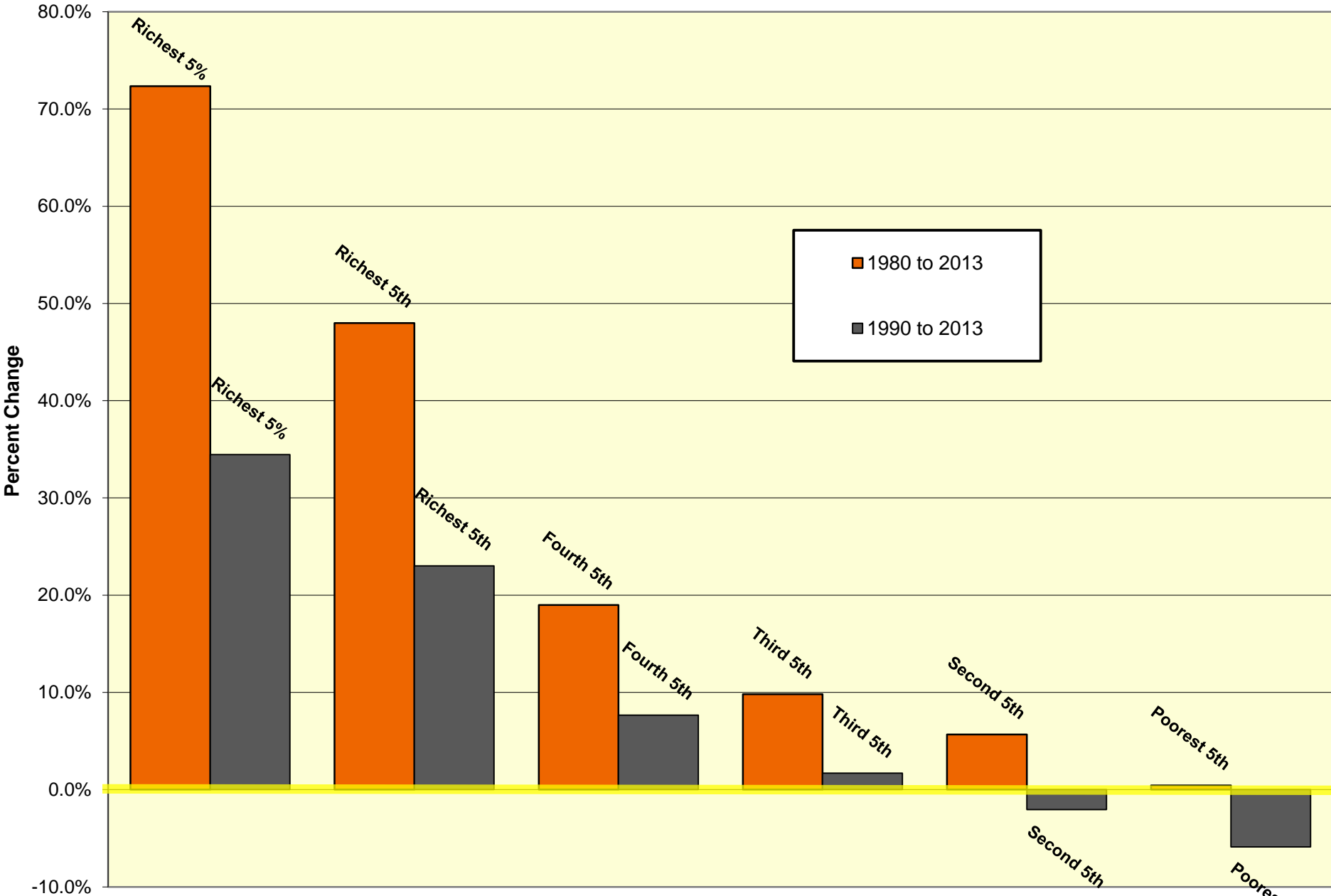
TABLE 1
Equalized Education Grand List Components
 Consensus JFO and Administration Forecast - October 2014
 (Millions of Dollars, Equalized Basis)

	Adjusted* Equalized Education Grand List	+	Utilities Excluding VT Yankee	+	Cable	-	Current Use Exempt Value	-	Tax Increment Financing Exemptions	=	Total Equalized Education Tax Base	%ch	Real** Adjusted* Equalized Education Grand List	%ch	Real** Total Equalized Education Tax Base	%ch
1980	9,906		388										22,271			
1981	11,888	20.0%	462	19.1%									24,432	9.7%		
1982	12,825	7.9%	491	6.3%									24,843	1.7%		
1983	13,762	7.3%	512	4.2%									25,648	3.2%		
1984	15,170	10.2%	532	3.8%									27,301	6.4%		
1985	16,577	9.3%	538	1.1%									28,909	5.9%		
1986	18,317	10.5%	702	30.6%									31,309	8.3%		
1987	20,057	9.5%	612	-12.7%									33,465	6.9%		
1988	23,469	17.0%	647	5.7%									37,831	13.0%		
1989	27,772	18.3%	868	34.1%									43,092	13.9%		
1990	31,662	14.0%	1,019	17.4%									47,369	9.9%		
1991	33,207	4.9%	1,141	12.0%									48,087	1.5%		
1992	33,124	-0.2%	1,240	8.6%									46,896	-2.5%		
1993	33,041	-0.3%	1,340	8.1%									45,691	-2.6%		
1994	33,389	1.1%	1,406	5.0%									45,211	-1.1%		
1995	33,736	1.0%	1,473	4.7%									44,747	-1.0%		
1996	34,228	1.5%	1,433	-2.7%									44,587	-0.4%		
1997	34,720	1.4%	1,393	-2.8%			857				35,256		44,462	-0.3%	45,149	
1998	35,407	2.0%	1,361	-2.3%	25		860	0.4%			35,932	1.9%	44,855	0.9%	45,521	0.8%
1999	36,727	3.7%	1,355	-0.5%	25	2.3%	921	7.1%			37,186	3.5%	45,872	2.3%	46,445	2.0%
2000	38,382	4.5%	1,330	-1.8%	24	-7.0%	1,000	8.5%			38,736	4.2%	46,871	2.2%	47,302	1.8%
2001	41,039	6.9%	1,291	-2.9%	40	68.7%	1,067	6.8%			41,302	6.6%	48,999	4.5%	49,313	4.3%
2002	44,481	8.4%	1,263	-2.2%	52	29.6%	1,172	9.7%			44,624	8.0%	52,306	6.7%	52,474	6.4%
2003	48,646	9.4%	1,287	1.9%	60	15.7%	1,368	16.8%			48,626	9.0%	56,086	7.2%	56,062	6.8%
2004	54,298	11.6%	1,327	3.1%	64	7.6%	1,595	16.6%			54,095	11.2%	60,928	8.6%	60,700	8.3%
2005	61,782	13.8%	1,412	6.4%	67	4.1%	1,876	17.6%	79		61,307	13.3%	67,166	10.2%	66,648	9.8%
2006	69,554	12.6%	1,582	12.1%	61	-8.4%	2,188	16.6%	86	8.4%	68,924	12.4%	73,360	9.2%	72,696	9.1%
2007	76,516	10.0%	1,655	4.6%	58	-6.2%	2,502	14.4%	131	51.9%	75,597	9.7%	78,607	7.2%	77,663	6.8%
2008	81,671	6.7%	1,872	13.1%	62	8.2%	2,732	9.2%	161	23.5%	80,711	6.8%	82,315	4.7%	81,348	4.7%
2009	83,314	2.0%	2,175	16.2%	64	3.4%	2,930	7.2%	170	5.3%	82,454	2.2%	83,314	1.2%	82,454	1.4%
2010	82,017	-1.6%	2,208	1.5%	89	37.3%	3,026	3.3%	164	-3.3%	81,123	-1.6%	81,023	-2.7%	80,140	-2.8%
2011	79,925	-2.6%	2,594	17.5%	92	3.9%	2,965	-2.0%	177	8.0%	79,469	-2.0%	77,360	-4.5%	76,918	-4.0%
2012	78,686	-1.6%	2,685	3.5%	87	-5.9%	2,962	-0.1%	188	6.1%	78,306	-1.5%	74,815	-3.3%	74,455	-3.2%
2013	78,159	-0.7%	2,828	5.3%	93	7.8%	2,947	-0.5%	215	14.2%	77,918	-0.5%	73,225	-2.1%	72,999	-2.0%
2014	78,399	0.3%	2,851	0.8%	97	3.9%	2,959	0.4%	256	19.1%	78,132	0.3%	72,221	-1.4%	71,975	-1.4%
2015	79,161	1.0%	2,956	3.7%	100	3.3%	3,012	1.8%	301	17.6%	78,905	1.0%	71,494	-1.0%	71,262	-1.0%
2016	80,957	2.3%	3,086	4.4%	104	3.6%	3,092	2.6%	349	15.8%	80,706	2.3%	71,611	0.2%	71,390	0.2%
2017	83,594	3.3%	3,244	5.1%	108	3.8%	3,191	3.2%	399	14.5%	83,355	3.3%	72,281	0.9%	72,075	1.0%
2018	86,894	3.9%	3,406	5.0%	112	4.1%	3,302	3.5%	450	12.7%	86,660	4.0%	73,638	1.9%	73,439	1.9%

* Adjusted Equalized Education Grand List Excludes Utilities and Cable, and Includes TIF Increment and Current Use Exempt Value - Used for Analytic Purposes Only

** Adjusted for Inflation Using the U.S. GDP Implicit Price Deflator, Constant 2009 Dollars

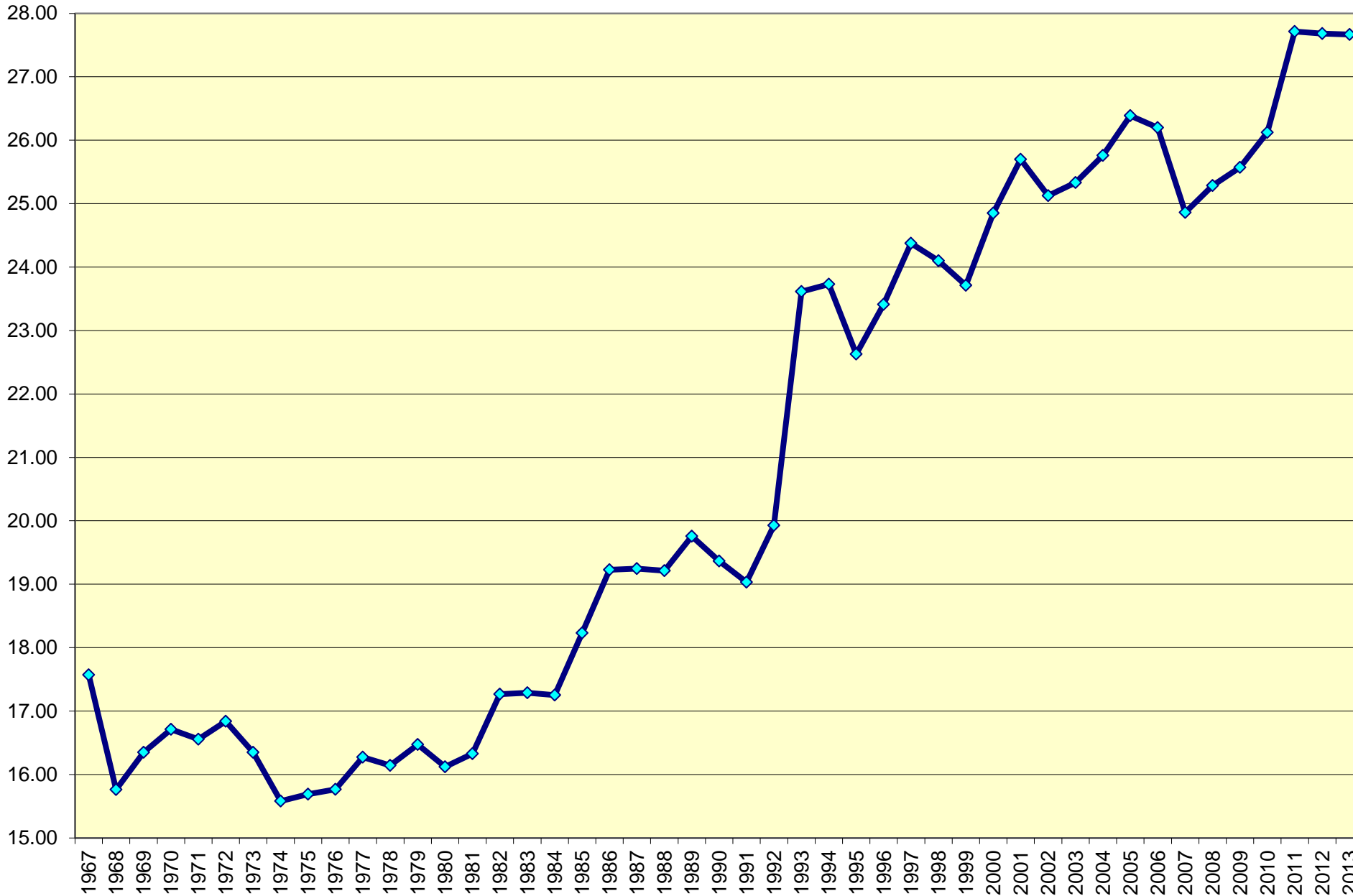
Growth In Real Household Income, By Income Class 1980 to 2013 (Orange) and 1990 to 2013 (Grey)



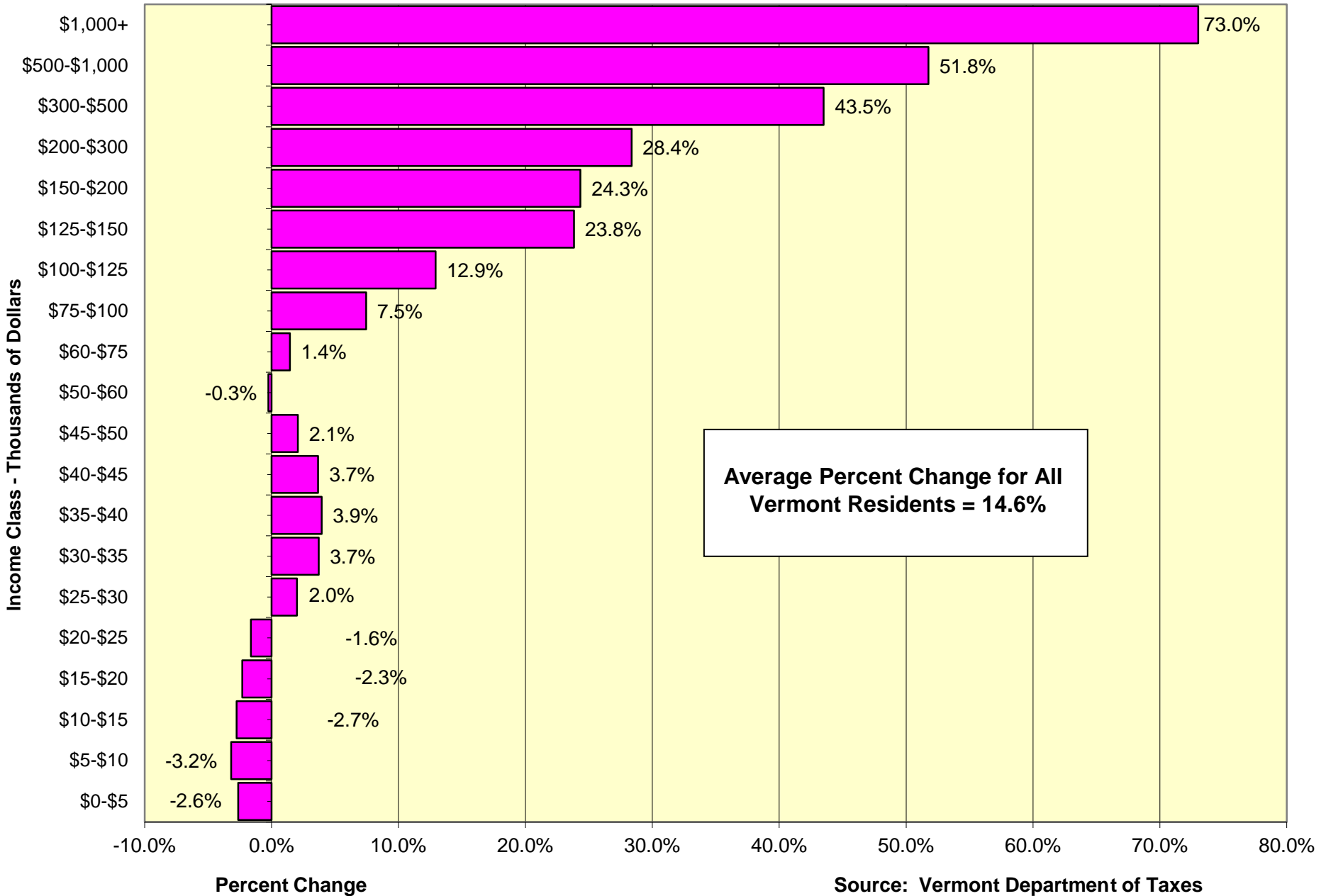
Source: U.S. Census Bureau

Ratio of Average U.S. Household Income of Top 5% to Lowest 20%

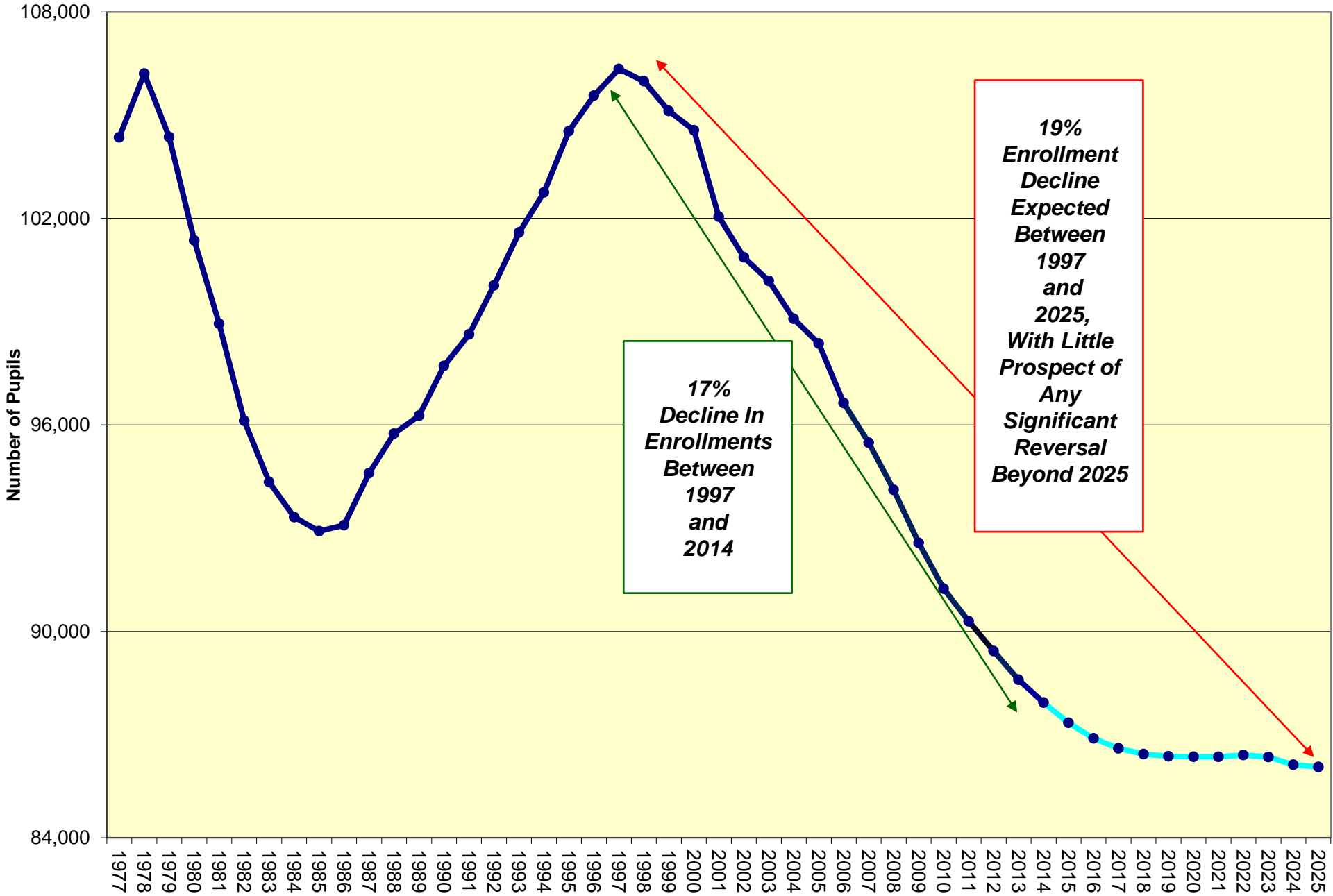
(Source: U.S. Census Bureau)



Percent Change in Adjusted Gross Income in Vermont, 2012 vs. 2009 by Income Class

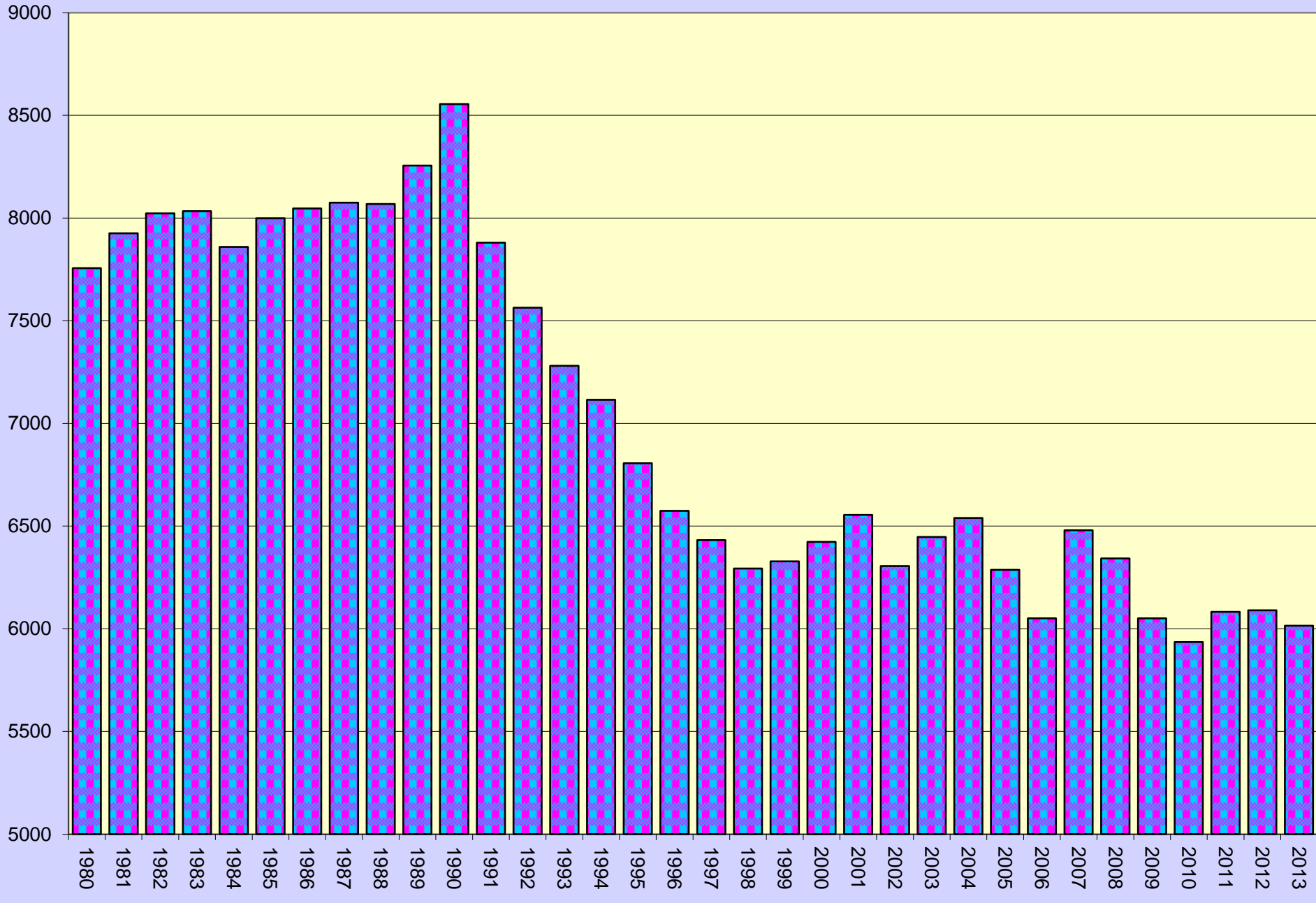


Vermont Public School Enrollment Declines Not Likely to be Reversed Soon...



Sources: Vermont DOE and Consensus Administration and Joint Fiscal Office Projections - October 2014

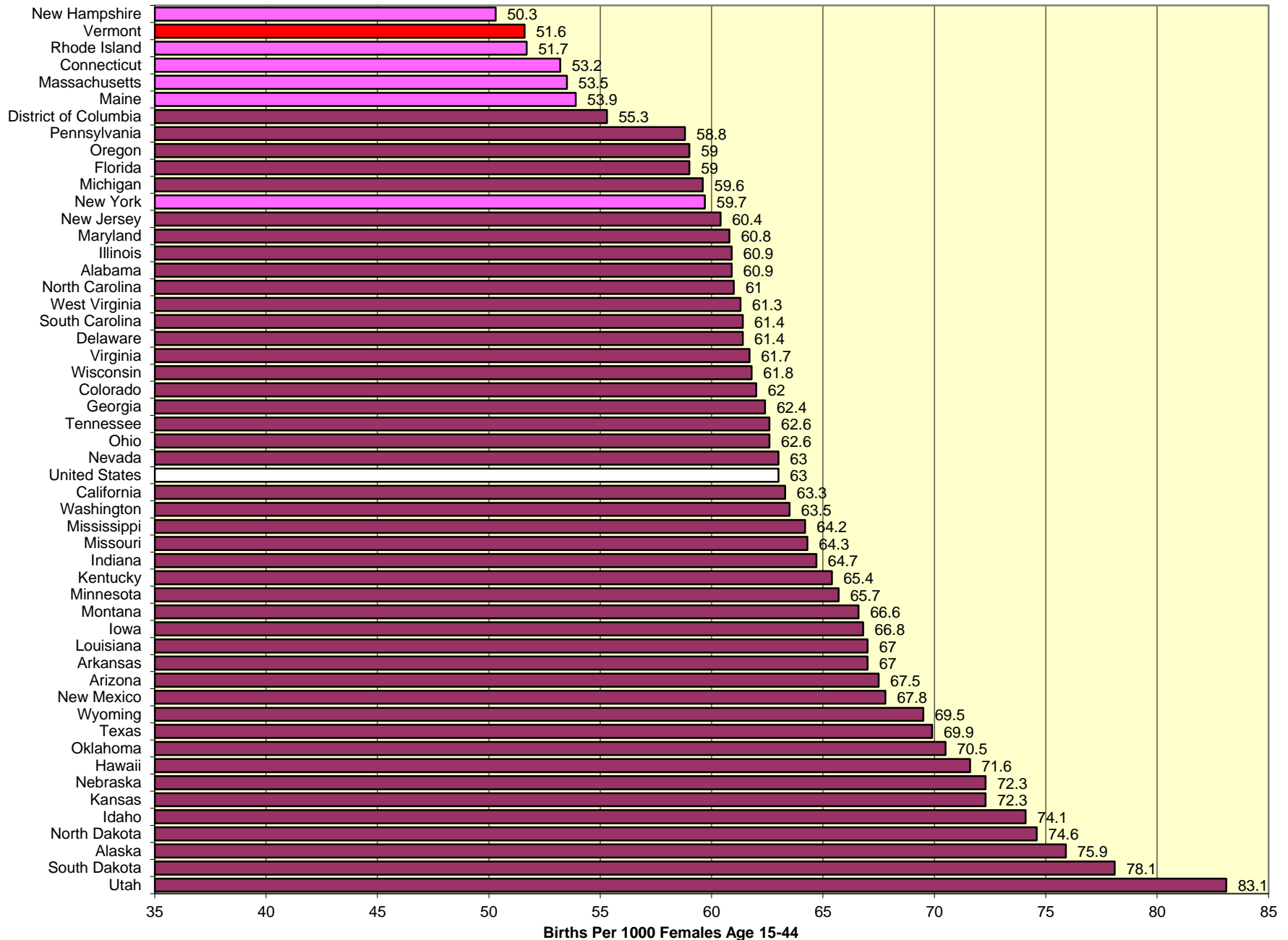
Vermont Population - Age 0 (Births)



Source: U.S. Census Bureau, Vermont Legislative Joint Fiscal Office Estimates

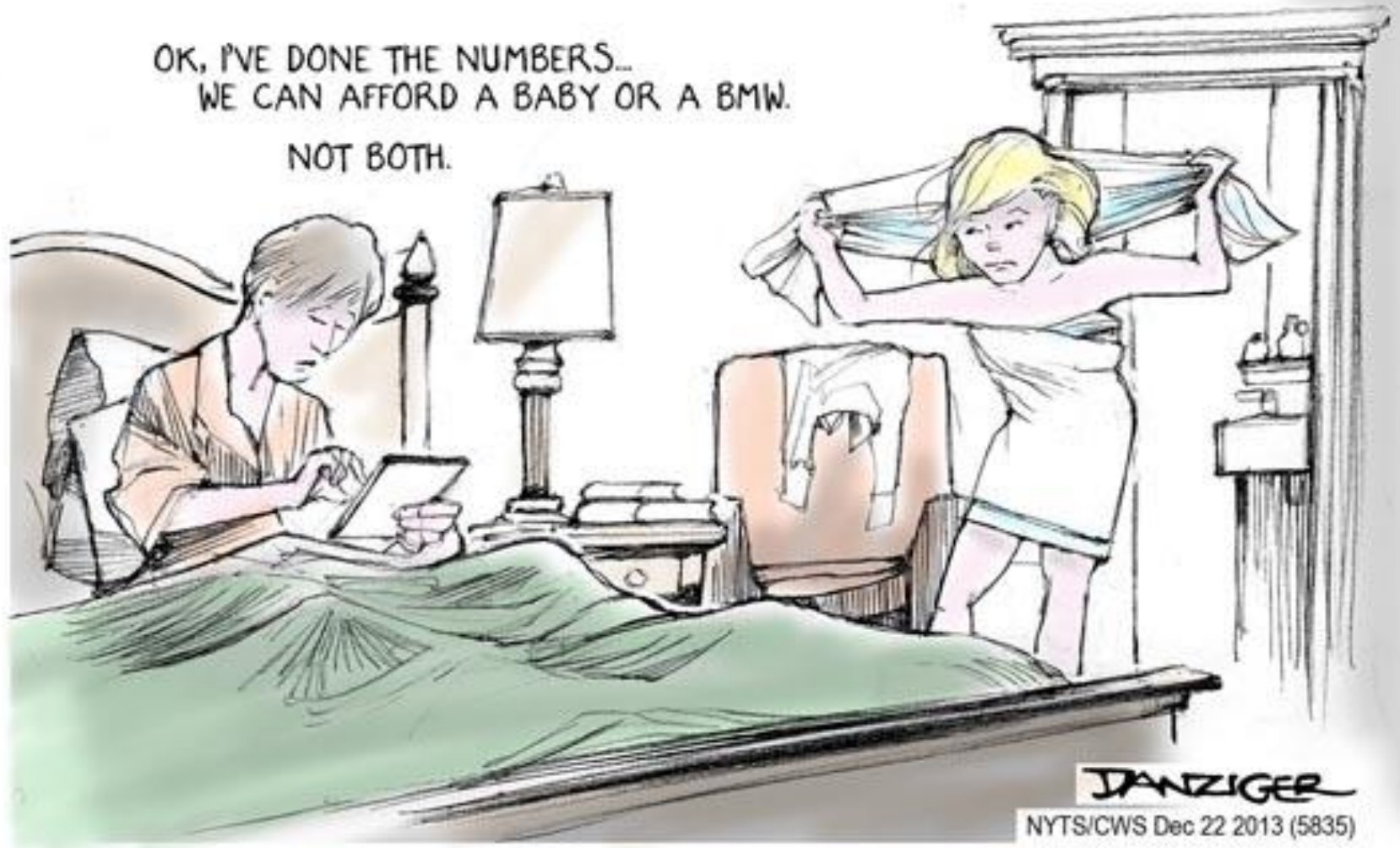
2012 Fertility Rates

(Preliminary data, Source: National Center for Health Statistics U.S. DHHS)



Economics 2014

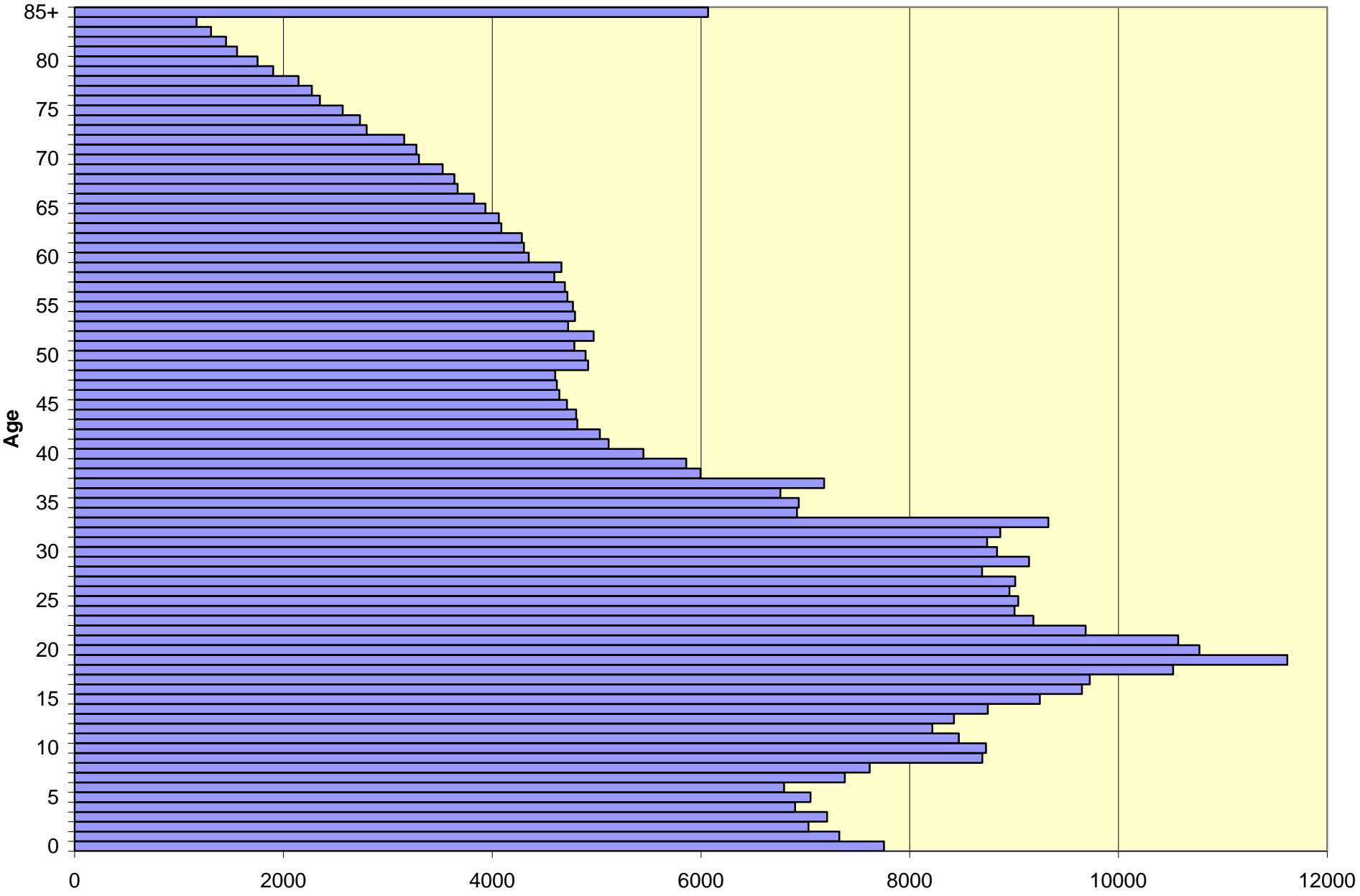
OK, I'VE DONE THE NUMBERS...
WE CAN AFFORD A BABY OR A BMW.
NOT BOTH.



DANZIGER

NYTS/CWS Dec 22 2013 (5835)

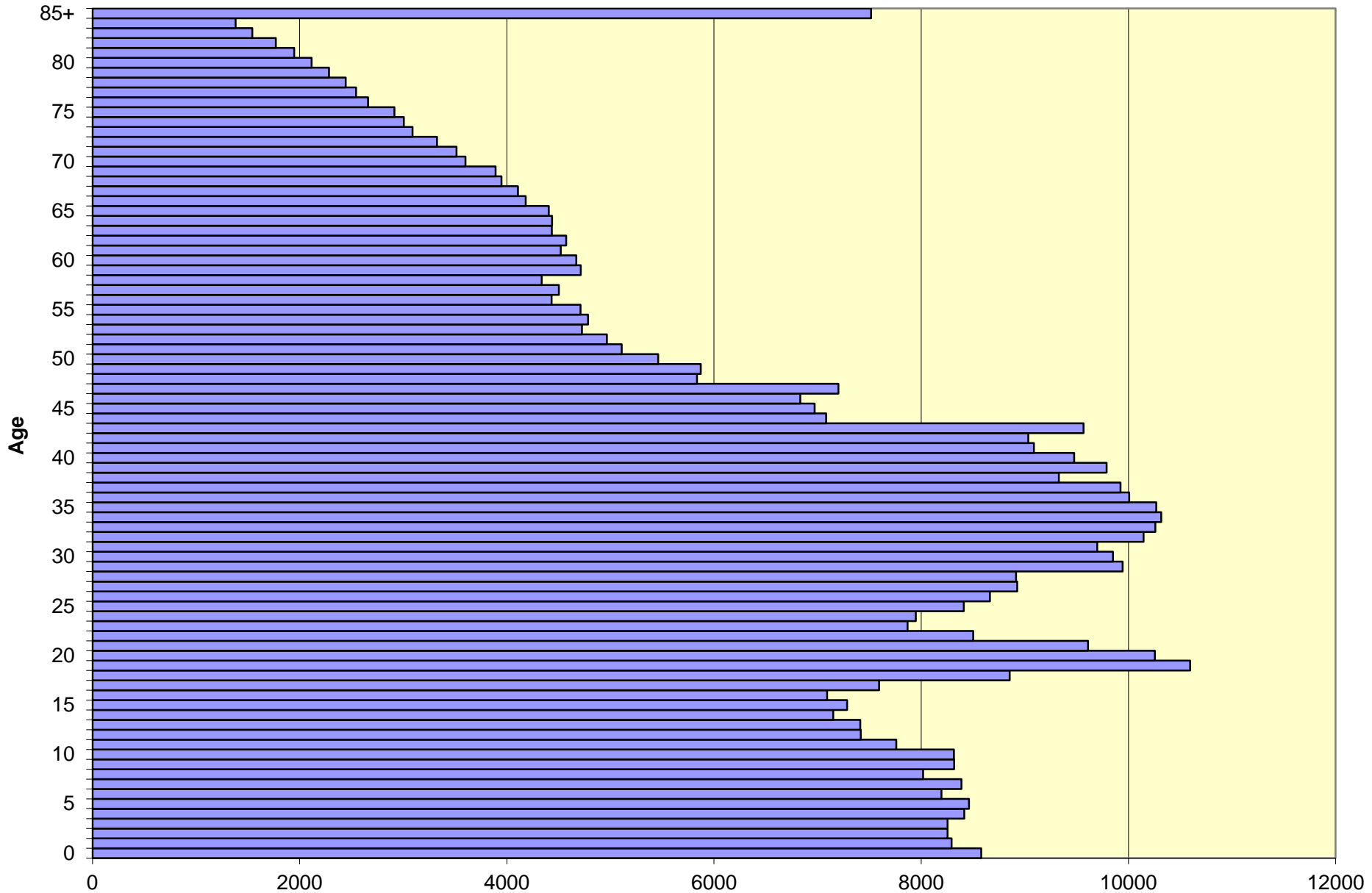
Vermont Population by Age - July 1980



Number of Persons

Source: U.S. Census Bureau

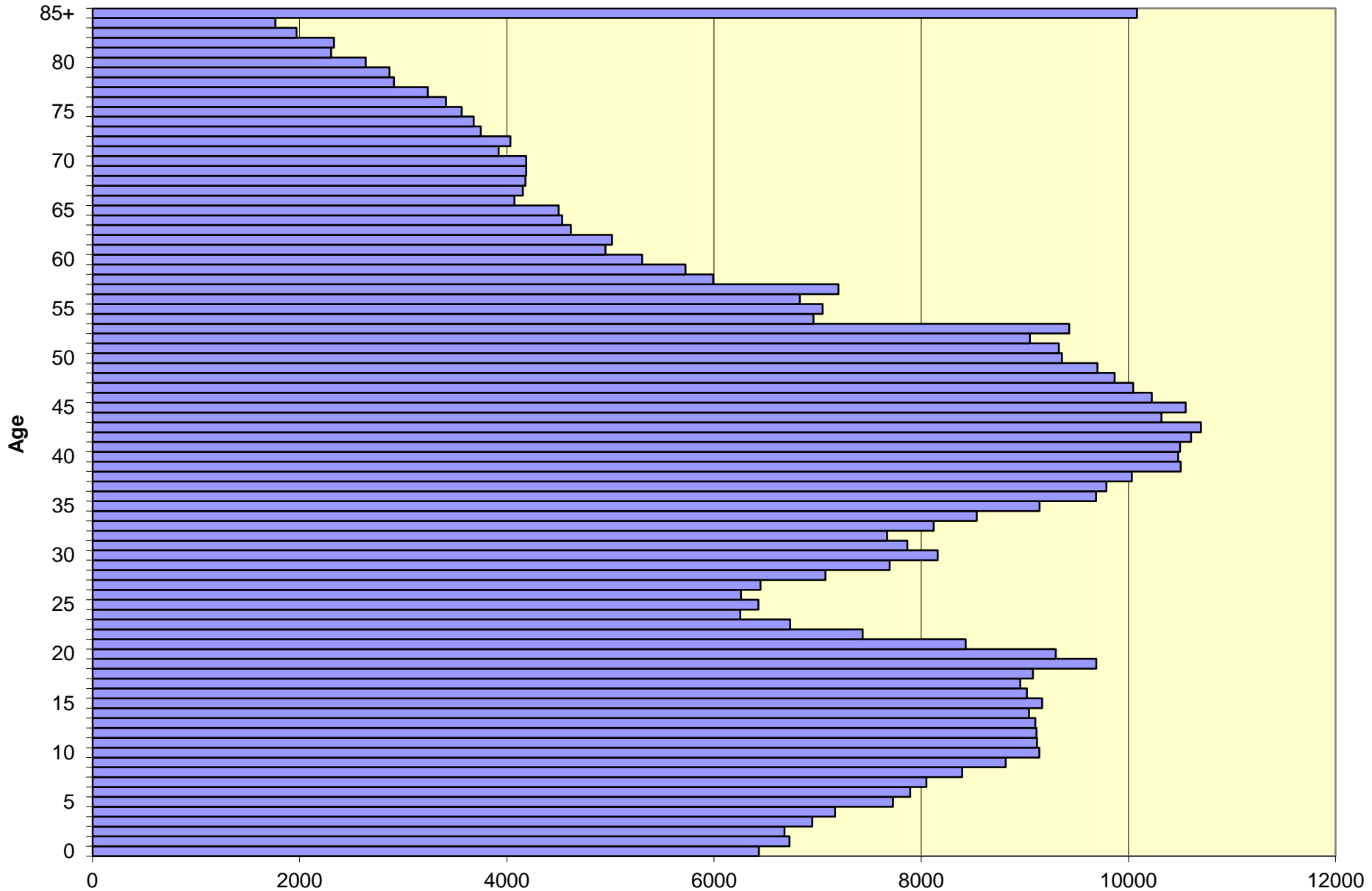
Vermont Population by Age - July 1990



Number of Persons

Source: U.S. Census Bureau

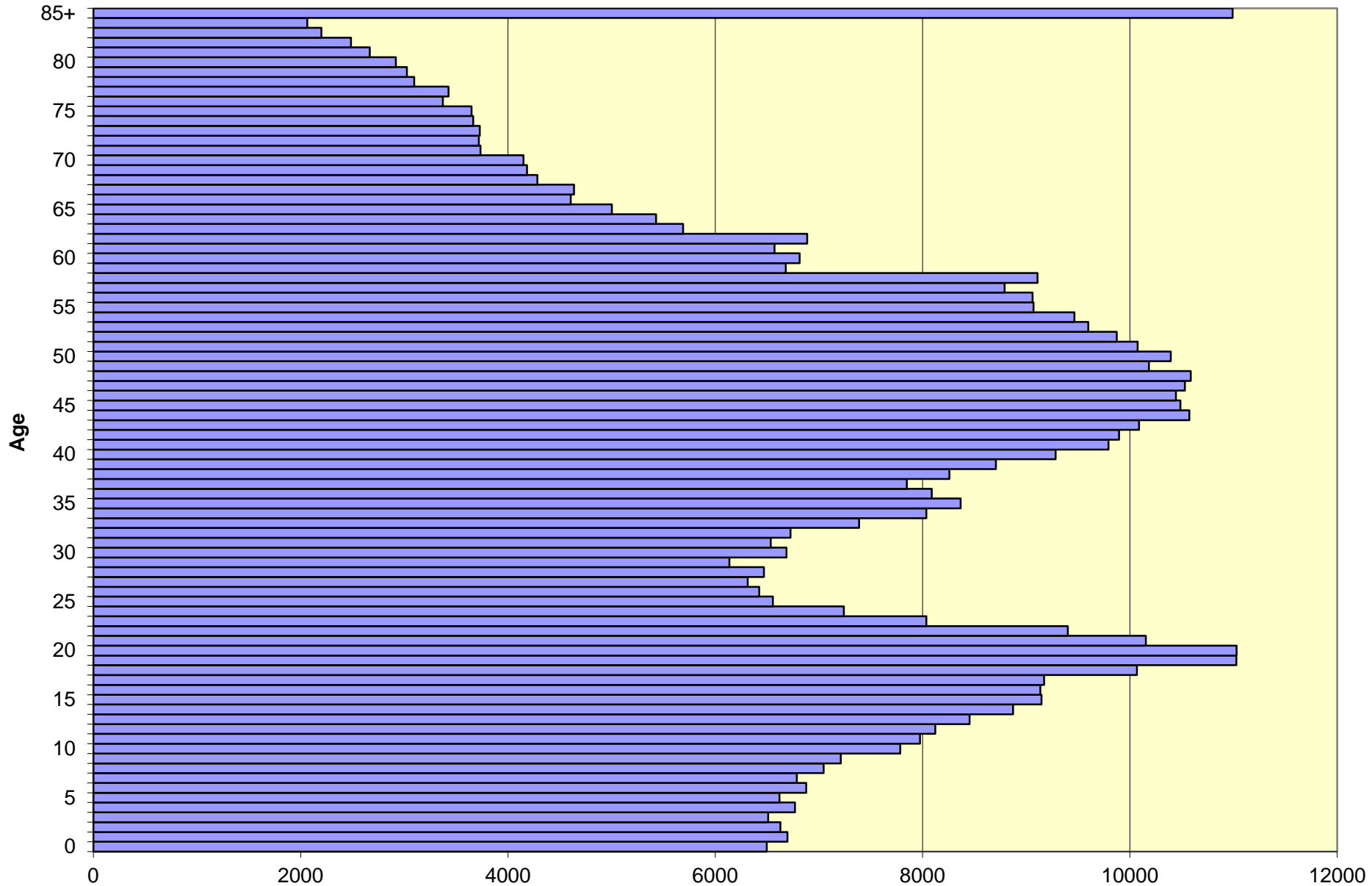
Vermont Population by Age - July 2000



Number of Persons

Source: U.S. Census Bureau

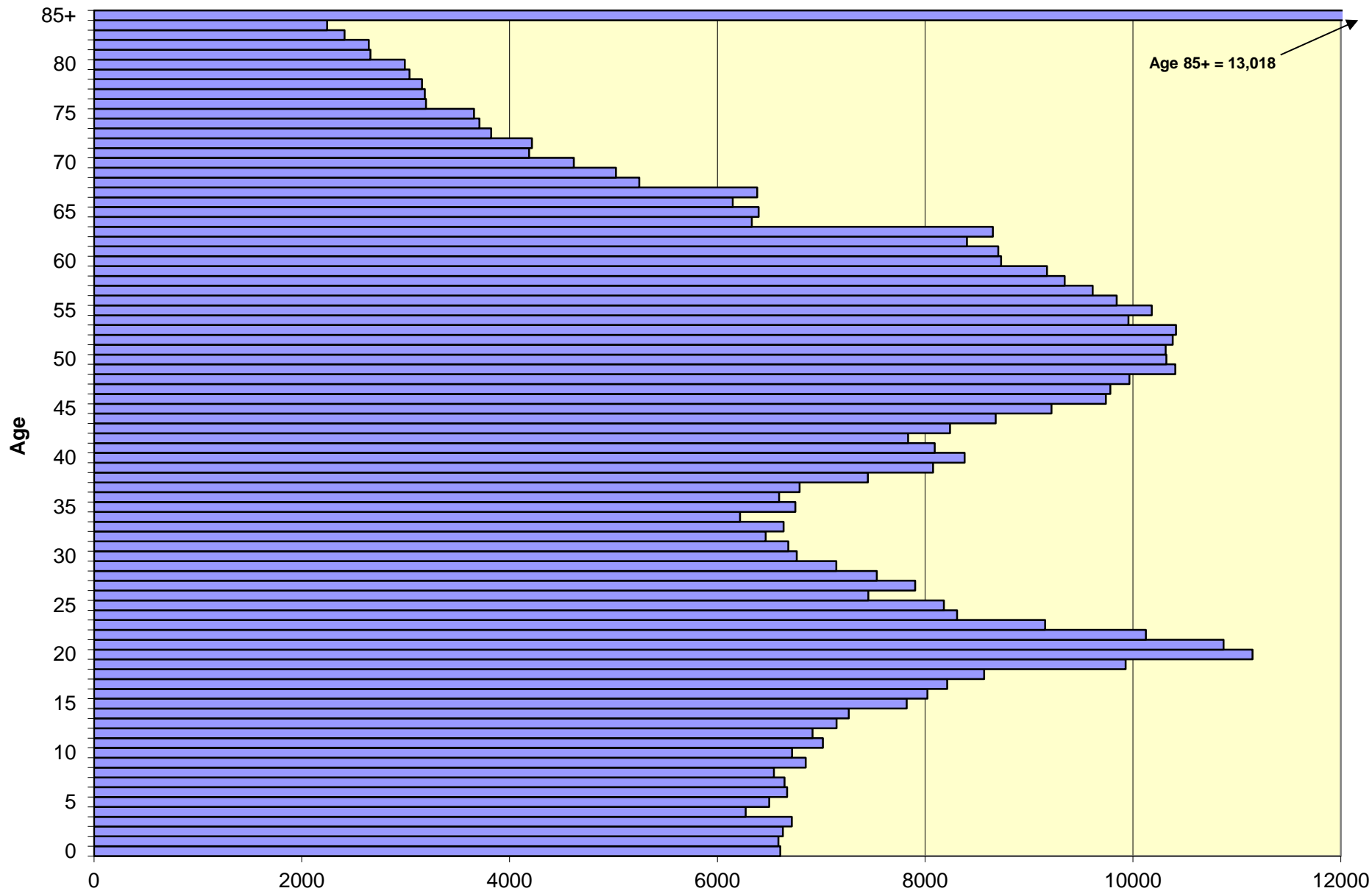
Vermont Population by Age - July 2005



Number of Persons

Source: U.S. Census Bureau

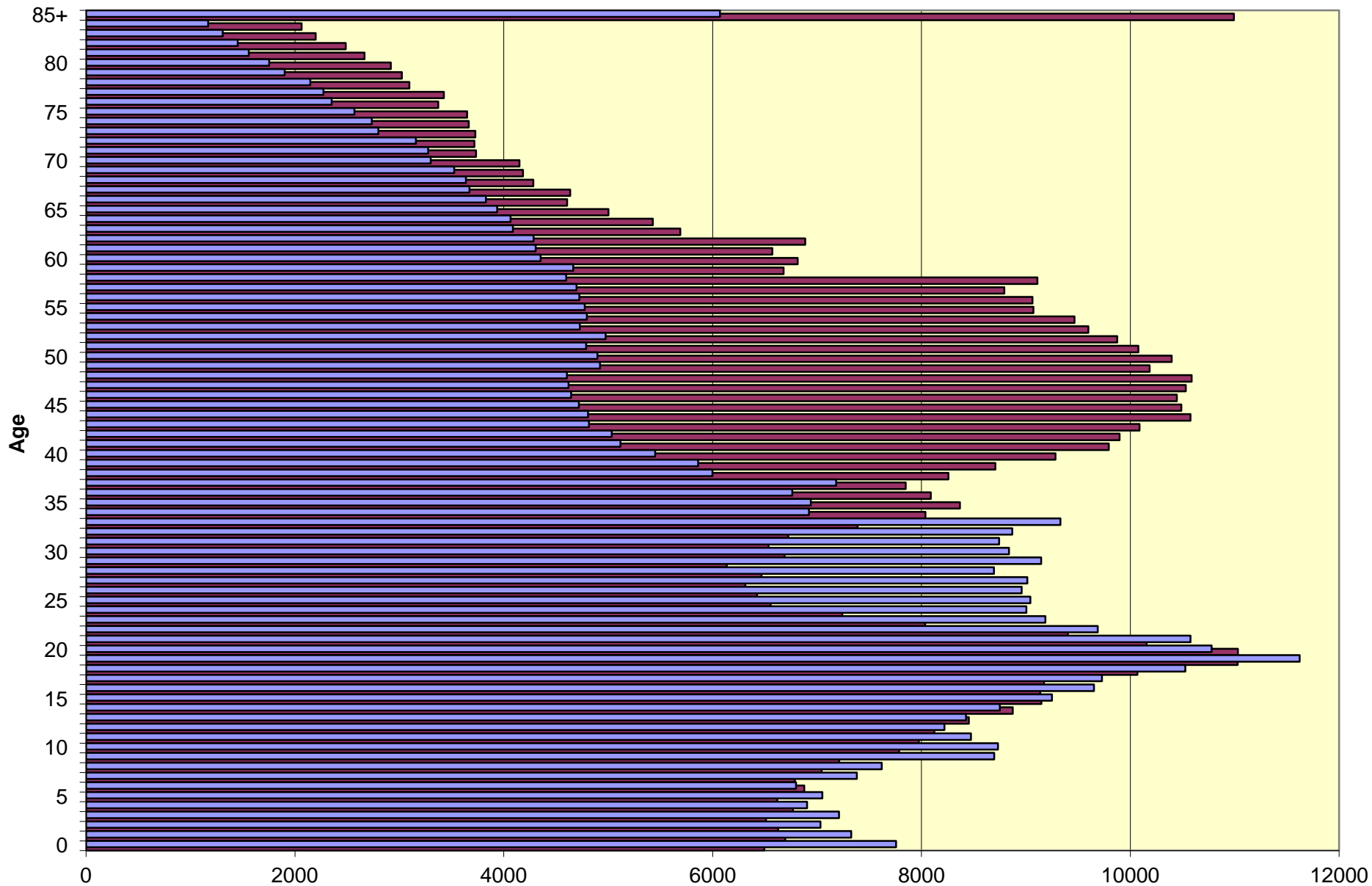
Vermont Population by Age - July 2010



Number of Persons

Source: U.S. Census Bureau

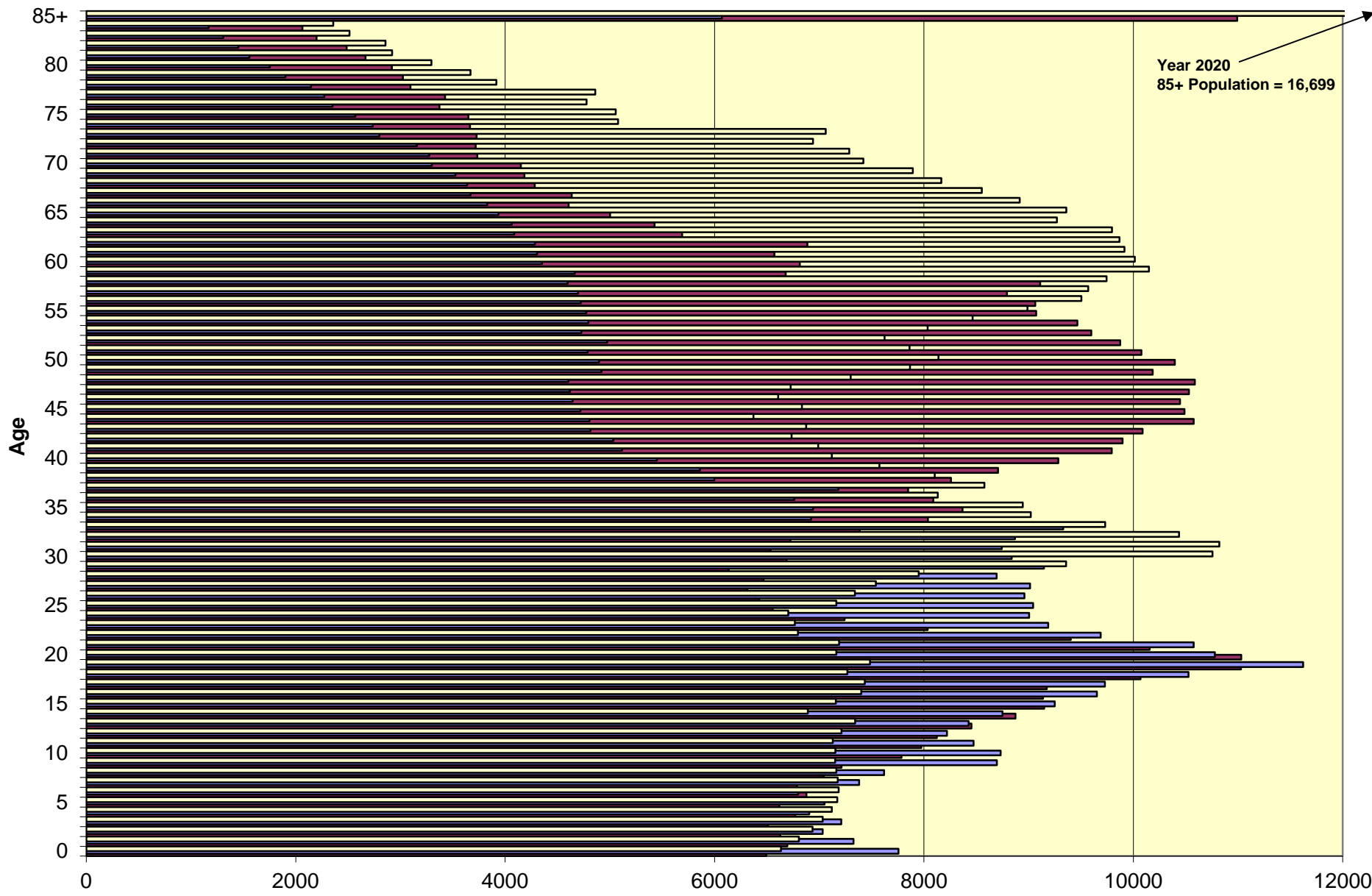
The Aging of the Vermont Population - July 1980 (blue) vs. July 2005 (red)



Number of Persons

Source: U.S. Census Bureau

The Aging of the Vermont Population - July 1980 (blue) vs. July 2005 (red) vs. July 2020 (clear)



Number of Persons

Source: U.S. Census Bureau

TABLE 3
Relevant Inflation and Other Economic Measures
 Consensus JFO and Administration Forecast - October 2014

**U.S. State and Local Government
 NIPA Chain Weighted Deflator
 Fiscal Year Basis
 Calendar 2009 = 100**

	Index	% ch
1981	34.4	NA
1982	36.9	7.3%
1983	38.9	5.5%
1984	40.5	4.1%
1985	42.2	4.2%
1986	43.7	3.5%
1987	45.3	3.7%
1988	47.2	4.1%
1989	49.1	3.9%
1990	51.5	4.9%
1991	53.8	4.5%
1992	55.6	3.3%
1993	57.5	3.4%
1994	58.7	2.2%
1995	60.5	3.0%
1996	61.9	2.4%
1997	63.3	2.3%
1998	64.6	2.0%
1999	66.4	2.8%
2000	69.5	4.8%
2001	72.6	4.4%
2002	74.2	2.2%
2003	76.5	3.0%
2004	79.3	3.7%
2005	84.1	6.0%
2006	88.6	5.4%
2007	93.0	5.0%
2008	98.0	5.3%
2009	100.4	2.5%
2010	101.2	0.8%
2011	104.4	3.2%
2012	107.0	2.5%
2013	108.7	1.6%
2014	110.5	1.7%
2015	113.4	2.6%
2016	116.9	3.1%
2017	120.2	2.8%
2018	123.2	2.5%
2019	126.2	2.4%

**U.S. Consumer Price Index
 Urban Consumer, All Items
 Calendar Year Basis
 1982-1984 = 100**

	Index	% ch
1981	90.9	10.4%
1982	96.5	6.2%
1983	99.6	3.2%
1984	103.9	4.4%
1985	107.6	3.5%
1986	109.7	1.9%
1987	113.6	3.7%
1988	118.3	4.1%
1989	123.9	4.8%
1990	130.7	5.4%
1991	136.2	4.2%
1992	140.3	3.0%
1993	144.5	3.0%
1994	148.2	2.6%
1995	152.4	2.8%
1996	156.9	2.9%
1997	160.5	2.3%
1998	163.0	1.5%
1999	166.6	2.2%
2000	172.2	3.4%
2001	177.0	2.8%
2002	179.9	1.6%
2003	184.0	2.3%
2004	188.9	2.7%
2005	195.3	3.4%
2006	201.6	3.2%
2007	207.3	2.9%
2008	215.3	3.8%
2009	214.6	-0.3%
2010	218.1	1.6%
2011	224.9	3.1%
2012	229.6	2.1%
2013	233.0	1.5%
2014	237.2	1.8%
2015	242.1	2.1%
2016	247.5	2.2%
2017	253.4	2.4%
2018	259.7	2.5%
2019	265.7	2.3%

**FHFA - Vermont
 House Price Index
 Calendar Year Basis
 1980 Q1 = 100**

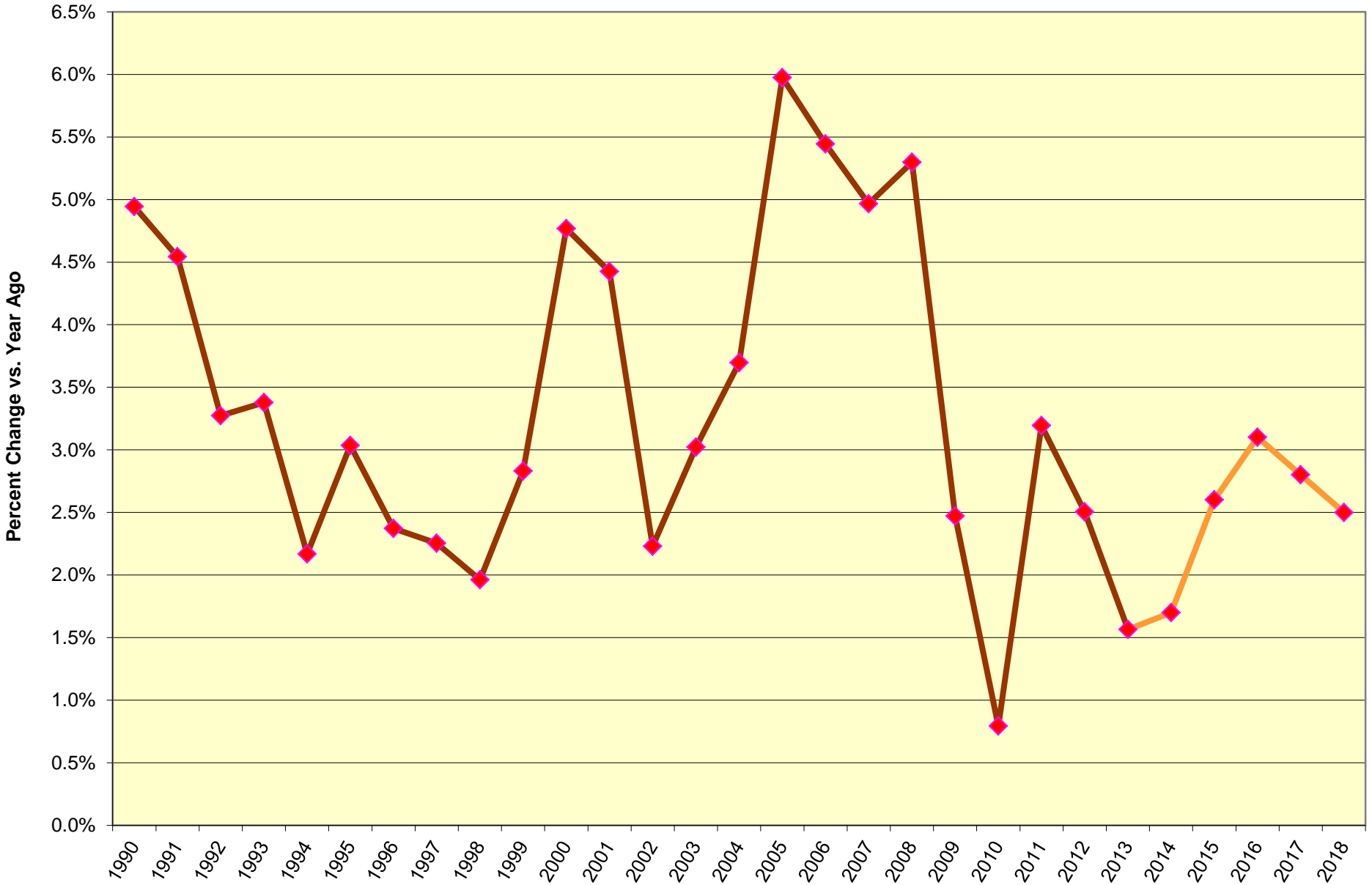
	Index	% ch
1981	95.3	-10.3%
1982	113.4	19.0%
1983	116.1	2.4%
1984	123.3	6.2%
1985	133.2	8.1%
1986	148.4	11.4%
1987	169.6	14.3%
1988	193.7	14.2%
1989	210.4	8.7%
1990	213.1	1.3%
1991	210.8	-1.1%
1992	212.8	0.9%
1993	214.8	0.9%
1994	215.5	0.3%
1995	216.6	0.5%
1996	219.8	1.5%
1997	222.1	1.0%
1998	227.2	2.3%
1999	236.8	4.2%
2000	254.1	7.3%
2001	273.7	7.7%
2002	294.4	7.6%
2003	315.7	7.3%
2004	358.0	13.4%
2005	407.8	13.9%
2006	440.9	8.1%
2007	452.2	2.6%
2008	451.6	-0.1%
2009	442.2	-2.1%
2010	436.6	-1.3%
2011	433.7	-0.7%
2012	435.6	0.4%
2013	436.8	0.3%
2014	440.6	0.9%
2015	449.8	2.1%
2016	461.8	2.7%
2017	477.5	3.4%
2018	497.0	4.1%
2019	520.6	4.8%

**Vermont Gross State Product
 (GSP) Nominal Dollars
 Fiscal Year Basis**

	\$ Billions	% ch
1981	5.3	13.6%
1982	5.7	8.0%
1983	6.2	7.4%
1984	6.8	10.4%
1985	7.4	8.6%
1986	8.1	10.0%
1987	8.8	9.0%
1988	9.9	11.6%
1989	11.1	12.3%
1990	11.8	7.0%
1991	12.0	1.2%
1992	12.5	4.4%
1993	13.3	6.2%
1994	13.8	4.0%
1995	14.2	2.7%
1996	14.6	2.6%
1997	15.4	5.5%
1998	16.0	3.8%
1999	16.6	4.2%
2000	17.9	7.9%
2001	18.8	4.9%
2002	19.6	4.3%
2003	20.5	4.6%
2004	22.1	7.4%
2005	23.1	4.5%
2006	24.0	4.3%
2007	24.5	1.7%
2008	25.2	2.8%
2009	25.1	-0.1%
2010	25.8	2.8%
2011	27.1	4.8%
2012	28.1	3.8%
2013	28.9	2.8%
2014	29.8	3.1%
2015	31.3	4.9%
2016	32.9	5.1%
2017	34.5	4.9%
2018	36.0	4.5%
2019	37.5	4.1%

Cost Pressures Recede, But Revenue Growth Will Still Lag Behind...

(Implicit State and Local Government Deflator, Percent Change vs. Year Ago)



Source: U.S. Department of Commerce, Vermont Joint Fical Office and Administration Consensus Forecasts

For Further Information, Contact The Joint Fiscal Office or:



Thomas E. Kavet

*State Economist and Principal Economic Advisor to the Vermont State
Legislature Since 1996*

Kavet, Rockler & Associates, LLC
Economic and Public Policy Consulting

985 Grandview Road
Williamstown, Vermont 05679-9003 USA
26 Parker Road
Brookline, Vermont 05345-9793 USA

Telephone: 802-433-1360
Facsimile: 866-433-1360
Cellular: 505-433-1360
Website: www.kavetrockler.com
E-Mail: tek12@columbia.edu