

**A COMPARATIVE ANALYSIS
OF COLLEGE EXPENDITURE
IN THE UNITED STATES AND ONTARIO**

Edward DesRosiers
23 May 2003



Edward DesRosiers and Associates
Higher Education Consultants
2030 Heatherwood Drive
Oakville, Ontario
L6M 3P6

This report examines data on operating expenditure per full-time equivalent student at community colleges in the United States and Ontario. Depending on the method used to equate U.S. and Canadian currency, expenditure per FTE student in Ontario sits somewhere between 74% and 92% of a comparable U.S. value. Notwithstanding this relative disadvantage, students in Ontario support, through tuition and other fees, a higher proportion of college operating expenditure than do students in the United States (30.8% vs. 23.5%).

It is generally acknowledged that the educational attainment of a given population contributes significantly to the economic success of the jurisdiction within which it resides. That being the case, it is not surprising that particular jurisdictions use comparative measures of the resources afforded their educational institutions in shaping public policy with respect to them. The Association of Colleges of Applied Arts and Technology of Ontario has expressed interest in whether the resources available to community colleges in Ontario are comparable to those afforded to similar institutions in the United States. *Edward DesRosiers and Associates* was asked to attempt to answer that question.

The most comprehensive source of data on American post-secondary institutions resides within the Integrated Postsecondary Education Data System (IPEDS) maintained by the National Center for Educational Statistics in Washington. While data are not always available for all institutions (some 8,300 of them) in all years, the data that are available are generally accessible to the knowledgeable public and can be manipulated in a variety of ways.

In selecting a group of peer institutions in the U.S., we opted to identify all public institutions within the variable “*Level of Institution*” who were indicated as offering programs of “*at least 2 but less than 4 years (below the Baccalaureate)*”. This generated a universe of 1,267 colleges in the U.S. Within this universe, only 1,077 institutions (85.0%) reported *both* the full time equivalent enrolment and fiscal data in sufficient detail to permit subsequent analysis. For most individual states, the analysis encompassed more than 70% of all state institutions and we are satisfied that this provides a representative picture of college expenditure at the state level, the exceptions being Alaska (66.7%), California (61.8%), Kentucky (6.3%) and Missouri (69.2%). Of these, we would caution against using state-level expenditure per FTE data for Alaska and Kentucky, in particular.

The IPEDS data file employed was designated as representing the year 2000. From it, we used sub-files for revenue and expenditure and for enrolment. For reasons not clear to us, this included the revenue and expenditure file related to fiscal 1999-2000 and the enrolment file to Fall 2000. Although in our view not the most appropriate match, fiscal data for 2000-2001 were not available nor were enrolment data for Fall 1999. From other sources, we have determined that there was very little change in enrolment at public colleges between the two years and we are satisfied that the concatenation of 1999-2000 expenditure and 2000 FTE enrolment data is acceptable for purposes of this analysis.

Ontario data were derived from the Colleges Financial Information System (CFIS) and from ACAATO. For purposes of strict comparability, 1999-2000 fiscal data for Ontario were used in conjunction with FTE enrolment data for 2000.

In effecting a comparative analysis of levels of expenditures per FTE student between Ontario and the various jurisdictions in the U.S., some adjustment of the financial data needs to be undertaken. With respect to the U.S. data, it is noted that significant Federal funding for student aid is flowed through institutional budgets. Hence, expenditure for scholarships and bursaries reported by American colleges represents 11.4% of their total unadjusted operating expenditure. This compares with a 2.4% figure for Ontario's CAATs. In order to make the financial data for the two more comparable, we have eliminated expenditure for scholarships and bursaries from both data sets. Furthermore, CFIS financial data include expenditure for ancillary operations and for plant assets, which are not treated as operating expenditure in the U.S. These expenditure items have, therefore been eliminated from the Ontario data.

With these adjustments, we have calculated expenditure per FTE for Ontario CAATs and for each state jurisdiction in the U.S. These U.S. detail are presented in Table 1.

In order to make the U.S. and Ontario data more comparable, some adjustment needs to be made to reflect currency differences between the U.S. and Canada. Table 2 presents the U.S. data in Canadian dollar terms using the average exchange rate for the Canadian dollar (\$0.68) for the college fiscal year 1999-2000. It might be argued, however, that since the Canadian dollar has recently been undervalued relative to its U.S. counterpart, a strict currency conversion based on exchange rates will unduly inflate the U.S. data in a comparative analysis of this sort. An alternative approach, which is intended to take account of price differences in the two countries, is to use a conversion rate based on a calculation of Purchasing Power Parity (PPP). A recent Statistics Canada study of bilateral PPP between the U.S. and Canada estimated a conversion rate of 85% for the period in question. The U.S. data adjusted for purchasing power parity are presented in Table 3. Although currency conversion using PPP is, in many respects, a more sophisticated approach to a comparative expenditure analysis, the values generated by Statistics Canada are really intended for adjustments made to Gross Domestic Product. A greater degree of accuracy in an analysis of this sort would require the determination of the particular basket of goods and services used by post-secondary institutions and the calculation of purchasing power equivalencies for the items in that basket. Such an undertaking was clearly beyond the scope of the present report.

In the brief table which follows, we have set out summary data for the U.S., using various currency options, as well as data for Ontario CAATs. In total, expenditure per FTE student in Ontario sits somewhere between 74% (straight currency conversion) and 92% (PPP) of a comparable U.S. value. The particular areas of deficiency in Ontario appear broadly in the areas of institutional support, *i.e.* in administrative and student services and in plant maintenance.

Expenditure per FTE Student in the United States and Ontario 1999-2000						
	<i>Academic Services</i>	<i>Admin Services</i>	<i>Plant and Property</i>	<i>Student Services</i>	<i>Other</i>	<i>Total</i>
<i>U.S. (US\$s)</i>	4,801	1,277	830	872	192	7,972
<i>U.S. (Cdn\$s)</i>	7,063	1,879	1,222	1,283	283	11,729
<i>U.S. (PPP)</i>	5,648	1,502	977	1,026	226	9,379
<i>CAATs (Cdn \$s)</i>	5,744	1,022	803	792	272	8,633

A further question which ACAATO asked us to address was the percentage of total operating expenditure supported by tuition and fee income. For the convenience of the reader wishing to compare the data in this analysis with that presented above, U.S. data are presented in actual U.S. dollars (Table 4), in equivalent Canadian dollars calculated using official exchange rates (Table 5) and in Canadian dollars calculated using purchasing power parity (Table 6). The percentage share, of course, remains unchanged regardless of the particular currency array used.

In Ontario, tuition and fee revenue constituted \$444,661,236 or 30.8% of total operating expenditure in fiscal 1999-2000. In the United States, tuition and fee revenue of \$5,577,867,469 US represented 23.5% of operating revenue.

Table 1						
U.S. College Operating Expenditure 1999-2000						
Actual U.S. \$s						
(excluding Scholarships and Bursaries)						
	Acad Services	Admin Services	Plant & Property	Student Services	Other	Total
Alabama	4,236	1,095	711	898	546	7,486
Alaska	16,712	7,986	2,997	2,089	279	30,063
Arizona	3,851	956	555	600	265	6,227
Arkansas	4,708	1,304	844	882	474	8,213
California	3,893	1,116	677	991	206	6,882
Colorado	4,478	926	742	741	149	7,036
Connecticut	5,996	1,809	766	1,564	-5	10,130
Delaware	6,496	1,395	1,246	844	967	10,948
Florida	5,043	1,284	824	867	108	8,125

Georgia	5,531	1,469	926	782	0	8,707
Hawaii	5,978	755	533	903	2	8,170
Idaho	6,699	1,159	722	843	122	9,545
Iowa	5,847	1,494	756	745	107	8,950
Illinois	4,000	1,848	987	676	192	7,704
Indiana	5,281	1,079	717	530	3	7,611
Kansas	4,743	1,327	970	929	110	8,080
Kentucky	4,264	520	304	340	213	5,642
Louisiana	4,017	1,156	634	550	23	6,380
Maine	7,157	1,650	1,319	1,264	104	11,493
Maryland	5,323	1,833	971	955	174	9,256
Massachusetts	5,156	1,373	884	1,252	256	8,919
Michigan	5,720	1,237	973	1,409	731	10,069
Minnesota	5,713	1,133	934	1,302	0	9,082
Mississippi	4,613	1,001	893	753	64	7,324
Missouri	4,679	989	848	634	414	7,564
Montana	6,234	2,636	1,160	1,882	80	11,992
Nebraska	4,671	1,355	673	594	26	7,318
Nevada	4,407	751	699	615	4	6,476
New	4,066	2,824	668	523	0	8,081
New Jersey	4,148	1,527	826	726	130	7,356
New Mexico	5,428	1,203	797	1,150	599	9,176
New York	5,157	1,615	1,031	867	25	8,695
N. Carolina	5,608	1,317	850	701	37	8,514
N. Dakota	5,550	1,496	1,219	698	186	9,148
Ohio	5,431	1,429	1,032	897	229	9,018
Oklahoma	6,447	1,895	1,726	1,171	37	11,276
Oregon	6,779	2,014	915	1,095	548	11,352
Pennsylvania	4,949	1,337	834	842	165	8,127
Rhode Island	4,213	1,142	932	638	0	6,925
S. Carolina	5,203	1,129	772	987	328	8,418
S. Dakota	4,946	997	704	585	128	7,360
Tennessee	4,055	701	535	605	107	6,003
Texas	4,501	1,060	789	657	356	7,362
Utah	4,552	1,066	852	966	227	7,664
Vermont	4,385	855	649	297	-42	6,144
Virginia	3,938	933	582	513	33	5,999
Washington	4,648	960	585	884	8	7,085
W. Virginia	5,091	995	823	871	275	8,055
Wisconsin	8,480	1,550	1,517	1,324	58	12,930
Wyoming	4,752	1,221	1,350	845	84	8,252
Total US	4,801	1,277	830	872	192	7,972

Table 2

U.S. College Operating Expenditure 1999-2000
Canadian \$s using Exchange Rates
(excluding Scholarships and Bursaries)

	Acad Services	Admin Services	Plant & Property	Student Services	Other	Total
Alabama	6,233	1,611	1,046	1,321	803	11,013
Alaska	24,588	11,749	4,409	3,073	411	44,230
Arizona	5,666	1,407	817	883	389	9,161
Arkansas	6,926	1,918	1,242	1,297	698	12,083
California	5,727	1,642	995	1,458	302	10,125
Colorado	6,589	1,363	1,091	1,090	219	10,351
Connecticut	8,822	2,662	1,127	2,301	-7	14,904
Delaware	9,557	2,053	1,833	1,242	1,423	16,108
Florida	7,420	1,889	1,212	1,275	158	11,954

Georgia	8,137	2,161	1,362	1,150	0	12,810
Hawaii	8,794	1,110	784	1,329	3	12,020
Idaho	9,856	1,706	1,062	1,240	179	14,043
Iowa	8,602	2,198	1,112	1,097	157	13,167
Illinois	5,885	2,719	1,452	995	283	11,334
Indiana	7,770	1,587	1,055	780	5	11,197
Kansas	6,979	1,953	1,427	1,367	162	11,888
Kentucky	6,274	765	447	500	314	8,300
Louisiana	5,911	1,700	933	809	33	9,386
Maine	10,530	2,428	1,940	1,859	152	16,909
Maryland	7,832	2,697	1,428	1,405	255	13,618
Massachusetts	7,585	2,020	1,300	1,842	376	13,122
Michigan	8,415	1,820	1,431	2,073	1,075	14,814
Minnesota	8,405	1,667	1,374	1,915	0	13,362
Mississippi	6,787	1,473	1,313	1,108	94	10,776
Missouri	6,884	1,455	1,247	933	609	11,128
Montana	9,172	3,878	1,707	2,768	117	17,643
Nebraska	6,872	1,993	990	874	38	10,766
Nevada	6,484	1,104	1,029	905	5	9,527
New	5,982	4,155	983	770	0	11,889
New Jersey	6,102	2,246	1,215	1,068	191	10,823
New Mexico	7,986	1,770	1,173	1,691	881	13,501
New York	7,587	2,377	1,516	1,275	37	12,792
N. Carolina	8,251	1,938	1,251	1,032	54	12,526
N. Dakota	8,166	2,200	1,793	1,027	274	13,460
Ohio	7,990	2,102	1,518	1,320	337	13,268
Oklahoma	9,485	2,788	2,539	1,723	54	16,590
Oregon	9,974	2,963	1,346	1,612	806	16,701
Pennsylvania	7,281	1,967	1,227	1,239	243	11,957
Rhode Island	6,199	1,681	1,371	938	0	10,188
S. Carolina	7,655	1,661	1,135	1,451	482	12,385
S. Dakota	7,277	1,467	1,036	860	189	10,829
Tennessee	5,966	1,031	787	890	157	8,831
Texas	6,622	1,559	1,161	967	523	10,832
Utah	6,697	1,568	1,254	1,421	334	11,275
Vermont	6,452	1,258	955	437	-62	9,040
Virginia	5,794	1,373	856	755	49	8,826
Washington	6,838	1,413	861	1,300	11	10,424
W. Virginia	7,490	1,464	1,210	1,282	405	11,851
Wisconsin	12,477	2,281	2,232	1,949	85	19,023
Wyoming	6,991	1,797	1,986	1,243	124	12,142
Total US	7,063	1,879	1,222	1,283	283	11,729

Table 3

U.S. College Operating Expenditure 1999-2000
Canadian \$s using Purchasing Power Parity
(excluding Scholarships and Bursaries)

	Acad Services	Admin Services	Plant & Property	Student Services	Other	Total
Alabama	4,984	1,288	837	1,056	642	8,806
Alaska	19,661	9,395	3,525	2,457	329	35,368
Arizona	4,531	1,125	653	706	311	7,326
Arkansas	5,539	1,534	993	1,037	558	9,662
California	4,580	1,313	796	1,166	242	8,096
Colorado	5,268	1,090	872	871	175	8,277
Connecticut	7,055	2,129	901	1,840	-6	11,918
Delaware	7,642	1,641	1,466	993	1,138	12,880
Florida	5,933	1,510	969	1,020	127	9,559

Georgia	6,507	1,728	1,089	919	0	10,243
Hawaii	7,032	888	627	1,063	2	9,612
Idaho	7,881	1,364	849	991	143	11,230
Iowa	6,879	1,758	889	877	126	10,529
Illinois	4,706	2,174	1,161	796	226	9,063
Indiana	6,213	1,269	844	624	4	8,954
Kansas	5,580	1,561	1,141	1,093	130	9,506
Kentucky	5,017	612	357	400	251	6,637
Louisiana	4,726	1,360	746	647	27	7,505
Maine	8,420	1,941	1,551	1,486	122	13,521
Maryland	6,263	2,157	1,142	1,123	204	10,890
Massachusetts	6,065	1,615	1,040	1,473	301	10,493
Michigan	6,729	1,455	1,145	1,657	860	11,846
Minnesota	6,721	1,333	1,099	1,532	0	10,685
Mississippi	5,427	1,178	1,050	886	75	8,617
Missouri	5,504	1,164	997	746	487	8,899
Montana	7,334	3,101	1,365	2,214	94	14,108
Nebraska	5,495	1,594	791	699	30	8,609
Nevada	5,185	883	823	723	4	7,618
New	4,783	3,322	786	615	0	9,507
New Jersey	4,880	1,796	972	854	153	8,654
New Mexico	6,386	1,415	938	1,352	704	10,796
New York	6,067	1,901	1,213	1,020	30	10,229
N. Carolina	6,598	1,550	1,000	825	43	10,016
N. Dakota	6,530	1,760	1,434	821	219	10,763
Ohio	6,389	1,681	1,214	1,056	270	10,610
Oklahoma	7,585	2,229	2,031	1,378	44	13,266
Oregon	7,976	2,369	1,077	1,289	644	13,355
Pennsylvania	5,822	1,573	981	991	195	9,561
Rhode Island	4,957	1,344	1,096	750	0	8,147
S. Carolina	6,121	1,328	908	1,161	385	9,904
S. Dakota	5,819	1,173	828	688	151	8,659
Tennessee	4,771	825	629	711	126	7,062
Texas	5,295	1,247	928	773	419	8,662
Utah	5,356	1,254	1,003	1,137	267	9,016
Vermont	5,159	1,006	763	349	-49	7,229
Virginia	4,633	1,098	685	603	39	7,058
Washington	5,468	1,130	689	1,040	9	8,336
W. Virginia	5,989	1,171	968	1,025	324	9,477
Wisconsin	9,977	1,824	1,784	1,558	68	15,211
Wyoming	5,591	1,437	1,588	994	99	9,709
Total US	5,648	1,502	977	1,026	226	9,379

Table 4			
U.S. College Tuition Fee Revenue 1999-2000 (Actual U.S. \$s) as a Percentage of Operating Expenditure			
	Tuition and Fee Revenue	Operating Expenditure	Fees as % of Expenditure
Alabama	100,612,078	367,478,334	27.4%
Alaska	576,410	14,219,636	4.1%
Arizona	132,301,870	534,118,237	24.8%
Arkansas	34,173,258	177,866,775	19.2%
California	271,787,536	3,466,240,256	7.8%
Colorado	107,239,126	294,352,348	36.4%
Connecticut	56,036,267	212,067,092	26.4%
Delaware	16,375,530	75,970,102	21.6%
Florida	377,381,226	1,595,894,137	23.6%

Georgia	124,426,841	572,593,602	21.7%
Hawaii	32,644,513	122,518,067	26.6%
Idaho	14,320,140	64,973,821	22.0%
Iowa	124,030,064	400,200,117	31.0%
Illinois	312,599,863	1,413,335,720	22.1%
Indiana	63,592,791	214,217,391	29.7%
Kansas	64,638,442	328,398,265	19.7%
Kentucky	21,920,256	37,968,818	57.7%
Louisiana	38,618,985	189,953,325	20.3%
Maine	14,991,642	55,131,686	27.2%
Maryland	189,505,630	530,994,647	35.7%
Massachusetts	122,927,361	427,871,906	28.7%
Michigan	260,523,996	1,025,157,419	25.4%
Minnesota	194,181,910	592,088,626	32.8%
Mississippi	60,811,717	341,587,903	17.8%
Missouri	44,447,004	172,502,340	25.8%
Montana	8,206,316	37,269,800	22.0%
Nebraska	33,936,371	152,296,482	22.3%
Nevada	32,983,000	132,544,904	24.9%
New Hampshire	21,557,474	43,975,589	49.0%
New Jersey	228,714,377	585,819,577	39.0%
New Mexico	31,105,040	268,615,658	11.6%
New York	453,964,798	1,244,572,480	36.5%
N. Carolina	134,971,161	825,802,532	16.3%
N. Dakota	17,487,523	59,602,122	29.3%
Ohio	288,904,143	843,273,641	34.3%
Oklahoma	61,224,003	428,496,933	14.3%
Oregon	91,979,204	523,298,126	17.6%
Pennsylvania	188,392,207	486,455,101	38.7%
Rhode Island	19,170,609	59,899,154	32.0%
S. Carolina	92,108,251	351,909,632	26.2%
S. Dakota	12,427,198	30,861,810	40.3%
Tennessee	85,413,296	329,693,894	25.9%
Texas	440,426,522	1,850,943,569	23.8%
Utah	34,911,618	127,402,006	27.4%
Vermont	8,791,681	11,336,465	77.6%
Virginia	128,626,018	437,414,126	29.4%
Washington	230,363,922	813,081,480	28.3%
W. Virginia	8,590,726	37,681,925	22.8%
Wisconsin	125,576,994	726,578,143	17.3%
Wyoming	17,370,561	87,377,257	19.9%
Total US	5,577,867,469	23,723,902,976	23.5%

Table 5

U.S. College Tuition Fee Revenue 1999-2000
(Canadian \$s using Exchange Rates)
Per FTE Student and as a Percentage of Operating Expenditure

	Tuition and Fee Revenue	Operating Expenditure	Fees as % of Expenditure
Alabama	148,026,007	540,654,277	27.4%
Alaska	848,046	20,920,708	4.1%
Arizona	194,649,766	785,824,040	24.8%
Arkansas	50,277,571	261,687,353	19.2%
California	399,868,727	5,099,722,747	7.8%
Colorado	157,776,083	433,067,316	36.4%
Connecticut	82,443,629	312,004,735	26.4%
Delaware	24,092,578	111,771,380	21.6%
Florida	555,223,955	2,347,966,971	23.6%

Georgia	183,063,592	842,431,107	21.7%
Hawaii	48,028,398	180,255,299	26.6%
Idaho	21,068,575	95,593,049	22.0%
Iowa	182,479,832	588,796,358	31.0%
Illinois	459,914,061	2,079,377,016	22.1%
Indiana	93,561,201	315,168,373	29.7%
Kansas	95,099,621	483,157,536	19.7%
Kentucky	32,250,283	55,861,807	57.7%
Louisiana	56,818,369	279,469,748	20.3%
Maine	22,056,526	81,112,760	27.2%
Maryland	278,811,075	781,228,444	35.7%
Massachusetts	180,857,475	629,508,612	28.7%
Michigan	383,297,190	1,508,267,813	25.4%
Minnesota	285,691,075	871,113,256	32.8%
Mississippi	89,469,533	502,562,855	17.8%
Missouri	65,392,870	253,794,902	25.8%
Montana	12,073,582	54,833,374	22.0%
Nebraska	49,929,050	224,066,936	22.3%
Nevada	48,526,398	195,007,331	24.9%
New Hampshire	31,716,538	64,699,298	49.0%
New Jersey	336,497,134	861,889,887	39.0%
New Mexico	45,763,441	395,202,086	11.6%
New York	667,897,905	1,831,083,283	36.5%
N. Carolina	198,576,974	1,214,965,971	16.3%
N. Dakota	25,728,603	87,689,910	29.3%
Ohio	425,051,618	1,240,670,424	34.3%
Oklahoma	90,076,111	630,428,186	14.3%
Oregon	135,324,849	769,904,900	17.6%
Pennsylvania	277,172,946	715,699,421	38.7%
Rhode Island	28,204,851	88,126,920	32.0%
S. Carolina	135,514,710	517,748,749	26.2%
S. Dakota	18,283,575	45,405,587	40.3%
Tennessee	125,664,725	485,063,737	25.9%
Texas	647,979,651	2,723,209,681	23.8%
Utah	51,363,887	187,440,818	27.4%
Vermont	12,934,803	16,678,829	77.6%
Virginia	189,241,651	643,547,649	29.4%
Washington	338,924,035	1,196,250,061	28.3%
W. Virginia	12,639,147	55,439,714	22.8%
Wisconsin	184,755,760	1,068,981,608	17.3%
Wyoming	25,556,522	128,554,212	19.9%
Total US	8,206,464,501	34,903,907,038	23.5%

Table 6

U.S. College Tuition Fee Revenue 1999-2000
(Canadian \$s using Purchasing Power Parity)
Per FTE Student and as a Percentage of Operating Expenditure

	Tuition and Fee Revenue	Operating Expenditure	Fees as % of Expenditure
Alabama	118,367,151	432,327,452	27.4%
Alaska	678,129	16,728,984	4.1%
Arizona	155,649,259	628,374,396	24.8%
Arkansas	40,203,833	209,255,029	19.2%
California	319,750,042	4,077,929,713	7.8%
Colorado	126,163,678	346,296,880	36.4%
Connecticut	65,925,020	249,490,696	26.4%
Delaware	19,265,329	89,376,591	21.6%
Florida	443,977,913	1,877,522,514	23.6%

Georgia	146,384,519	673,639,532	21.7%
Hawaii	38,405,309	144,138,902	26.6%
Idaho	16,847,224	76,439,789	22.0%
Iowa	145,917,722	470,823,667	31.0%
Illinois	367,764,545	1,662,747,906	22.1%
Indiana	74,815,048	252,020,460	29.7%
Kansas	76,045,226	386,350,900	19.7%
Kentucky	25,788,536	44,669,198	57.7%
Louisiana	45,434,100	223,474,500	20.3%
Maine	17,637,226	64,860,807	27.2%
Maryland	222,947,800	624,699,585	35.7%
Massachusetts	144,620,425	503,378,713	28.7%
Michigan	306,498,819	1,206,067,552	25.4%
Minnesota	228,449,306	696,574,854	32.8%
Mississippi	71,543,196	401,868,121	17.8%
Missouri	52,290,593	202,943,929	25.8%
Montana	9,654,489	43,846,824	22.0%
Nebraska	39,925,142	179,172,332	22.3%
Nevada	38,803,529	155,935,181	24.9%
New Hampshire	25,361,734	51,735,987	49.0%
New Jersey	269,075,738	689,199,502	39.0%
New Mexico	36,594,165	316,018,421	11.6%
New York	534,076,233	1,464,202,918	36.5%
N. Carolina	158,789,601	971,532,391	16.3%
N. Dakota	20,573,556	70,120,144	29.3%
Ohio	339,887,227	992,086,636	34.3%
Oklahoma	72,028,239	504,114,039	14.3%
Oregon	108,210,828	615,644,854	17.6%
Pennsylvania	221,637,891	572,300,119	38.7%
Rhode Island	22,553,658	70,469,593	32.0%
S. Carolina	108,362,648	414,011,332	26.2%
S. Dakota	14,620,233	36,308,012	40.3%
Tennessee	100,486,231	387,875,169	25.9%
Texas	518,148,849	2,177,580,669	23.8%
Utah	41,072,492	149,884,713	27.4%
Vermont	10,343,154	13,337,018	77.6%
Virginia	151,324,727	514,604,854	29.4%
Washington	271,016,379	956,566,447	28.3%
W. Virginia	10,106,736	44,331,676	22.8%
Wisconsin	147,737,640	854,797,815	17.3%
Wyoming	20,435,954	102,796,773	19.9%
Total US	6,562,197,022	27,910,474,089	23.5%