
The Tax Return: A Unique Data Source for Tracking Migration

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This paper discusses the data the Internal Revenue Service (IRS) has on taxpayer migration. More specifically, it describes how and what these data show about the movement of taxpayers into and out of each State, using the north-eastern region of the United States as an example.

First, as background, the Statistics of Income program (of which the migration data are part) is described, then the migration data themselves. This is followed by a brief examination of how the migration data can be used on a national, State, and county level.

■ The Statistics of Income Program

The Statistics of Income (or SOI) program began in 1916, when Congress passed a revenue act which included a provision requiring the annual compilation of statistics with respect to the operation of the tax law. This requirement has reappeared in each major rewrite of the tax law since then and is currently included as section 6108 of the Internal Revenue Code of 1986.

Besides the annual SOI publications, based on individual and corporation income tax returns, other data are also published in the quarterly *Statistics of Income Bulletin*. The *Bulletin* includes studies on sole proprietorships, partnerships, tax-exempt organizations, estate tax returns, and estimates of personal wealth. Also covered are studies on "international" tax returns, such as for Controlled Foreign Corporations, foreign corporations with U.S. operations, foreign and U.S. possessions tax credits,

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Americans living abroad, and foreign recipients of U.S. income. Nearly all these statistics are based on samples of unaudited tax returns.

In addition to the published reports, some SOI tabulations are also available on magnetic tape, or on floppy diskettes and CD-ROM. An electronic bulletin board is also accessible by the public. It contains over 900 files, including tables from the published reports, the State-to-State migration data for selected years, as well as other data. Use of the SOI bulletin board is free, except for the telephone costs [1].

Who uses SOI data? The main customer is the Treasury Department's Office of Tax Analysis (OTA), which decides on most of the program content, assisted by the Congressional Joint Committee on Taxation. Both use the data in tax policy research and in revenue estimating; however, they rely primarily on the data files that underlie the statistics for use in economic or tax modeling, rather than on the published tabulations. As a result, the SOI files often contain more data than what are published.

Other SOI customers are the Commerce Department, which uses tax return data in the National Income and Product Accounts, various other Federal agencies, State and local Governments, universities, and the general public.

Nowadays, most of the data are U. S. totals; not much is available by State and local area, except for the State summaries published in the *Bulletin* and the State and county data which are the subject of this paper. This is because the SOI samples, on which most SOI data are based, are designed with national estimates in mind. SOI does not have the resources it would take to produce geographic data;

also, in the case of most of the business income tax returns, geographic data based on the taxpayer address would be of only limited use to economists and other analysts.

From time to time, SOI undertakes special reimbursable studies for Government and private users. One customer, the Census Bureau (which is allowed access to tax return data under the Internal Revenue Code), pays IRS for annual data on every entity on the Individual Master File; however, it must be able to justify the data items it receives as needed for its own statistical programs. SOI acts as the liaison for the IRS in its dealings with Census, and, as partial compensation, receives the migration data based on tax returns that Census produces.

■ The Migration Data

The migration data are based on the Individual Master File. Census matches the social security number(s) on taxpayer records for adjacent years. For illustration purposes, Tax Year (TY) 1991 and 1992 tax returns (filed in 1992 and 1993) are matched to produce data on movement during 1993. Census checks the address, and, if it changes, the taxpayer becomes an "in-migrant" for the address on the return filed in 1993, and an "out-migrant" for the address on the return filed in 1992. Counts are made of the numbers of returns and of "personal exemptions" claimed (exemptions can be used to approximate population counts), and, for 1993 for the first time, of aggregate total money income and "median total money income," (which are both Census concepts -- see Appendix). These data are then tabulated by State and county.

Migration data are available from SOI as hard copy, on magnetic tape, and, for a few years, on floppy diskette. They are sold as a means of augmenting SOI's tight budget.

The migration data, like all tax return data, have shortcomings. Year-to-year matching is not fool-

proof; for example, there can be problems associated with changes in name or marital status, plus there is some double counting of children for whom exemptions are claimed. In addition, because of the time of the year at which the files for Census are created, the Individual Master File provided to Census includes only 95 to 98 percent of the returns filed in that year. Moreover, not everyone has to file a tax return, especially if the individual (and spouse) are poor or elderly, with income below the filing requirements. Income tax is not one of the amounts included in the Census file because Census has not been able to justify receiving it, so the migration data do not include tax. The *IRS Area-to-Area Migration and County Income* pamphlet describes the format and limitations of the data in more detail and includes pricing and ordering instructions. This pamphlet is available from SOI upon request.

Notwithstanding the shortcomings of the tax return data, the Census Bureau considers the IRS migration data to be the best source it has for estimating interstate migration; it also relies heavily on these data to estimate the population between censuses and to estimate per capita income.

American Demographics Magazine has included IRS as "one of The Best 100 Sources of Marketing Information," and notes that IRS migration data are the "finest information you'll find on annual migration rates for small areas, at least for the population under age 65." As stated in an analysis of the data published by the Federal Reserve Board, the IRS coverage ratio (*migration exemptions to the populations of all States*) averages about 80 percent and ranges from about 75 to 90. This ratio, the Board notes, appears to be quite consistent over time [2].

Demographers also use other social indicators to determine whether a State is losing or gaining population through migration. What the data show, besides this, are the origins and destinations of these migrants, in addition to their income (at least for the most recent years).

■ Migration Flows for the Northeastern States

With all this by way of background, some examples may serve to illustrate what kind of information the IRS migration data provide. First, total inflow and outflow data are described, then the flow for two of the northeastern States, Vermont and New Hampshire, is discussed, followed by the migration patterns for two of their counties, Rockingham County (New Hampshire) and Chittenden County (Vermont). These two counties had the largest net inflow migration from 1992 to 1993 for these two states.

First, the inflow and outflow migration for the 11 northeastern States, as a whole, will be reviewed [3]. Most of the examples are for movement between 1992 and 1993. The map (Figure A) shows total movement of the population represented by the migration data, from State to State within the Northeast, and from States outside the northeastern States into the Northeast, a total of over 923,000 people. However, another 1.1 million people moved, either to States outside the Northeast or from their home county or State to other States in

the northeastern region.

Figure B shows that there were almost 509,000 people who moved into the region from the other 39 States outside the Northeast. However, 726,000 people moved out of the region to any one of the other 39 States, a net loss of over 200,000. The aggregate total money income was over \$8 billion for the in-migrants and \$13 billion for the out-migrants, a net loss of income to the region of, nearly \$5 billion.

Figure C shows the difference, for the more than 400,000 migrants who moved *within* the 11 States of the northeastern region in 1993. These migrants reported \$9 billion in aggregated total money income, which can be thought of as having effectively stayed within the region. Although not shown in Figure C, total money income for those who were not moving at all in any of the 11 States can easily be obtained from the data, themselves, by subtraction. The total number of non-migrants totaled 43,835,087; their aggregate money income totaled \$812 billion. The 1993 Census estimates the total population for these States at 57,018,000.

**Figure A.--Total Migration and Income
Within, Into and Out of the Northeastern States, 1992-1993**

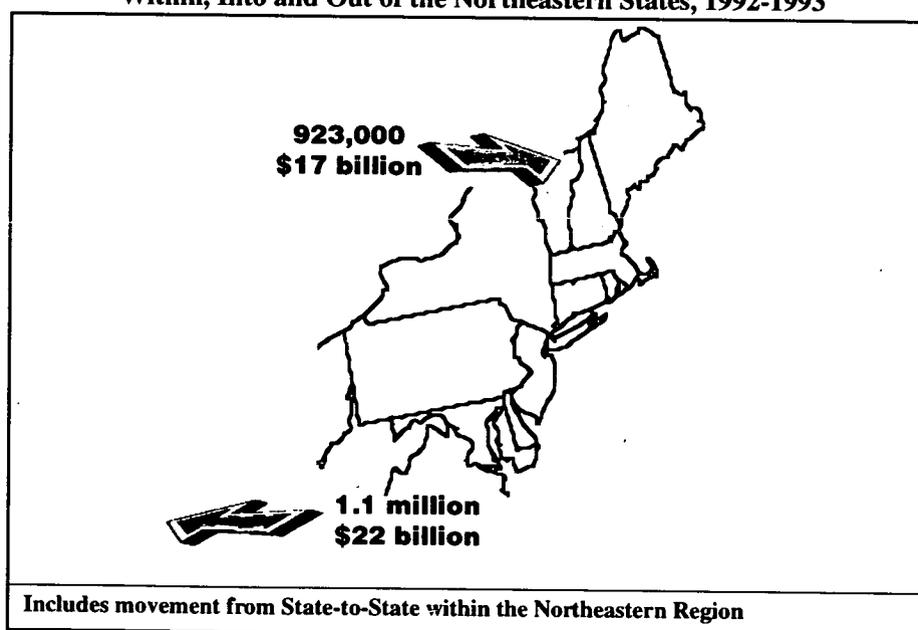


Figure B.--Total Migration and Migrant Income Into and Out of the Northeastern States, 1992-1993

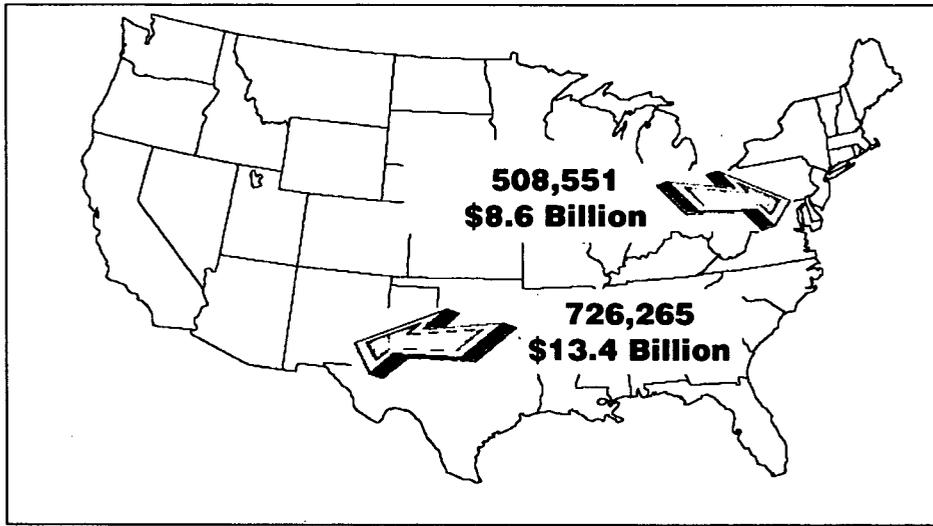


Figure C.--Total Migration and Migrant Income Within the Northeastern States, 1992-1993

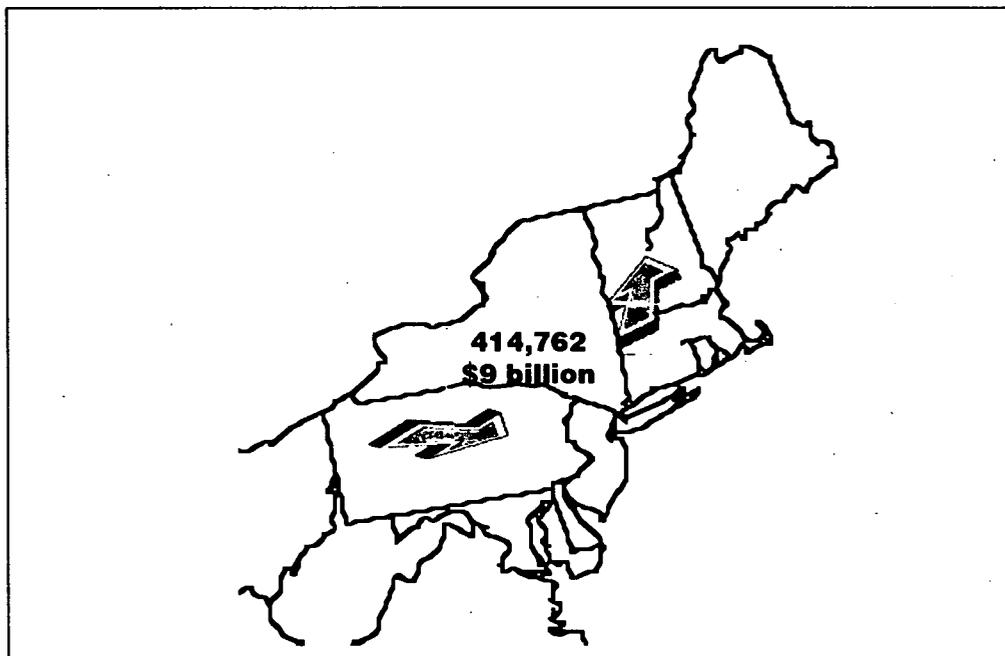


Figure D shows the inflow and outflow migration for the 11 States, individually, to facilitate comparisons. The migration patterns show those who moved to other States within the Northeast region, and those who moved to States in the Northeast from the other 39 States. New York, as Figure D shows, had the largest inflow migration, over 190,000 people in 1993; Vermont had the smallest inflow, about 15,000.

Figure D also shows that New York had the largest outflow migration, 324,000, a net loss of over 133,000. Vermont outflow was only slightly less than its inflow.

In examining the proportion of the State population that is moving for both New York and Vermont, the results show that the percentage of those moving into Vermont was larger than that of New York, 2.7 percent, compared to 1.1 percent for New York. The percentage of the population moving out of Vermont also was larger, 2.6 percent, compared

to 1.8 percent for New York.

Figure E compares the total number of personal exemptions reported on individual income tax returns for the 11 States with the Census population counts for these States. The differences are not great. However, looking at the migration data, the sum of the exemptions for the inflow migrants, plus those for the non-migrants, is much less than the populations of the States, because of the limitations of the migration data mentioned earlier [4].

Finally, Figure F shows the aggregate total money incomes for all 11 States. New York experienced the largest inflow of income, over \$3.5 billion; while Vermont had the smallest. However, the \$6 billion outflow for New York resulted in a net \$3 billion loss to that State. Connecticut, Massachusetts, and New Jersey also experienced noticeable net outflows of income. Only Delaware, Maine, New Hampshire, and Vermont showed net gains.

Figure D.--Outflow and Inflow Migration and Migrant Income for the Northeastern States, 1992-1993

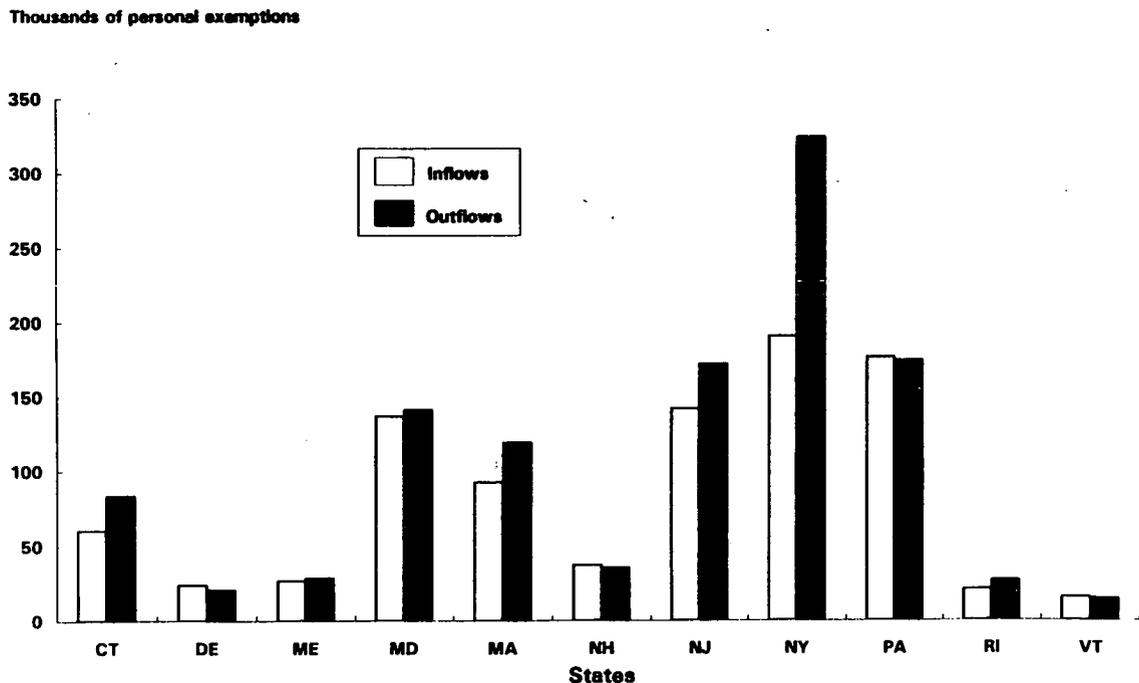


Figure E.--Census Total Population Compared to IRS Total Exemptions for the Northeastern States, 1993

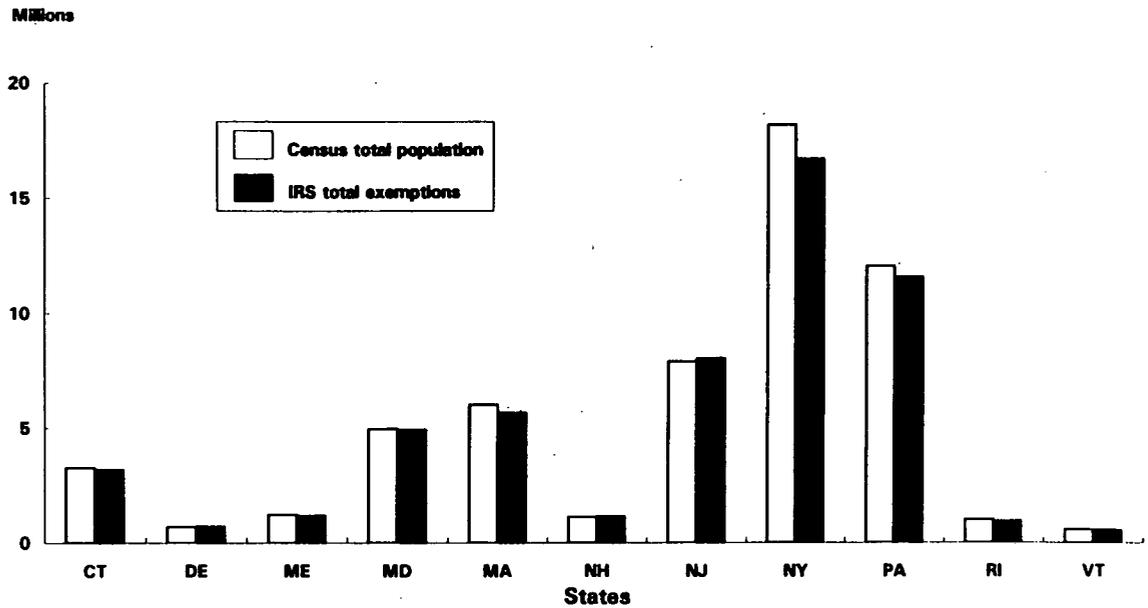
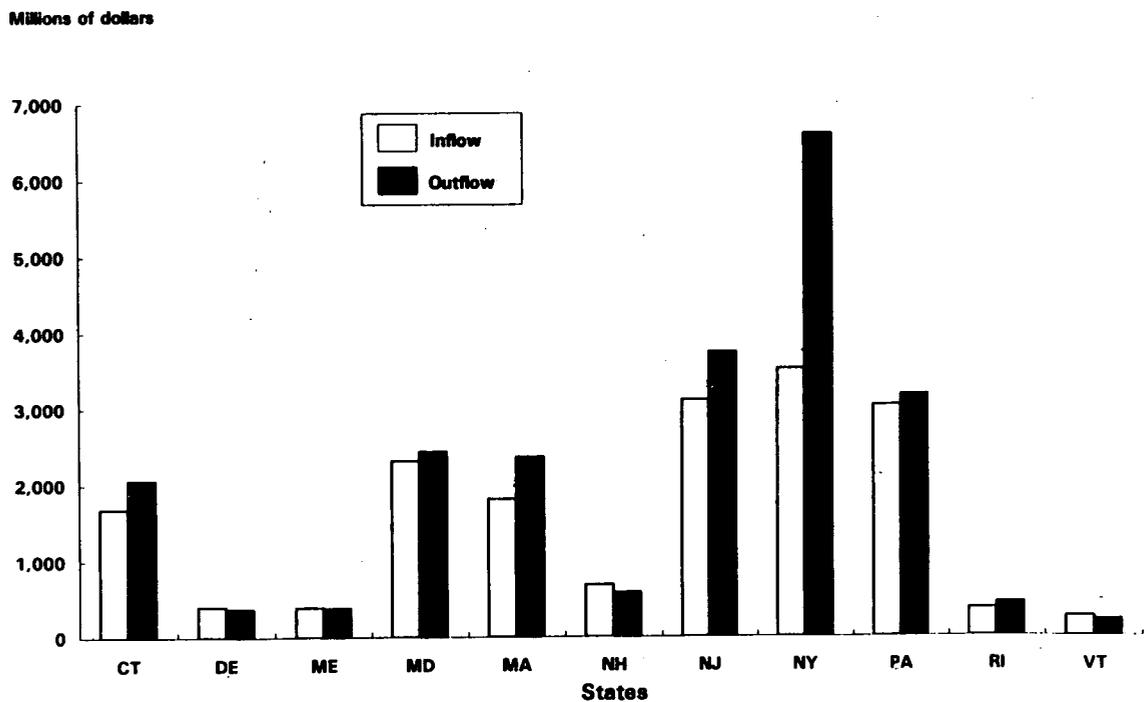


Figure F.--Aggregate "Total Money Income" Inflow and Outflow by State, 1992-1993



New Jersey and Connecticut had the largest median total money income. For in-migrants, the median income was \$25,000 and \$24,000, respectively; for out-migrants, it was \$23,000, for each of the two States.

■ Vermont and New Hampshire as Examples

To illustrate State-to-State migration patterns, two States in the northeast region, Vermont and New Hampshire, are used in this article. These two States were selected for this discussion because they have fewer counties than most of their neighbors.

As can be seen from Figure G, Vermont had a net increase in movement into the State from 1992 to 1993, that was about equal to the movement out of the State that occurred between 1990 and 1991. Data for New Hampshire show there was a net increase in population from 1992 to 1993, which was slightly more than the net decrease for 1991 to 1992, for a net gain of over 90 people. (New Hampshire showed a much larger net loss from 1990 to 1991.)

Figure G.—State-to-State Net Migration for Vermont and New Hampshire, 1990 - 1993

Year	Vermont	New Hampshire
	Personal exemptions	
1990-1991.....	-819,000	-12,525,000
1991-1992.....	-406,000	-1,807,000
1992-1993.....	815,000	1,901,000

Figure H shows, for the top five States of origin, those moving into Vermont and those moving out, either from other States inside the region or from States outside the region. About two-thirds of the movement into Vermont was from States within the region, led by New York, Massachusetts,

New Hampshire, Connecticut, and New Jersey; movement from outside the region was from Florida, California, "Foreign areas," Virginia, and Colorado. ("Foreign areas" include certain returns from Puerto Rico and the Virgin Islands, returns filed by members of the armed forces abroad, other returns with overseas addresses, and returns of certain nonresident aliens.) Figure H also shows that movement out of the region was to four of the same top five States, although not in the same order.

New Hampshire, as Figure I indicates, had an even larger percentage of those moving into the State from other States in the region: about 56 percent of the in-migrants were from Massachusetts, followed by those from the neighboring States of Maine, Vermont, New York, and Connecticut. Movement into New Hampshire from outside the region was from Florida, California, "Foreign areas," Virginia, and Texas. The major movement out of New Hampshire to States outside the region was to destinations in Florida, California, and Virginia. With this kind of information, demographers familiar with economic events in these States can draw useful conclusions about future trends.

Now, to give an idea of what the more detailed county data show, the remainder of this article focuses on the two New Hampshire/Vermont counties with the largest net influx of migrants, notably Rockingham County, New Hampshire and Chittenden County, Vermont.

Figure J shows that 60 percent of the movement into Chittenden County was from elsewhere in the Northeast, almost 4,000 people. Over half were from other counties in Vermont. The remainder were from outside the region, mainly from Virginia, California, Florida, and from "suppressed areas." The "suppressed" category, with about 1,745 people, represents those who moved into Chittenden County, for whom county of origin and even region of origin for the migrants could not

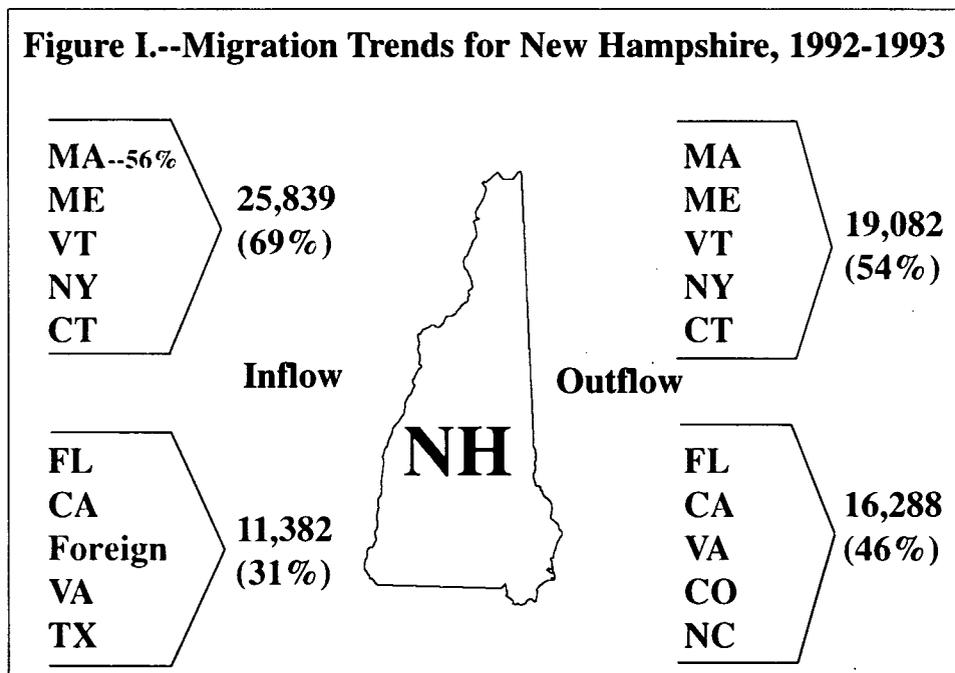
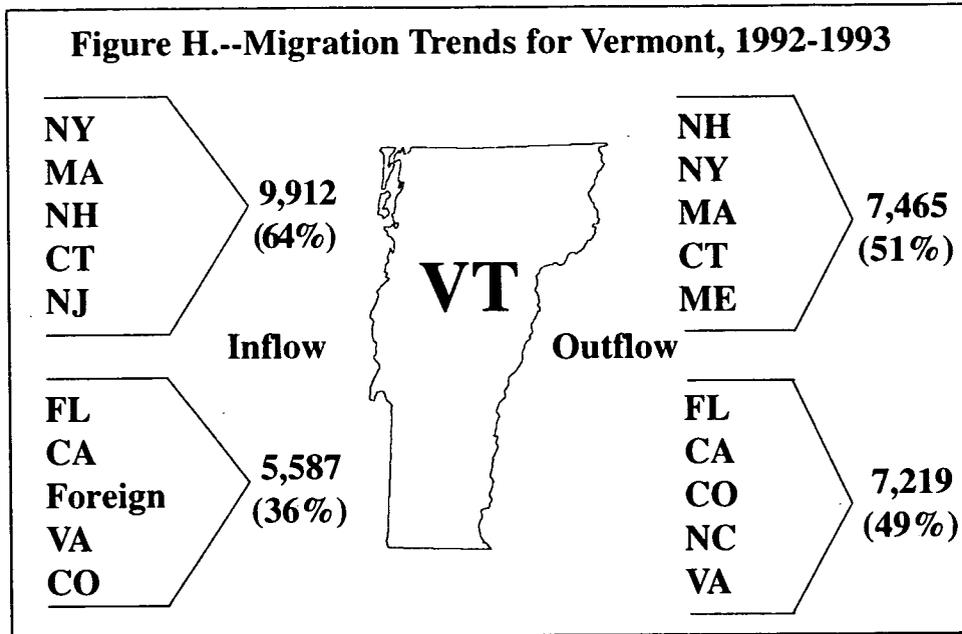
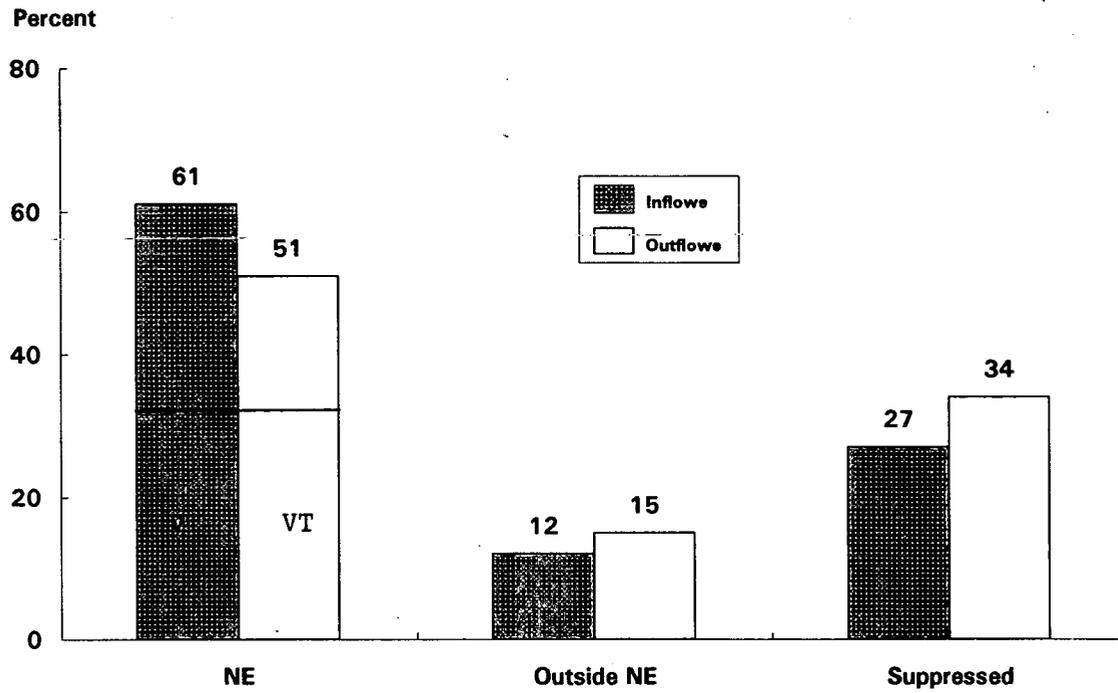


Figure J.--Migration for Chittenden County, VT 1992 -1993



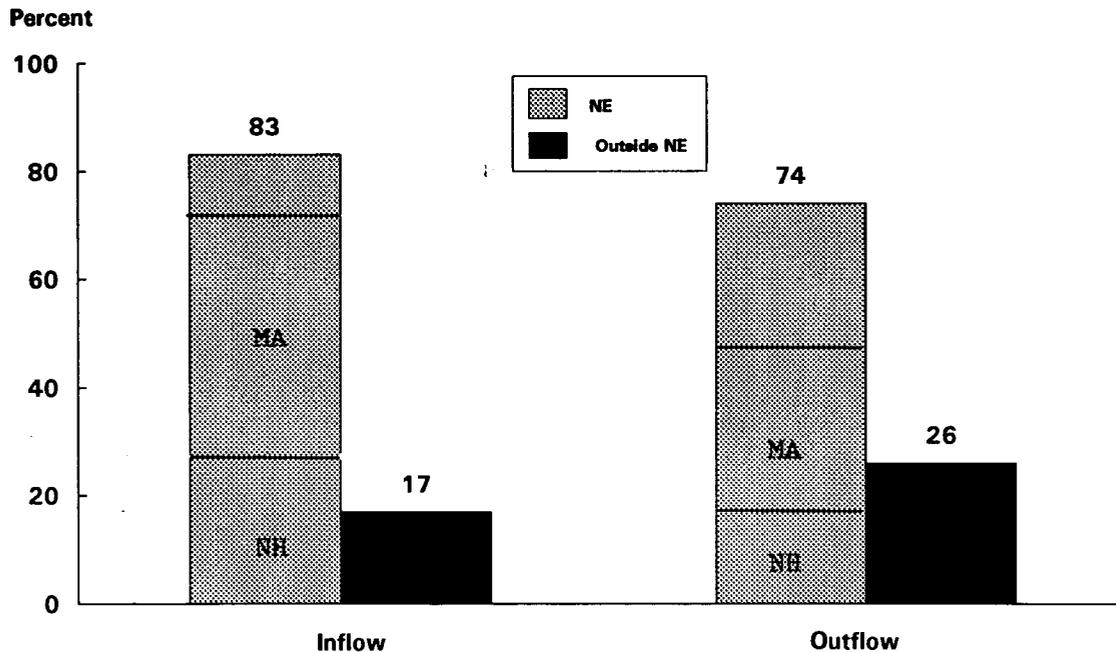
be shown in the statistics because of the possibility of disclosure of information about specific taxpayers. This is another shortcoming of the migration data, especially for small areas.

In regard to the outflow migration from Chittenden County to other areas of the northeastern region, much of the movement was to other counties in Vermont, but outflow also was to other States, such as New York and Massachusetts. About 15 percent of the movement was to outside the northeastern region, mainly to Florida, Texas, and Colorado. However, for the remaining 34 percent of the personal exemptions for out-migrants from

Chittenden County, their destination had to be suppressed because of the possibility of disclosure.

In Figure K, inflow migration for Rockingham County, New Hampshire shows that about 83 percent, or over 13,000 people, was from other States in the northeastern region. A large number were from Massachusetts and New Hampshire. The remaining 17 percent, about 2,600, moved from outside the northeastern region, primarily from Florida, California, and "Foreign areas." Finally, of those leaving Rockingham County, a large percentage moved to Massachusetts and elsewhere in New Hampshire; about a quarter of the out-migrants left the northeast region.

Figure K.--Migration for Rockingham County, New Hampshire, 1992 - 1993



■ Concluding Comment

As a concluding comment, all of the customers that SOI has dealt with seem to find the IRS migration data useful to them, especially with the addition of aggregate total money income and median income to the data for 1992-93. The data may not provide all the answers, but they provide a good starting point by showing where people are coming from or, if they are leaving, where they are going. The challenging part of finding WHY the people are moving, is then left up to the customers [5].

■ Footnotes

[1] To access the SOI electronic bulletin board (EBB), dial (202) 874-9574. The EBB is also accessible through FedWorld, IRS-IS BBS, and IRS Forms BBS. The SOI homepage on the Internet can be reached at the following address: http://www.irs.ustreas.gov/prod/tax_stats/index.html.

[2] See Gabriel, Matthey, and Wascher (1995).

[3] For purposes of this discussion, the Northeast region includes Maine, Vermont, New Hampshire, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, Pennsylvania, Delaware, and Maryland.

[4] For more information on comparability of Census and IRS counts for migration studies, see Wetrogan and Long (1990).

[5] Selected additional data from this paper are provided in the Appendix. For more information on SOI migration data, contact:

Statistical Information Services
 Statistics of Income CP:R:S:S:P
 PO Box 2608
 Washington, DC 20013-2608.

We can also be reached by phone at (202) 874-0410; by fax at (202) 874-0964; or by e-mail at soi.sis@wpgate.irs.gov.

■ References

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Appendix

County-to-County Migration Data

Content

County-to-County Migration data are based on the Internal Revenue Service's Individual Master File records for all taxpayers. Data are available for 1982 and 1984-1993. Items provided include:

- Number of returns
- Number of exemptions
- Aggregate adjusted gross income (AGI)
- Aggregate wages and salaries
- Aggregate gross dividends
- Aggregate interest income
- Aggregate gross rents and royalties
- "Total money income" (starting with 1992).

Definition of "Total Money Income"

"Total Money Income" is a Census Bureau concept, which is derived from a number of income items reported to the IRS on individual income tax returns. It is defined as the arithmetic sum of the following income items:

- Wages, salaries, tips, etc. +
- Total interest income +
- Alimony received +
- Business (profit or loss) income +
- Total pensions and annuities +
- Profits or losses from net rents, royalties,
partnerships, estates, trusts, etc. +
- Farm profits or loss income +
- Unemployment compensation +
- Total social security benefits.

For more information on this or other definitions from the IRS Migration Data, consult the *IRS Area-to-Area Migration and County Income Data* documentation handbook.

**Appendix Figure A.--State-to-State Migration Inflow and Outflow
Data for Vermont, 1992-1993**

Inflow, Total - 15,499

From: NE Region States - 9,912

NY	2,547
MA	2,012
NH	2,058
CT	1,235
NJ	718

From: States outside NE Region - 5,587

FL	859
CA	720
FR*	492
VA	611
CO	196
NC	247

Outflow, Total - 14,684

From: NE Region States - 7,465

NH	2,153
NY	1,685
MA	1,476
CT	561
ME	489

From: States outside NE Region - 7,219

FL	503
CA	518
CO	468
NC	486
VA	430

**Appendix Figure B.--State-to-State Migration Inflow and Outflow
Data for New Hampshire, 1992-1993**

Inflow, Total - 37,221

From: NE Region States - 25,839

MA	14,543
ME	3,026
VT	2,153
NY	1,959
CT	1,583
NC	473

From: States outside NE Region - 11,382

FL	2,004
CA	1,464
FR*	1,122
VA	750
TX	709

Outflow, Total - 35,370

From: NE Region States - 19,082

MA	9,117
ME	2,962
VT	2,058
NY	1,580
CT	966

From: States outside NE Region - 16,288

FL	3,615
CA	1,370
VA	1,072
CO	779
NC	953

Appendix Figures A and B: *FR = Foreign, which includes Puerto Rico reporting income earned outside Puerto Rico as a U.S. government employee, Virgin Islands, Army and fleet post offices, and oversees address or non-resident alien.

**Appendix Figure C.--Migration Inflow and Outflow
Data for Chittenden County, Vermont, 1992-1993**

Inflow, Total - 6,472**From: NE Region States - 3,944**

VT	2,169
NY	806
MA	436
NH	230
CT	195
All other	111
Suppressed	1,745

From: States outside NE Region States - 783

VA	198
CA	121
FL	88
AZ	30
IL	28
All other	310

Outflow, Total - 6,098**From: NE Region States - 3,130**

VT	2,079
NY	321
MA	293
NH	209
CT	127
All other	101
Suppressed	2,052

From: States outside NE Region States - 916

FL	200
TX	98
CO	97
FR*	93
CA	80
All other	348

**Appendix Figure D.--Migration Inflow and Outflow
Data for Rockingham County, New Hampshire, 1992-1993**

Inflow, Total - 15,646**From: NE Region States - 13,018**

MA	6,336
NH	4,542
ME	743
CT	341
RI	103
All other	953

From: States outside NE Region States - 2,628

FL	220
CA	195
FR*	204
VA	72
TX	27
All other	1,910

Outflow, Total - 13,974**From: NE Region States - 10,338**

MA	3,527
NH	2,812
ME	816
CT	174
NY	118
All other	2,891

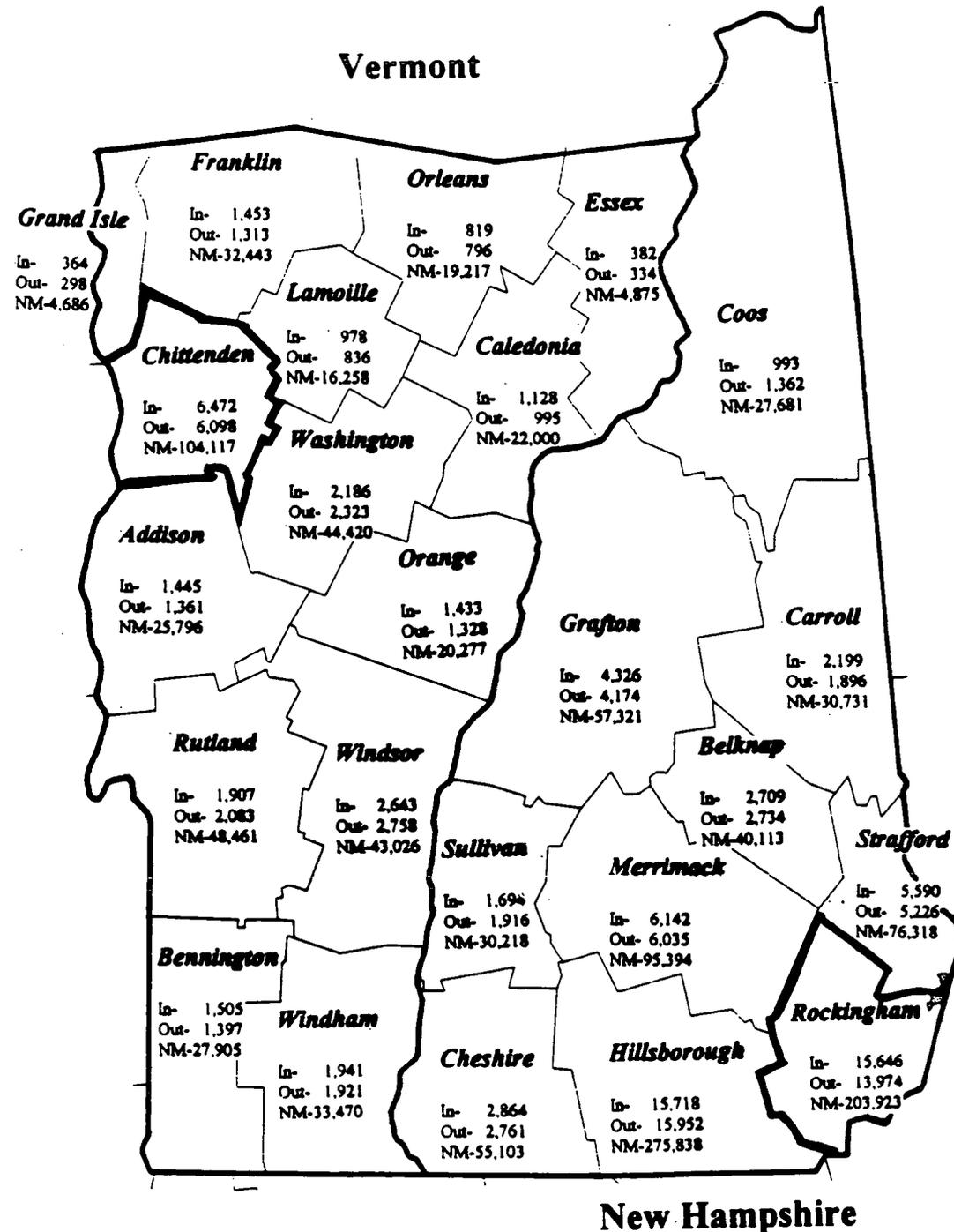
From: States outside NE Region States - 3,636

FL	695
CA	220
FR*	198
VA	92
TX	80
All other	2,351

Appendix Figures C and D: *FR = Foreign, which includes Puerto Rico reporting income earned outside Puerto Rico as a U.S. government employee, Virgin Islands, Army and fleet post offices, and oversees address or non-resident alien.

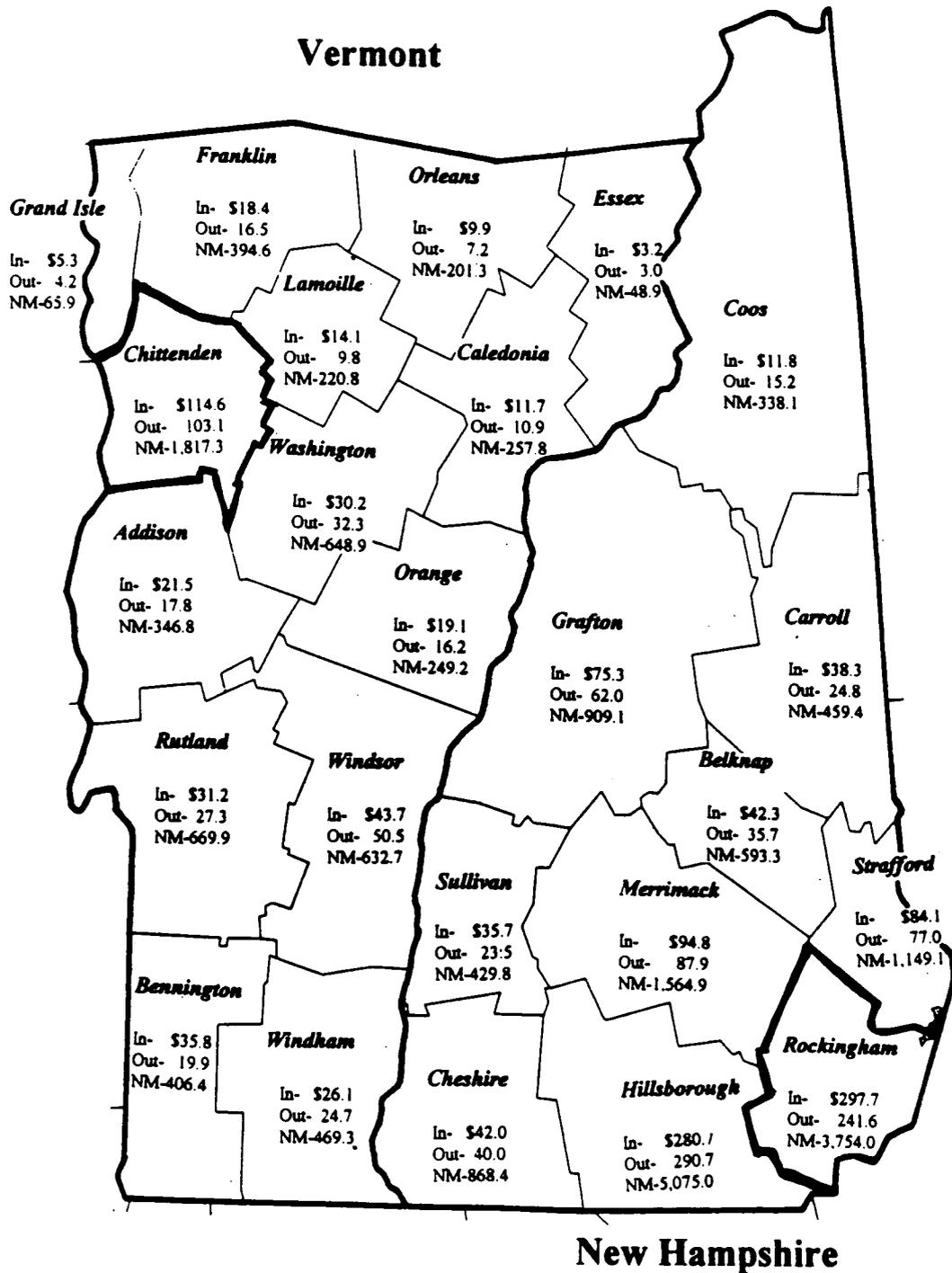
Appendix Figure E.--Exemptions as a Proxy for County-to-County Migration, Vermont and New Hampshire, 1992-1993

(In=In flows, Out=Out-flows, and NM=Nonmigrants)



**Appendix Figure F.--Aggregate "Total Money Income" by County for
Vermont and New Hampshire, 1992-1993
(in millions of dollars)**

(In=In flows, Out=Out-flows, and NM=Nonmigrants)



Appendix Figure G.--Median "Total Money Income" by County for Vermont and New Hampshire, 1992-1993

(In=In-flows, Out=Out-flows, and NM=Nonmigrants)

