



# The Vermont Job Gap Study

## Phase 6

### The Leaky Bucket: An Analysis of Vermont's Dependence on Imports

A project of the Peace & Justice Center.

Doug Hoffer, Research Director  
Ellen Kahler, Project Director

© July, 2000

## PURPOSE OF THE STUDY

The Job Gap Study is part of a continuing effort to investigate and better understand certain aspects of the Vermont economy. In Phase 6 (The Leaky Bucket), we are interested in Vermont's trade balance. Much is known about Vermont's exports, but imports have received little attention. We intend to explore Vermont's reliance on outside sources of goods, services and capital and, to the extent possible, quantify the outflow of dollars, as well as opportunities for import replacement.

## INTRODUCTION

No individual state can supply all of its own needs, especially a small state like Vermont. But we are fortunate to have an abundance of natural resources necessary for the provision of certain basic needs such as food, shelter, clothing, and energy, among others. For a variety of reasons, however, local production for local use has given way to a system of mass markets that depends on large centralized production facilities (and often cheap labor) in order to achieve the so-called economies of scale necessary to be efficient and maximize profits.

Most economists and policy makers have embraced globalization in manufacturing, services, and finance. However, notwithstanding the real and perceived benefits, we have an obligation to consider whether such fundamental economic changes are necessarily in the best interests of Vermont. Common wisdom suggests that globalization represents an efficient allocation of resources. That is, if production costs are lower in South Carolina or Mexico it will result in lower costs for the consumer in Vermont. While this may be true in narrow economic terms, it ignores the external costs of production that are not reflected in the price at the cash register. In addition, there are measurable economic and fiscal impacts from our dependence on imported goods and services. Finally, there are other values besides efficiency that are important to Vermonters.

### Externalities and the Costs of Dependence

There are many reasons to be concerned about our dependence on imported goods and services. For example, to the extent we import foreign goods, we have no control over wages or working conditions or the environmental impacts of extraction and production. In addition, outside capital markets establish credit and insurance standards that may not reflect conditions in Vermont. Moreover, capital mobility often leads to layoffs and plant closings as a result of mergers and buyouts. Finally, the recent increases in fuel prices are a reminder of our vulnerability and powerlessness due to excessive dependence on imported oil.

Some of these values include self-reliance, sustainability, equity, environmental protection, and economic democracy. Indeed, many public and private entities have adopted some of these terms in their mission statements. The question is whether our current policies are likely to strengthen Vermont's economy in ways that reflect such values and whether current trends will expand or limit our ability to control our own future.

For example, while many new jobs have been created in the last 20 years, the economy has become dominated by services and retail trade, which now account for 57% of all jobs in Vermont.<sup>1</sup> Many of the new jobs don't pay well, require limited skills, and offer few opportunities for advancement.<sup>2</sup> We've gained 85,000 jobs since 1982 but have lost 1,600 manufacturing

<sup>1</sup> Vermont Department of Employment & Training.

<sup>2</sup> Forty nine percent of all retail and service sector jobs pay less than a livable wage for a single person as determined by the Job Gap Study (\$8.68/hr). Seventy eight percent of all jobs that pay less than \$8.50/hr require no education or training, Report to the Livable Income Study Committee of the Vermont State Legislature, Nov. 1999, p. 7.4 & Appendix 7. Job figures do not include self-employment.

jobs. Manufacturing now accounts for only one out of six jobs in Vermont (17%), down from one out of four in 1982.<sup>3</sup> Moreover, about 15% of all manufacturing jobs in the state are found at one large company.

Furthermore, while manufacturing for export has advantages, it can leave us at the mercy of global economic forces that are beyond our control. Vermont companies are often at a competitive disadvantage with firms based in other countries where wages are low and environmental laws are comparatively weak. As a result, a Vermont company's share of a global market can be adversely affected by decisions made elsewhere, which can have a profound impact on the lives of Vermonters. We need to ask ourselves if a marketplace that pits workers in Barre against those in Mexico is necessarily fair or sustainable.

Competition in global markets can have the unintended effect of creating pressure in Vermont to moderate wages and reduce business costs in ways that may compromise important values. For example, controversy over electric rates, labor law, and environmental and workplace regulations, to name just a few, has been fueled in part by the understandable desire of business owners to control costs compared to other parts of the country and the world. But there are societal costs to such efforts that are not shouldered by businesses and which can have adverse impacts on Vermonters and the environment.

**The point is not that we should de-emphasize the export sector, only that we should acknowledge its limitations. At the same time, we should investigate opportunities to cost-effectively replace some imports in order to maximize the use of local resources, retain money in the local economy, and reduce our vulnerability to outside forces.**

Although we have numerous tools available to help advance an import replacement strategy, it is noteworthy that efforts to facilitate global trade have led to many international treaties that restrict Vermont's sovereignty and ability to determine its own future (e.g., NAFTA, GATT and the WTO). This is an example of how a narrow focus on exports can restrict our ability to pursue other equally justifiable economic development strategies.

#### The Multiplier Effect

There are significant benefits from retaining money in the local economy due to the 'multiplier effect'. This term refers to the impacts associated with circulating (and re-circulating) money locally. These impacts can be estimated using an input-output model that includes detailed information about inter-industry relationships. That is, we can predict the ripple effect of increased output in a given industry as a result of the need for additional labor, capital and other inputs. For example, supplying more locally produced food would require more farmers and food processors, more packaging and advertising, as well as all the inputs needed at each step in the process (labor, machinery & equipment, energy). The U.S. Commerce Department has created an input-output (I-O) model that reflects a region's industrial structure and trading patterns. The Commerce Department's RIMS II I-O model is widely used and provides multipliers for all industries. The multipliers allow us to estimate the total direct and indirect impacts of changes in a given industry on regional output, earnings and employment. We can also estimate new tax revenues related to the new economic activity.

In the end, **every dollar spent on goods and services from outside Vermont is a dollar not invested in Vermont.** We can and should continue to benefit from participation in the global economy. But without advocating for a return to a romanticized past, we should also evaluate objectively the costs and benefits of import replacement. **The first step is to estimate the extent of our dependence.**

<sup>3</sup> Vermont Department of Employment and Training.

## FINDINGS: Part 1 -- Commodities

In 1997, \$14.6 billion dollars worth of commodities were shipped into Vermont - \$11.8 billion from other states<sup>4</sup> and \$2.8 billion from Canada destined for Vermont.<sup>5</sup> In contrast, the value of commodities produced in Vermont was \$9 billion in 1996, the last year for which figures are available.<sup>6</sup> We exported \$3.8 billion out of the country in 1997 (79% electronic components)<sup>7</sup> and some portion of the remaining \$5.2 billion of goods produced in Vermont was sold outside the state (e.g., raw milk and logs, military hardware, rail cars, etc.). Thus, **Vermont had an overall trade deficit in commodities of \$8 - 10 billion dollars in 1997.** This is over four times as much as Vermont businesses earn from domestic tourism expenditures.<sup>8</sup>

A detailed analysis of the opportunities for import replacement by sector is beyond the scope of this phase of the project (additional phases are planned). For now, we will explore the magnitude of the possibilities and potential impacts. Table 1 shows the value of in-state production and domestic imports by commodity group, and the dollar value of the difference between the two. Table 1 reveals that Vermont is heavily dependent on imports.

Table 1

<b>Instate Production and Imports by Commodity</b>			
Commodity Group	Instate Prod. <sup>9</sup> <b>(\$million)</b>	Domestic Imports <sup>10</sup> <b>(\$million)</b>	Prod. minus Imports <b>(\$million)</b>
Food & kindred products (*dairy = \$785m)	1,230*	1,808	(578)
Printing & publishing	552	598	(46)
Fabricated metal	431	323	108
Paper & allied products	430	611	(181)
Machinery & equipment	416	522	(106)
Lumber & wood	406	362	44
Transportation equipment	379	677	(298)
Furniture & fixtures	202	151	51
Rubber & plastic	201	703	(502)
Instruments	181	171	10
Textile, apparel & leather	177	625	(448)
Stone, clay & glass	128	231	(103)
Primary metal	110	345	(235)
Chemicals & chemical products	94	898	(804)
Coal, & petroleum products	0	934	(934)
Tobacco	0	117	(117)
Miscellaneous manufacturing	193	901	(708)
Other <sup>11</sup>	NA	458	(458)
<b>Sub-total</b>	<b>5,130</b>	<b>10,435</b>	<b>(5,305)</b>
Electrical & electronic components <sup>12</sup>	3,905	1,448	2,457
<b>Total</b>	<b>9,035</b>	<b>11,883</b>	<b>(2,848)</b>

<sup>4</sup> 1997 Commodity Flow Survey (CFS), US Census Bureau and the Bureau of Transportation Statistics (BTS).

<sup>5</sup> US Customs Service, Office of Strategic Operational Analysis. We don't have details by SIC code. The \$2.8 billion in commodities from Canada are only those whose final destination was Vermont.

<sup>6</sup> 1996 Annual Survey of Manufactures for Vermont, US Census Bureau.

<sup>7</sup> Office of Trade and Economic Analysis, International Trade Administration, US Dept. of Commerce.

<sup>8</sup> ≈ \$2.2 billion for 1997. "The Impact of the Tourism Sector on the Vermont Economy," UVM, March 1999.

<sup>9</sup> 1996 Annual Survey of Manufactures for Vermont, US Census Bureau.

<sup>10</sup> 1997 CFS, unpublished data. Some domestic imports originated outside the US and came through a US port.

<sup>11</sup> Waste & scrap (\$75m), mixed freight (\$178m) & unknown commodities (\$88m). Four other commodities did not meet statistical standards but are included - live animals, cereal grains, metallic ores and fertilizers).

<sup>12</sup> The figure for instate production is from 1995. 1996 data was suppressed due to confidentiality concerns.

Note: Although Table 1 shows a difference of \$2.8 billion between imports and in-state production, it does not include \$2.8 billion in imports from Canada, for which we could not obtain details by commodity. Furthermore, we do not know how much of our in-state production is shipped out of Vermont to other states and how much is consumed here. Thus, imports were at least \$14.6 billion, while our in-state production (net of \$3.8 billion in exports) totaled only \$5.2 billion. Since some portion of our in-state production was sold outside Vermont, the actual trade deficit may be closer to \$10 billion.

Table 2 shows that Vermont's imports as a percentage of in-state production is significantly higher than the figures for the nation as a whole. Overall, **Vermont's dependence on imports is more than seven times greater than the U.S.**

Table 2

Commodity	Imports as a % of Production	
	VT	US <sup>13</sup>
	%	%
Chemicals & chemical products	955	9
Miscellaneous manufacturing	467	42
Textile, apparel & leather	353	8
Rubber & plastic	350	11
Primary metal	314	15
Stone, clay & glass	180	11
Transportation equipment	179	21
Food & kindred products	147	5
Paper & allied products	142	8
Machinery & equipment	125	24
Printing & publishing	108	2
Instruments	94	15
Lumber & wood	89	10
Fabricated metal	75	8
Furniture & fixtures	75	13
Coal, & petroleum products	---	7
Tobacco	---	1
Other <sup>14</sup>	---	---
<b>Sub-total</b>	<b>203</b>	<b>17</b>
Electrical & electronic components <sup>15</sup>	37	34
<b>Total</b>	<b>131</b>	<b>18</b>

The bottom line is that we don't produce much of what we consume. Obviously, a small state cannot expect to have the diverse productive capacity of the entire nation. Nevertheless, our reliance on imported commodities represents significant lost opportunities for in-state economic activity. These lost opportunities are especially notable in those sectors where we have the necessary natural resources. To illustrate, we will look briefly at food and energy imports because: 1) food and energy are basic needs; 2) we already have significant in-state agricultural production and underutilized land, water and timber resources; 3) the economic multipliers are strong, and 4) expanded production in these sectors is likely to provide considerable benefits to rural Vermont where unemployment is comparatively high.

<sup>13</sup> Census Bureau, US Commodity Exports & Imports as related to Output, 1992, Table 2C (latest data available).

<sup>14</sup> See Footnote # 11.

<sup>15</sup> The figure for instate production is from 1995. 1996 data was suppressed due to confidentiality concerns.

## Food

**In 1997, we imported \$1.808 billion worth of food and kindred products<sup>16</sup>** and produced only \$445 million of non-dairy products (out of \$1.23 billion total in-state agricultural production). This means that on average every person in the state spent \$3,064 for food grown and / or processed elsewhere. Clearly, our consumption of imported food provides considerable variety and virtually year-round access to many items not native to this region. On the other hand, there are significant costs associated with the export of so much money for food.

The most obvious are the lost opportunity costs of not producing more food here. That is, with every dollar that leaves Vermont for food, we lose jobs, taxes, and the indirect economic activity that results from local production (i.e., the multiplier effect from the purchase of goods and services related to agriculture and food processing).

**For example, if Vermont substituted local production for only ten percent of the food we import (10% of \$1.808 billion = \$181 million), it would result in \$376 million in new economic output, including \$69 million in personal earnings from 3,616 new jobs.<sup>17</sup>**

Note: The model we used to estimate changes in total output, earnings and jobs is based on current economic data and relationships. Therefore, the new jobs predicted by the model reflect current wage rates, only some of which are sufficient to meet basic needs. One the goals of an import replacement strategy should be to create more “livable wage” jobs.

Obviously, we cannot ignore the price impact on consumers of such a shift. It is possible that some locally produced goods may be somewhat more expensive than imports. There may be ways of leveling the playing field, however. Vermont spends millions in taxpayer funds to support tourism because it brings money into the state. We could just as easily justify public support for expanded agricultural production because it would keep money from going out of the state. Such support could include direct expenditures, tax credits, low-interest loans, increased purchases of development rights, and preferential purchasing by the state, UVM, state colleges and prisons.

Although the price of many imported items at the cash register appears reasonable, there are many hidden costs (externalities) that we all pay as a result of our dependence on out of state and foreign industrialized agriculture. These include federally subsidized water diversion projects in the west; significant loss of top soil from intensive farming methods; pollution of groundwater and rivers due to the extensive use of herbicides and pesticides; infrastructure and maintenance costs for roads to serve the truck traffic necessary to move the goods around the country and air pollution from the same trucks; and the loss of plant diversity from industrial agricultural practices such as monoculture.

There are many potential benefits of greater in-state production. It would create employment opportunities in rural Vermont. It would protect more land from development. It would stimulate more food exports as the industry grows. It would help Vermonters re-connect with farmers and gain a better understanding of and appreciation for the value and productivity of the land and the importance of maintaining healthy soils and water resources.

<sup>16</sup> 1997 CFS, unpublished data.

<sup>17</sup> Economic impact data derived from application of the US Commerce Department's RIMS II Regional Multipliers for Vermont.

## Energy

Although Vermont has substantial natural resources suitable for energy production (e.g., wood, water, wind, and sun), we import the vast majority of our energy. In 1997, we imported \$934 million worth of transportation fuels, fuel oils, natural gas and propane. We generate some of our electricity in Vermont (Yankee, McNeil, Ryegate and small hydro) but still sent at least \$150 million out of state in 1997.<sup>18</sup> Thus, **we spend over \$1 billion annually for fuel and energy from outside Vermont.**

In the near term, there's little we can do about our dependence on gasoline, although there are promising developments in autos powered by electricity and fuel cells. In the meantime, there's much we can do to reduce our dependence on outside sources of electricity. First, there are still significant opportunities for cost-effective investments in energy efficiency in buildings and equipment. In addition to reducing the outflow of money for energy, such investments continue to provide savings for the life of the building or equipment. Moreover, increased efficiency reduces pollution, saves money for consumers, makes housing more affordable and can help improve the profitability of businesses through lower overhead.

According to the Department of Public Service (DPS), there is significant untapped potential for energy efficiency. For example, as of 1998, "only 23% of [commercial and industrial] electric customers have participated in [a utility efficiency] program."<sup>19</sup> The DPS estimated that energy efficiency can result in "projected savings...of \$86 million in electric power over five years."<sup>20</sup>

Second, we can begin planning for the replacement of Vermont Yankee, which represents over 30% of our total electric supply. One obvious opportunity is to utilize wood, which is an abundant and renewable resource. According to Bill Kropelin (Chief Forester at Burlington Electric), a 50MW biomass power plant (the same size as the McNeil Plant) could be supported sustainably on about 12% of statewide timberland using unutilized growth, mill residues, and accumulated inventory of low grade wood. **Such a plant would produce annual revenues of about \$24 million and result in approximately \$42 million in new economic activity and \$7 million in earnings from 346 new jobs** (including indirect jobs from forestry, transportation, etc.).<sup>21</sup>

Although Vermont Yankee is located in Vermont, biomass generating facilities produce much higher direct and indirect benefits per dollar of revenue because they use primarily in-state wood, which has a very high economic multiplier. Furthermore, by siting such a facility near the wood supplies (unlike the McNeil Plant), transportation costs would be reduced and the cost of fuel would drop by about 20%.<sup>22</sup>

It is noteworthy that the Connecticut and Deerfield River dams recently sold to an out of state corporation have a capacity of 491MW which, if used instate, would replace most of the power we buy from Vermont Yankee. Unfortunately, the power from the dams is sold out of state. It is ironic of course that we spend so much for imported hydro power from Canada rather than utilizing our own hydro facilities in Vermont.

Similar import replacement opportunities exist for other natural resource-based sectors such as lumber & wood products, stone, clay & glass; pulp & paper; and textiles & apparel.

<sup>18</sup> 1997 wholesale electric purchases (including capacity costs) from Dave Lamont, VT Dept. of Public Service.

<sup>19</sup> "Vermont Electric Utility Demand Side Management Accomplishments: History and Current Trends," Technical Report No. 41 September 1998, Vermont Department of Public Service (DPS).

<sup>20</sup> "The Power to Save: A Plan to Transform Vermont's Energy-Efficiency Markets," DPS, May 23, 1997.

<sup>21</sup> Revenue estimate from John Irving, Manager of the McNeil Plant. Economic impact data from RIMS II.

<sup>22</sup> Source: John Irving, Manager of the McNeil Plant.

## Commodities: Potential Benefits of Import Replacement

As noted above, it's not our intention at this point to provide sector-specific analyses for product replacement. However, in order to help illustrate the potential benefits, we have used Vermont economic multipliers to estimate the changes in total output, earnings and jobs from an import replacement strategy. For this exercise, we have assumed a level of substitution equal to only 10% of the amount imported by sector or no more than 30% of current in-state production, whichever is lower.

As can be seen in Table 3, **replacing \$753.6 million of imports (6% of the total) with instate production would result in almost \$1.4 billion in new output, \$343 million in new earnings, and over 15,000 jobs.** To accomplish this would require an increase in in-state production of 8.3%. Other benefits include increased state income tax revenue from the new earnings ( $\approx$  \$6 million annually), and increased corporate and property tax revenue. **The point is not that every sector presents a realistic opportunity for replacement, only that system wide substitution at this level could have enormous benefits for Vermont.**

Table 3

<b>Potential Economic Benefits of Import Replacement of Commodities<sup>23</sup></b>					
Commodity Group	Amount of Substitution	Substitution as a % of Instate Prod.	Total New Output from Substitution	New Earnings	New Jobs
	(\$million)	%	(\$million)	(\$million)	#
Food & kindred products	180.8	14.7	375.9	68.9	3,616
Transportation equipment	67.7	17.9	118.4	31.4	1,232
Pulp & paper	61.1	14.2	106.9	21.6	855
Plastics & rubber	60.3	30.0	101.1	25.3	1,055
Printed products	59.8	10.8	115.0	31.0	1,363
Textiles, apparel & leather	53.1	30.0	84.4	21.2	1,487
Machinery	52.2	12.5	92.3	30.6	1,159
Lumber & wood	36.2	8.9	75.7	20.5	981
Electronic & electrical equip. and components (excl. IBM) <sup>24</sup>	33.6	30.0	60.3	19.1	618
Base metals	33.0	30.0	55.4	13.0	528
Fabricated metals	32.3	7.5	54.6	20.1	698
Chemicals & pharmaceuticals	28.2	30.0	44.6	10.2	392
Stone, clay & glass	23.1	18.0	42.6	12.2	501
Precision instruments	17.1	9.4	29.7	9.0	320
Furniture & fixtures	15.1	7.5	31.6	8.6	409
<b>Totals</b>	<b>\$753.6</b>	<b>8.3%</b>	<b>\$1,388.5</b>	<b>\$342.7</b>	<b>15,214</b>

**Note:** The potential impacts presented above are theoretical. We have not conducted business case analyses to determine the feasibility of achieving the additional market share.

<sup>23</sup> Economic impact data from RIMS II.

<sup>24</sup> We purposefully excluded IBM's estimated contribution to total instate production. Thus, the amount of substitution (\$33.6 million) reflects 30% of that portion of this sector's instate production after subtracting IBM.

## Part 2 – Capital: Consumer Credit <sup>25</sup>

According to the Federal Reserve Board, total consumer debt outstanding in the U.S. (not including real estate mortgages) was \$1.4 trillion in December 1999. Revolving debt (credit cards) was \$589 billion and non-revolving debt (installment loans) was \$799 billion.<sup>26</sup>

We don't know exactly how much credit card debt originates in Vermont because no one tracks the 'geography of debt'. However, assuming the distribution is more or less equal by population, per capita credit card debt is \$2,148.<sup>27</sup> Multiplying this figure by the state's population results in an estimate of \$1.3 billion in credit card debt outstanding in Vermont. By applying the five-year national average annual percentage rate of 15.41% to the total, we conclude that Vermonters paid approximately \$195 million in credit card interest in 1998.

We estimate that Vermont banks have only 6% of the local credit card market.<sup>28</sup> Other entities issue credit cards (oil companies, retail stores, etc.) but most are based out-of-state. Therefore, after subtracting interest paid to Vermont banks, we find that Vermonters sent over \$184 million in credit card interest out of the state in 1998.

We performed the same analysis for non-revolving credit and with a per capita debt figure of \$2,914, we estimate total Vermont installment debt at \$1.7 billion. Using a five-year national average interest rate of 8.66%, we conclude that Vermonters paid \$155 million for installment loan interest in 1998. Based on FDIC Call Reports, Vermont banks have about 30% of this market and credit unions another 33%.<sup>29</sup> Therefore, we find that Vermonters sent \$57 million in installment loan interest payments out of state in 1998.

Thus, **we estimate that in 1998 Vermonters sent a total of \$241 million out of state in consumer credit interest,**<sup>30</sup> which equals \$408 per person.

Table 4

<b>1998 Estimates of US and VT Consumer Debt and Interest</b>					
<i>(excluding real estate mortgages)</i>					
Type of Debt	US Total Debt Outstanding	VT Total Debt Outstanding	Total Annual Interest Paid	Interest Paid In-state	Interest Sent Out of State
	(\$million)	(\$million)	(\$million)	(\$million)	(\$million)
Revolving	588,700	1,269	195.6	11.5	184.2
Installment	798,700	1,722	155.0	98.1	56.9
<b>Totals</b>	<b>\$1,387,400</b>	<b>\$2,991</b>	<b>\$350.6</b>	<b>\$109.6</b>	<b>\$241.1</b>

**If we could capture \$127 million of the market in revolving credit (10%), it would help retain about \$20 million in interest in-state and result in \$331 million in new economic activity, including \$81 million in personal earnings from 3,712 new jobs.**<sup>31</sup>

<sup>25</sup> All data on consumer debt, interest rates and bank's share of such debt is from the Federal Reserve Board's Statistical Release G. 19 (12/7/99) and FDIC Dec. 1998 Call Reports on individual banks (Schedule RI).

<sup>26</sup> Primarily for autos, mobile homes, trailers or vacations.

<sup>27</sup> Figures include monthly charges that some customers pay in full to avoid interest but we don't know how much.

<sup>28</sup> In 1998, Vermont banks reported \$11.5 million in interest income from revolving credit. Extrapolating from the interest earned, we estimate Vermont banks have approximately \$76 million in credit card debt, which is 6% of the total of \$1.269 billion. Keybank is not included because it does not report income from individual states.

<sup>29</sup> VT Bank Commissioner, 1998 Annual Report, pp. 76 & 78. State chartered credit unions reported \$28.7 million in interest income on loans in 1998, at an avg. interest rate of 8.7%. Using the same interest rate for the six federally chartered credit unions, we estimate an additional \$22.2 million in interest income.

<sup>30</sup> No doubt some Vermonters own stock in out-of-state entities that profit from credit cards and other types of consumer financing. However, based on data from the IRS (see p. 11) it seems highly unlikely that the income from such investments could be any more than a small percentage of the \$241 million going out.

## Mortgage Financing

Each year banks and mortgage companies originate thousands of home mortgages in Vermont. If lenders were required to hold all their mortgages “in portfolio,” they would quickly run out of money since they have only so much in deposits. Fortunately, lenders are able to sell a significant number of these loans on the secondary market. This allows banks to use the proceeds from the sales to make new loans and keep the money circulating.

Not surprisingly, the magnitude of sales to the secondary market is substantial. The two primary buyers are Fannie Mae and Freddie Mac, both federally chartered private corporations. The current combined value of their outstanding loans in Vermont equals \$4.8 billion dollars (Freddie Mac = \$3.0 billion and Fannie Mae = \$1.8 billion).<sup>32</sup> Although it's essential for local lenders to sell mortgages, the repayment stream leaves the state and Fannie Mae and Freddie Mac use the income from the mortgages to back their securities.

Assuming an average interest rate of 8%, **Vermont homeowners are sending approximately \$384 million out of state annually for mortgage interest payments.** In comparison, Vermont banks received \$312 million in interest income from real estate mortgages in 1998.<sup>33</sup>

Note: Vermont Licensed Lenders (mortgage companies) have a substantial portion of the market but rarely use Vermont capital. They originated over \$1.1 billion in mortgage loans in 1998<sup>34</sup> but most are held by out of state entities and / or sold directly to the secondary market. If we had more information about this unregulated sector it is likely that the amount of mortgage interest leaving the state annually would be much higher than \$384 million.

There's no doubt that Vermonters benefit from the availability of outside capital for mortgages. In addition, individuals and pension funds own securities backed by mortgages so there is a stream of income into the state from such investments. However, the outflow of interest (and principal) is significant and represents a lost opportunity for local economic activity and jobs. In principle, there is no reason Vermont couldn't establish an in-state equivalent to Fannie Mae and Freddie Mac and capture at least a portion of the secondary market.

Over the last three years, Fannie Mae and Freddie Mac have purchased an average of \$1.069 billion per year in Vermont mortgages. **If a state chartered quasi-public entity were created to purchase even 10% of these mortgages annually (\$107 million), it would generate \$279 million in new economic activity including \$68 million personal earnings from 3,127 new jobs.**<sup>35</sup>

The capital for such undertakings could be raised from a number of public and private sources. As we explain in the following sections, Vermonters currently hold approximately \$26 billion in assets, very little of which is invested in Vermont. Similarly, the state's three pension funds control over \$2 billion in assets with almost none invested in Vermont.

<sup>31</sup> Economic impact data from RIMS II. Note: The multipliers used are for the “banking and credit agencies” service sector. It is possible that a credit card business might not have the same employment impact because, unlike retail banking, it doesn't have the same need for front office workers (e.g., tellers).

<sup>32</sup> Sources: Fannie Mae and Freddie Mac. Recent purchases in Vermont include: Fannie Mae '97 = \$258m, '98 = \$438m and '99 = \$579m; Freddie Mac '97 = \$294m, '98 = 946m and 1999 = \$691m.

<sup>33</sup> FDIC December 1998 Call Reports on all Vermont banks (Schedule RI). Note: Figures for Keybank are not included because it does not report mortgage interest from individual states in which it operates.

<sup>34</sup> VT Bank Commissioner, 1998 Annual Report, p. 111.

<sup>35</sup> Economic impact data from RIMS II. See Note on multipliers for “banking and credit agencies” in footnote 32.

## Public Investment<sup>36</sup>

The State administers three pension funds on behalf of teachers and state and municipal employees. As of June 30, 1998, these three funds had a market value of \$2.043 billion (original cost = \$1.726 billion). The account portfolios include a mix of equities (stocks) and public and private bonds. The account managers have a fiduciary responsibility to the current and future beneficiaries and must minimize the risk while attempting to maximize the return on investments. Not surprisingly, therefore, they invest a substantial portion of their resources in comparatively safe public sector bonds. These include U.S. Treasury notes and other "agency" notes such as mortgage-backed bonds from federally chartered entities like the Fannie Mae. Table 5 shows the types and amounts of investments for the three pension funds.

Table 5

<b>State Administered Pension Fund Investments as of June 1998</b>					
Fund	Cash	Cash equivalent	Equities (stocks)	Fixed income (bonds)	Totals
State employees	\$3,121,102	\$25,724,942	\$611,713,559	\$159,382,534	\$831,820,866
Teachers	692,297	3,798,044	601,013,120	226,317,405	799,942,137
Municipal employees	0	3,949,704	62,453,961	28,804,375	95,208,040
<b>Totals</b>	<b>3,813,399</b>	<b>33,472,690</b>	<b>1,275,180,640</b>	<b>414,504,314</b>	<b>1,726,971,043</b>
<b>Amount in Vermont</b>	<b>\$0</b>	<b>\$0</b>	<b>\$2,519,884</b>	<b>\$612,383</b>	<b>\$3,132,267</b>

The small percentage of money invested in Vermont equities is not surprising because there are few large publicly traded companies based in Vermont.<sup>37</sup> Since stocks have an element of risk, pension fund managers prefer to invest in relatively large and stable companies with a good history of growth and / or earnings. All the money invested in Vermont equities is in the state's two venture capital funds, VT Venture Capital and Green Mountain Capital. It is also not surprising that so little is invested in Vermont bonds because the retirement funds are tax-exempt and have no need for tax-exempt bonds, which have a lower rate of return than taxable bonds.

Nevertheless, to the extent that Vermont businesses will need investment capital to expand as part of an import replacement strategy, the pension funds could play an important role. For example, the state could issue \$35 million in special economic development bonds with a higher than normal interest rate that would be attractive to the pension fund managers. The purchase of such bonds would represent only 2% of the three fund's total assets. By comparison, as of June 1998, the funds already had \$104 million invested in US and agency bonds.

The state could use the proceeds for very low interest loans or to buy down the interest on conventional loans necessary for new buildings and equipment. The bonds could be repaid with a portion of the income tax revenues from the new jobs, similar to municipal Tax Increment Financing with property taxes. Finally, the bond proceeds could be matched by private investments to create a substantial new pool of funds for targeted economic development.

Note: Canadian provincial governments have facilitated the development of numerous successful investment funds that use public and private funds to combat capital flight.<sup>38</sup>

<sup>36</sup> Sources: June 30, 1998 State Street Bank Composite Account Position Appraisals for Vermont State Retirement Fund, Vermont State Teachers Retirement Fund, and the Vermont Municipal Retirement Fund.

<sup>37</sup> We have not included IBM because although it has a significant presence in Vermont, it is based elsewhere. As of June 30, 1998, the three funds had a combined investment of \$1.2 million in IBM.

<sup>38</sup> Canadian law permits provincial labor organizations to sponsor the creation of capital pools which provide equity to small and medium sized businesses. Some of these include the Quebec Solidarity Fund, the Working Opportunity Fund, the Crocus Investment Fund, and the Working Ventures Fund.

## Private Investment

It's impossible to know with certainty how families invest their money. Nevertheless, we have created a model that provides estimates for several major categories of investments. Using data from the Internal Revenue Service,<sup>39</sup> we know the following about Vermont taxpayers:

- Sixty four percent (181,805) of all 1998 tax returns included income from taxable interest. Primary sources include savings accounts and taxable bonds. The total amount of taxable interest reported was \$361 million.
- Twenty seven percent (75,145) of all 1998 tax returns included income from stock dividends. The total amount of dividends reported was \$328 million.
- Five percent (13,915) of all 1998 tax returns included income from tax-exempt interest. Primary sources include state and municipal bonds. The total amount of tax-exempt interest reported was \$111 million.

Note: The IRS also published data for income from capital gains (\$767m) but there are too many unknown variables to attempt to estimate the value of the assets. Income from pensions and annuities was \$480 million but we assumed that most people who receive such income do not own the assets directly (e.g., defined benefit retirement plans and life insurance annuity plans). To the extent these assets are controlled by either public retirement funds or insurance companies, we have addressed them in other sections of the report.

We don't know how much is invested in any given year but we can estimate the value of the assets that produce the annual income stream noted above. By applying a conservative rate of return for each type of investment, we can create a multiplier to estimate total asset value. We used 5.5% for taxable interest, 4% for tax-exempt interest, and 2% for dividends. Using this approach, we have estimated the cash value of the assets owned by Vermonters in each category. **We estimate the total value of financial assets controlled by Vermont taxpayers to be almost \$26 billion dollars.**

Table 6

<b>Estimated Asset Values of Private Investment in Vermont</b>				
Income category	Type of asset	Aggregate 1997 Income	Est. Rate of Return	Estimated Asset value
Dividends	Stocks	\$328 million	2.0%	\$16.4 billion
Taxable interest	Savings & bonds	\$361 million	5.5%	\$6.6 billion
Tax-exempt interest	Gov't. Bonds	\$111 million	4.0%	\$2.8 billion
<b>All</b>	<b>All</b>	<b>\$800 million</b>	---	<b>\$25.8 billion</b>

Note: Ownership of assets is even more skewed than the distribution of income. We estimate that in 1997, 2,539 people (<1% of all tax filers) owned stock worth \$4.7 billion, which is 29% of the total value of stock owned by all Vermonters.<sup>40</sup> In contrast, this same group had 14% of total income. This suggests that a change in the investment practices of very few people could have a profound effect on the availability of capital in Vermont. For example, in order to provide capital for expanded production as part of a replacement strategy, those 2,539 individuals could match the state's \$35 million in bonds (see previous section) by redirecting less than 1% of their stock holdings into Vermont-based companies. If necessary, they could be encouraged to do so with a special tax credit that could help make such investments more attractive.

<sup>39</sup> "Vermont Individual Income and Tax Data, by State and Size of Adjusted Gross Income, Tax Year 1997," IRS, SOI Bulletin, Spring 1999, Table 2.

<sup>40</sup> Ibid. There were 2,539 filers with adjusted gross incomes over \$200,000. Their income from dividends was \$93.8 million. Using a 2% rate of return for dividends, the estimated value of the assets was \$4.7 billion.

## Insurance company investments

Vermonters spent approximately \$1.48 billion on all types of insurance in 1998 (\$603 million property & casualty, \$486 million private medical, \$264 million life, and \$122 million annuity life).<sup>41</sup> A significant amount of this total was returned to pay for coverage of losses incurred by policyholders and for annuities. An additional percentage was spent on administration, dividends and taxes, some of which was spent in Vermont. However, most insurance companies actually lose money on underwriting so they need the income from their investments to remain profitable.<sup>42</sup> Since insurance companies control enormous resources purchased with our premium dollars, it's appropriate that we examine their investment practices.

We reviewed the 47 life, annuity, and property & casualty insurance companies operating in Vermont that have investments in the state. These 47 companies earned \$360 million in Vermont premiums in 1998,<sup>43</sup> which is 0.3% of the \$118 billion they earned in premiums nationally. Thus, for every \$1 million in premiums earned nationally, the companies collect \$3,047 in Vermont. These same companies had \$620 billion in total assets with \$249 million in Vermont, which is 0.04% of the total. Thus, for every \$1 million in assets, only \$402 is invested in Vermont. Therefore, the ratio of total assets to total annual premiums is 5.25 to 1 ( $620 \div 118$ ), while the ratio of Vermont assets to Vermont premiums is only 0.69 to 1 ( $249 \div 360$ ).

**This represents a significant capital drain. If the Vermont ratio of investments to premiums earned were comparable to the national ratio, these companies would have \$1.89 billion invested in Vermont, rather than \$249 million -- a difference of \$1.64 billion.** As we discussed above, some portion of these funds could be very helpful in financing new or expanded economic activity in Vermont.

As was noted above in the section on retirement funds, account managers have a fiduciary responsibility to the current and future beneficiaries and must minimize the risk while attempting to maximize the return on investments. It is not surprising, therefore, that over 80% of the \$249 million invested in Vermont is in utilities because they have a guaranteed rate of return. On the other hand, less than 1% is invested in public sector bonds.<sup>44</sup>

Table 7

<b>Ratios of Assets to Premiums Earned</b>						
Insurance Line	Premiums Earned			Assets		
	Total	VT	VT Ratio	Total	VT	VT Ratio
	(\$millions)	(\$millions)	%	(\$millions)	(\$millions)	%
Life & Annuity	59,031	269	0.46%	140,901	10	0.007%
Property & Casualty	58,978	90	0.15%	478,643	240	0.050%
<b>Totals</b>	<b>\$118,009</b>	<b>\$360</b>	<b>0.30%</b>	<b>\$619,544</b>	<b>\$249</b>	<b>0.040%</b>

Since this analysis covered only those companies with investments in Vermont, it is extremely conservative. That is, the companies that earned the remaining \$629 million in Vermont premiums have no investments in Vermont. Therefore, if the ratio of assets to premiums earned is similar to the companies examined, those companies should hold a pool of approximately \$1.1 trillion in assets. Even if the Vermont share were at the current low levels discussed above, there would be another \$436 million invested in Vermont.

<sup>41</sup> Annual Report of the VT Insurance Commissioner, April 2000.

<sup>42</sup> 1997 Profitability Report for VT, National Association of Insurance Commissioners (NAIC), November 1998.

<sup>43</sup> All information about insurance company premiums earned and investments is from unpublished data from the NAIC and the companies individual Annual Reports submitted to the VT Insurance Commissioner.

<sup>44</sup> Mostly public housing bonds from Burlington, Brattleboro and Rutland.

## Federal payments and receipts <sup>45</sup>

Like residents elsewhere, Vermonters send a lot of money to Washington each year in federal taxes of one kind or another. Not surprisingly, the amount of money returned to the states in federal payments and goods and services varies widely by state. There are many legitimate reasons for the disparity including rates of poverty (money for public assistance), demographics (Social Security and Medicare), and the presence of civilian federal facilities (payroll) and military expenditures (procurement contracts and bases), among others. It's also true that the seniority or committee assignments of a state's congressional delegation can affect federal appropriations.

By comparing total federal expenditures per dollar of taxes paid, we find significant differences between states. Some portion of the disparity reflects large differences in per capita income. That is, because almost half of all federal revenues come from income taxes, states with comparatively high per capita income send more per capita to Washington than poorer states. In any case, the amount of federal expenditures per dollar of taxes paid ranges from a low of \$0.67 in Connecticut to a high of \$1.89 in New Mexico.

According to the non-profit Tax Foundation, Vermont received only \$0.88 for every dollar sent to Washington in FY 1987 -- a loss of about \$200 million. By 1997, Vermont had achieved equilibrium and received a dollar back for every dollar sent. Clearly we're doing better now than ten years ago but, for the reasons noted below, it's unlikely that we're really at equilibrium.

The Tax Foundation reported that Vermont's total per capita federal tax burden in FY 97 was \$5,099, which was \$721 less than the national average. Similarly, per capita federal expenditures were below the national average in all major categories except grants to local and state governments. They estimated the total federal expenditure per capita as \$4,582.

Table 8

<b>Per Capita Federal Expenditures in Vermont, FY 1997*</b>						
	Total expenditure per capita	Grants to local & state gov't's	Federal payroll	Direct payments to individuals	Federal procurement	Other
US avg.	\$5,221	\$840	\$613	\$2,905	\$648	\$215
VT	\$4,582	\$1,008	\$447	\$2,643	\$253	\$217

\* Figures don't total due to rounding.

Using data from the Treasury Department and the Census Bureau, the Foundation reported that Vermont residents and businesses paid \$3 billion in all types of federal taxes in FY 97, while federal expenditures totaled only \$2.7 billion, which represents a gap of \$300 million. However, the Census data on federal expenditures does not include interest on the national debt. For the purposes of their model, the Foundation assumed that interest payments on the debt were distributed proportionally based on population, and that such interest payments filled the gap. This is not a reasonable assumption.

As with most types of investments, institutional investors such as insurance companies, pension funds and banks hold the majority of assets. And since virtually none of the big players are based in Vermont, it is highly unlikely that anything close to a proportional share of the interest income comes back to Vermont.

<sup>45</sup> Unless otherwise noted, all data in this section is from the Tax Foundation's "Special Report on the 1998 Federal Tax Burden by State," July 1998.

For example, there's no doubt that Vermont's large investors own a substantial amount of Treasury (and "Agency") bonds. Indeed, the state Banking Commissioner reported that all of our state chartered and national banks domiciled in Vermont held \$702 million in such notes at the end of 1998.<sup>46</sup> However, at a reasonable rate of return (5.5%), those assets would only generate about \$39 million in annual interest income. Moreover, we know that the three large retirement funds administered by the state owned about \$340 million in such notes in 1998, for an annual return of about \$19 million.<sup>47</sup> Thus, even if we add individual ownership of federal bonds, total interest income cannot possibly be \$300 million (the reported gap).

Therefore, even if we assume that one third of the proportionally allocated interest income from the national debt accrues to Vermont, **we estimate a net loss of about \$200 million annually in federal taxes paid and not returned in goods, services or debt payments.**

Note: The figures above include substantial investments by banks and state retirement funds in non-Treasury notes such as mortgage backed bonds from Fannie Mae. Since these debt instruments are not part of the national debt *per se*, our estimate of income related to the national debt is extremely conservative.

## SUMMARY

The data shows that the Vermont economy is heavily dependent on imported goods and services. As a result, **our largest export is cash.** This cannot be the path to sustainability, which, by definition, implies a rough balance between inputs and outputs. Therefore, it would seem prudent to further investigate import replacement.

As shown in Table 9, we estimate that **Vermont residents and businesses send almost \$16 billion annually out of state for goods and services. Remarkably, this means that we are annually exporting the equivalent of \$26,538 in cash per person.**

We are exporting opportunity – jobs and taxes, and we have little or no control over the means of production (i.e., wages, benefits, working conditions, environmental impacts, etc.) or how our capital is used once it leaves the state.

Vermont is powerless to shape the global economy, and that's exactly the point. What we can do is think clearly about how it affects us, what choices we have, and what opportunities exist for independent action. Import replacement is not – and can never be – a panacea but it may be a useful tool for increasing our self-reliance and achieving a greater measure of control over our future. We hope this report is a first step; a point of departure for subsequent discussion and analysis about these issues.

Table 9

Category <sup>48</sup>	Estimated Annual Cash Outflow
Commodities	
Food & kindred products	\$1,808,000,000
Energy (trans. fuels, elec., etc.)	1,084,000,000
Textiles, apparel & leather	625,000,000
Paper & allied products	611,000,000
Printing & publishing	598,000,000
Machinery & equipment	522,000,000
Lumber & wood	362,000,000
All other domestic commodities	6,423,000,000
Finance	
Mortgage interest	384,000,000
Consumer credit interest	241,000,000
Canadian commodities	2,800,000,000
Federal taxes (net)	200,000,000
<b>Total</b>	<b>\$15,658,000,000</b>

<sup>46</sup> VT Bank Commissioner, Annual Report, Year Ended December 31, 1998, p. 54.

<sup>47</sup> Op cit, June 30, 1998 State Street Bank Composite Account Position Appraisals for Retirement Funds.

<sup>48</sup> Figures for insurance are not included because we could not reliably estimate an annual outflow.