



# Job Loss: Causes and Policy Implications

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## Summary

Total nonfarm private employment has fallen since the beginning of 2008. Job loss is one of the most important macroeconomic problems facing policymakers, both in terms of its economic and social cost. But what is often missing from the policy debate is a distinction between net job loss and gross job loss. Gross job loss is the total number of jobs eliminated by all contracting firms in a given period, whereas net job loss is the result of greater gross job loss than gross job gains in a given period. Economists view net job loss as a detrimental phenomenon, and most recommend that fiscal and monetary policy be used to mitigate it. However, they view gross job loss, as long as it is offset by gross job gains, as a healthy and normal part of a functioning market economy, although it may have social costs and will not affect all regions or industries equally.

Data reveal that gross job loss and job gains are each, on average, 20 times higher than net job loss (or gains) in any given quarter. This is true in both expansions and recessions. Clearly, gross job loss is not incompatible with a healthy labor market: during the 1990s expansion in which the unemployment rate was lower than it had been in three decades, gross job losses steadily increased as the expansion progressed. Even during the 2001 recession and subsequent “jobless recovery,” gross job gains continued to average about 8 million per quarter; but these gross job gains were more than offset by gross job losses. In the subsequent expansion, gross job gains stayed relatively constant, but gross job losses fell. Small businesses have both higher gross job gains and losses than large firms, and have tended to contribute modestly more net job creation.

Many causes of job loss have been offered, including imports, trade deficits, offshore outsourcing, direct investment abroad, and restructuring. But economic theory suggests that all of these cause gross job loss, not net job loss. Historical experience is supportive: neither imports, the trade deficit, nor the implementation of trade liberalization agreements are correlated with net job loss. Theory suggests, and empirical evidence has confirmed, that only recessions cause net job loss.

Policies that impede gross job loss may seem to be a desirable way to limit net job loss at first blush. However, such policies could make firms reluctant to hire new workers, because a firm would not be able to subsequently reduce its workforce easily if the need for the new workers proved to be only temporary. As a result, gross job gains could decline; if gross job gains declined by more than gross job loss declined, net job creation would decline. International comparison confirms this view: Germany, France, Italy, and Spain all had high barriers to job loss and unemployment rates that were typically twice as high in the 1990s as low barrier countries like the United States. Although attempts to impede gross job loss may reduce economic efficiency, policy can (and does) assist some of those affected by gross job loss through unemployment insurance and other parts of the social safety net. Whether the existing social safety net is adequate as gross job loss increases is the subject of policy debate. This report will be updated as events warrant.

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Total private nonfarm employment fell from a peak of 111.6 million in February 2001 to a trough of 108.4 million in July 2003.<sup>1</sup> It then expanded through 2007, reducing the unemployment rate to a relatively low level, although not as low as was reached at the end of the previous expansion. Since the beginning of 2008, employment has fallen again and the unemployment rate has risen.

Job loss—declines in employment—is one of the most important macroeconomic problems facing policymakers, both in terms of its economic cost and the social toll it takes on our society. But what is often missing from the policy debate is a distinction between net job loss and gross job loss. Gross job loss is the total number of jobs eliminated by all contracting firms in a given period, whereas net job loss is the result of greater gross job loss than gross job gains in a given period. In expansions, the labor market is characterized by net job creation amidst gross job loss. This is required to maintain steady employment rates with a growing population. It is only during recessions that the overall labor market experiences persistent net job loss. Economists view net job loss as a detrimental phenomenon and most recommend that policy be used to mitigate it. However, they view gross job loss, as long as it is offset by gross job gains, as a healthy and normal part of a functioning market economy, although it may have social costs.

## Examining the Data

A quarterly data series from the U.S. Bureau of Labor Statistics (BLS), shown in **Figure 1**, provides data that help to put the distinction between gross and net job loss into perspective.<sup>2</sup> These data are measured from the firm's perspective—changes in the size of the firm's workforce—not the employee's perspective. For this reason, the data, in a sense, undercount the amount of change in the workforce because they do not account for movements of individual workers to and from any given firm if the firm remains the same size (e.g., a worker quits and is quickly replaced by a new hire).<sup>3</sup> The gross job loss figures, from the employee's perspective, could be involuntary (layoff, firing) or voluntary (quitting, retirement).<sup>4</sup>

In the third quarter of 2007, gross job loss and gains equaled 7.5 million and 7.2 million per quarter, respectively, each about 5% of total employment. As can be seen in **Figure 1**, gross job loss and job gains are each, on average, around 20 times higher than net job loss (or gains) in any given quarter. This is true in both expansions and recessions. The rate of job gains increased steadily from the beginning of the series in 1992 until the end of 1999; at the same time, job

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<sup>1</sup> Total employment is measured in two different BLS surveys, the household survey and the establishment survey. Data on total employment cited in this report come from the establishment survey, which queries employers about the number of jobs on their payrolls, unless otherwise noted.

<sup>2</sup> For more information, see Timothy Pivetz, Michael Searson, and James Spletzer, "Measuring Job and Establishment Flows with BLS Longitudinal Microdata," *Monthly Labor Review*, April 2001, p. 13.

<sup>3</sup> Job flows from the employees' perspective were estimated in Bruce Fallick and Charles Fleischman, "Employer-to-Employer Flows in the U.S. Labor Market," Federal Reserve Board of Governors, *Finance and Economics Discussion Series 2004-34*, May 2004. They estimate that an average of 2.6% of employees change jobs each month.

<sup>4</sup> Data on layoffs/discharges and quits can be found in a separate, noncomparable data series from BLS which was started in December 2000. In the recessionary year of 2001, layoffs/discharges averaged 20 million per year and quits averaged 31 million per year. In 2006, layoffs/discharges averaged 19 million per year and quits averaged 32 million per year. These data are collected in the Job Opening and Labor Turnover Survey.

losses increased steadily from 1992 to 2001.<sup>5</sup> Some, but not all, of the long run increase in gross job gains and losses can be attributed to a growing labor force.<sup>6</sup> The rest of the increase indicates that the U.S. labor force is becoming more mobile over time, but the data do not indicate whether this is the worker's or the firm's decision, or both. Most of the gross job flows occur at existing firms, and are not due to new firms opening or old firms closing.

Clearly, gross job loss is not incompatible with a healthy labor market: during an expansion in which the unemployment rate was lower than it had been in three decades, gross job losses steadily increased as the expansion progressed. And even during the 2001 recession and subsequent "jobless recovery,"<sup>7</sup> gross job gains continued to average about 8 million per quarter; but gross job gains in this period were more than offset by gross job losses.<sup>8</sup> In the current expansion, job gains and losses have been modestly lower than in the second half of the 1990s. Although gross job gains stayed relatively constant, net employment began to rise again because gross job losses fell. There is not yet data available on whether net job loss in 2008 has been driven primarily by gross job gains or losses.

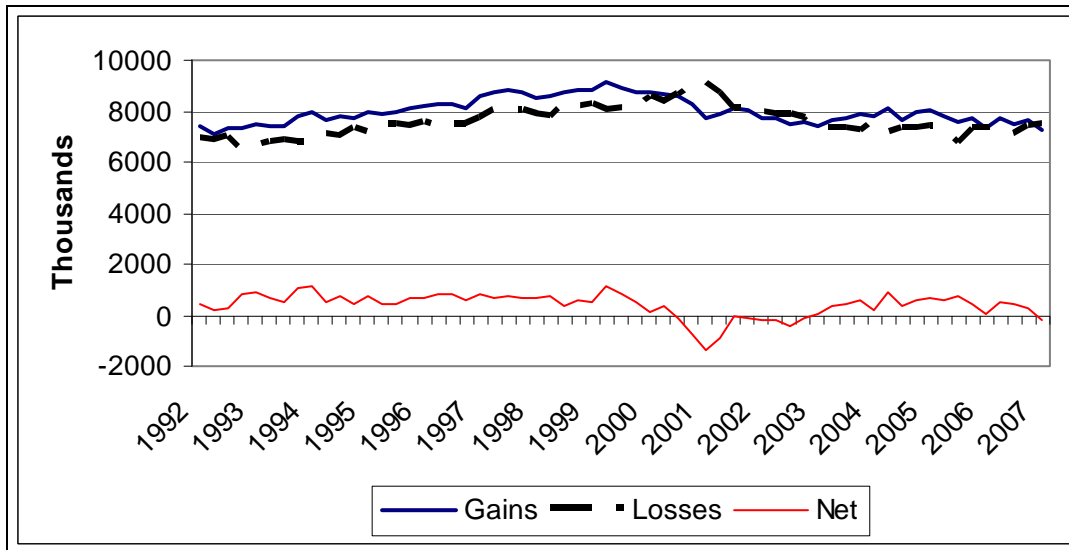
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<sup>5</sup> Although the government does not provide official data on gross job loss and gains before 1992, private research suggests that gross job loss and gains on a large scale are not new. Using government data, Davis, Haltiwanger, and Schuh estimated that gross job gains averaged 5.2% and gross job loss averaged 5.5% of total employment per quarter in the manufacturing sector from 1972 to 1988. Steven Davis, John Haltiwanger, and Scott Schuh, *Job Creation and Destruction* (Cambridge, MA: MIT Press, 1996).

<sup>6</sup> Fujita finds that gross job gains and losses due to workers entering and exiting the labor force are about twice as large as those due to workers entering and exiting unemployment. (Workers are classified as unemployed if they are actively seeking employment; otherwise, they are classified as out of the labor force.) Shigeru Fujita, "What Do Worker Flows Tell Us About Cyclical Fluctuations in Employment," Federal Reserve Bank of Philadelphia, *Business Review*, 2007:2, p. 1.

<sup>7</sup> For more information, see RL32047, *The "Jobless Recovery" From the 2001 Recession: A Comparison to Earlier Recoveries and Possible Explanations*, by Marc Labonte and Linda Levine.

<sup>8</sup> Researchers disagree about whether changes in net employment are driven by changes in gross job gains or gross job losses. Fujita (op. cit.) finds that gross job losses influence cyclical employment patterns more than gross job gains. Shimer and Hall find that gross job gains dominate changes in net employment. See Robert Hall, "Job Loss, Job Finding, and Unemployment in the U.S. Economy Over the Past Fifty Years," National Bureau of Economic Research, working paper 11678, October 2005; Robert Shimer, "Reassessing the Ins and Outs of Unemployment," working paper, August 2007.

**Figure 1. Gross Job Gains, Gross Job Loss, and Net Job Gains/Loss, 1992-2007**

Source: BLS.

It is often claimed that small businesses are the engine of job creation in the U.S. economy. To an extent, this is a misconception based on the confusion between net and gross job flows. Firms with 99 employees or fewer, which account for 38.1% of total private employment, accounted for 61.1% of gross job gains between 1992:3 and 2005:1. But while these firms had a disproportionate share of gross job gains, they also had a disproportionate share of gross job loss, 62.1% of the total. On net, they accounted for 46.3% of net job gains over that time period—modestly more than their share of total employment, but significantly less than gross flows would indicate. (Recent employment trends followed a similar pattern.) Interestingly, in the 2001 recession and jobless recovery, very large firms accounted for a disproportionate share of net job loss.<sup>9</sup>

Overall, these data provide a picture, during expansions, of a highly dynamic U.S. labor market in which labor rapidly shifts from firm to firm to its most efficient use. This vitality is the essence of economic growth and rising living standards for society as a whole in a market economy.<sup>10</sup> It is caused both by output shifting from some firms to more efficient ones within an industry and by shifts in spending from one industry to another, due to factors such as changing consumer tastes, technology, or comparative advantage. Of course, there will always be winners and losers in a market economy. Although significant gross job loss is consistent with net job creation (because it is offset by gross job gains) for the nation as a whole, gross job loss can translate into net job loss

<sup>9</sup> All data from Bureau of Labor Statistics, “New Quarterly Data from BLS on Business Employment Dynamics by Size of Firm,” news release USDL 05-2277, December 8, 2005.

<sup>10</sup> To judge the benefits of gross job loss from the perspective of a nation’s economic development, consider the counterexample: if the U.S. had experienced no gross job loss in the 20<sup>th</sup> century. At the beginning of the 20<sup>th</sup> century, much of the U.S. population worked in the farming sector. If gross job loss in the farming sector had not occurred, those workers would not have been available to work in the growing manufacturing and service sector. Today, farms account for about 1.5% of the total employment and 1% of the nation’s output. If gross job loss had not occurred in the last century, much of today’s labor force would not be available to produce the other 99% of U.S. output.

at the local level even when national employment is rising because the losses and gains may not occur in the same geographic area.

## Displaced Workers

Furthermore, while steady net employment gains are unambiguously good for society as a whole, the data do not necessarily indicate that the same individuals who lose jobs also gain jobs. The data also do not indicate whether the job loss is voluntary or involuntary, nor how many of the individuals who involuntarily changed jobs were forced to take new jobs that were less desirable or paid less. A separate (and noncomparable) data series on worker displacement from BLS can help to answer these questions.<sup>11</sup> BLS classifies workers as displaced if they lost their job because their plant closed down or moved, their positions or shifts were abolished, or there was insufficient work. From 2003 to 2005, 3.8 million workers with tenure of three years or more were displaced (another 4.3 million short-tenured workers were displaced during that period). Although the two data series cannot be compared directly, gross job loss equaled 90 million over that three-year period. Displacement is significantly higher during recessions; for example, from 2001 to 2003, 5.3 million long-tenured workers were displaced.

Of the displaced workers, about 70% were reemployed, 13% were unemployed, and 17% had left the labor force at the beginning of 2004. Of those reemployed full-time, about 51% were now earning more than they had at the displaced job, and 29% were now earning significantly lower wages (at least 20% lower). Workers 55 years of age and older had lower reemployment rates than younger workers.<sup>12</sup> Displaced workers fared better during expansions. For example, in 2001-2003, 20% of displaced workers were unemployed, and 33% of those re-employed had significantly lower wages.

## Mass Layoffs

Some gross job loss takes the form of mass layoffs, during both expansions and recessions. In another (non-comparable) survey from BLS, 0.9 million workers lost their jobs from extended mass layoffs in the four quarters ending 2008:1. This figure undercounts workers affected by mass layoffs because it does not include mass layoffs of less than 50 workers or layoffs that lasted less than 30 days. Mass layoffs tend to be cyclical: workers separated by mass layoffs rose from 1.2 million in 2000 to 1.5 million in 2002. Since unemployment totaled 8.4 million in 2002, mass layoffs are an important but not primary cause of unemployment. BLS has not kept a continuous data series long enough to determine if there has been a long-term upward trend in mass layoffs beyond the cyclical trend.<sup>13</sup>

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<sup>11</sup> BLS, "Worker Displacement, 2003-2005," press release USDL 06-1454, August 17, 2006. The newest available data in this series are from 2005. All of the following data refer to workers with three years of tenure or more. See also CRS Report RL32292, *Offshoring (a.k.a. Offshore Outsourcing) and Job Insecurity Among U.S. Workers*, by Linda Levine.

<sup>12</sup> Farber finds that older displaced workers were more likely to suffer a significant loss of earnings than younger workers. Henry Farber, *Job Loss in the United States, 1981-2001*, National Bureau of Economic Research, Working Paper 9707, May 2003.

<sup>13</sup> For more information, see CRS Report RL30799, *Unemployment Through Layoffs and Offshore Outsourcing*, by Linda Levine.

## What Causes Gross Job Loss and Net Job Loss?

Several economic phenomena have been identified in popular discussion as purportedly causing job loss. Although all of these phenomena cause gross job loss, most have a much smaller effect on net job loss than popularly perceived. The exception is the business cycle: in each instance, recessions have been the cause of persistent net job loss in the post-war period.

### Trade

When trade expands, greater imports cause gross job loss, as products that were previously produced in the United States are now produced by workers in other countries, rendering those U.S. workers redundant. However, economic theory states that expansions in trade have no effect on net employment. As foreign countries increasingly exchange their goods for U.S. exports, more workers are needed in U.S. export industries. In addition, because trade is based on comparative advantage, trade increases the purchasing power of U.S. incomes in the aggregate. Thus, trade allows the U.S. economy as a whole to produce and consume more domestic goods, requiring more workers to produce them.<sup>14</sup> It is possible that there could be some transitional loss in net employment if workers cannot easily be reallocated into other sectors of the economy, causing net employment to temporarily be greater than zero. For example, workers who have lost their jobs in the import-competing industries may not have the skills needed by export industries. But this transitional effect would disappear once markets had adjusted.<sup>15</sup>

U.S. history offers persuasive evidence that trade liberalization has no effect on net employment, as can be seen in **Figure 3**. During the post-war period, U.S. trade has become progressively liberalized, with eight rounds of world trade liberalization negotiated between 1947 and 1993 through the General Agreements on Tariffs and Trade (GATT, later became World Trade Organization), as well as the Canadian Free Trade Agreement in 1989 and North American Free Trade Agreement (NAFTA) in 1994. Imports have increased steadily as a percentage of GDP throughout the post-war period, from about 4% of GDP in the 1940s to about 14% of GDP in recent years. If trade caused net job loss, employment would have declined and unemployment risen throughout the post-war period. The opposite is the case: employment has steadily increased during the post-war period, and the unemployment rate has mirrored the business cycle, not trade patterns. Indeed, trade liberalization does not appear to have strong effects on even transitional unemployment. For example, NAFTA was implemented when aggregate employment was rising and unemployment was falling. GATT Rounds 1, 3, 4, 6, 7, and 8 were completed when unemployment was low, and unemployment, though high, fell subsequent to GATT Rounds 2 and 5. The most recent example the United States has with significantly increasing trade restrictions

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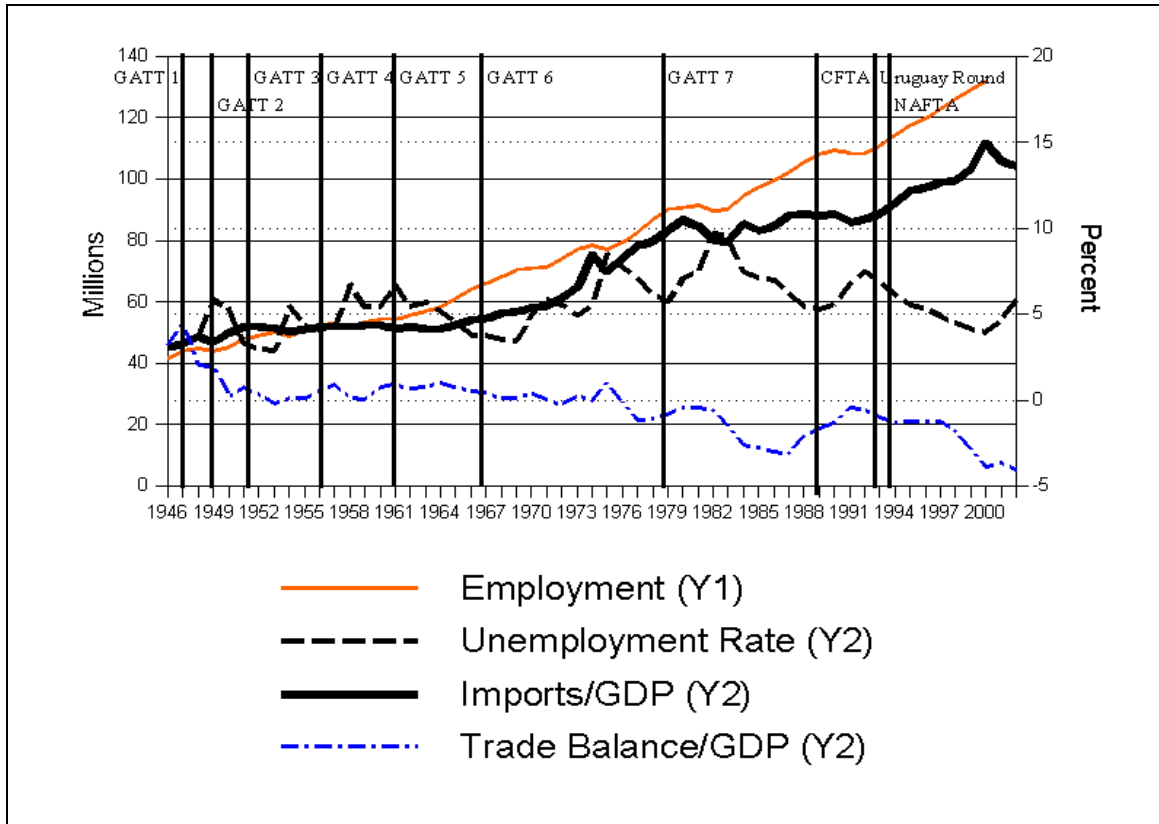
<sup>14</sup> For more information, see CRS Report RL32059, *Trade, Trade Barriers, and Trade Deficits: Implications for U.S. Economic Welfare*, by Craig K. Elwell.

<sup>15</sup> Even if U.S. workers could not compete with foreign workers, the floating exchange rate system would prevent imports from leading to net job loss. Since dollars must be sold in the foreign exchange market to purchase imports, if foreign firms became more “competitive” at producing goods than U.S. firms such that imports rose, the dollar exchange rate would depreciate through the purchase of imports until U.S. firms were “competitive” again.



was the Smoot-Hawley tariffs, which did not stem the loss of employment during the Great Depression.<sup>16</sup>

**Figure 2. Effects of Trade on Employment**



**Source:** Bureau of Economic Analysis, Bureau of Labor Statistics.

**Note:** Import and Trade Balance data expressed in real 2000 dollars. The first seven rounds of GATT negotiations are labeled GATT 1-7; the eighth round is labeled the Uruguay Round. The Canadian Free Trade Agreement is labeled CFTA.

Although regression analysis, which allows other factors to be held constant, is beyond the scope of this report, informal quantitative evidence on the relationships portrayed in **Figure 3** can be gleaned using correlation analysis. The results are presented in **Table 1**,<sup>17</sup> which shows that

<sup>16</sup> Using plant-level data, Davis et al. demonstrate that trade has little effect on *gross* job loss either. Although they found that industries with the highest degree of import penetration had the highest gross job loss rates, they had the second highest gross job gain rate, and firms with the second highest degree of import penetration had the lowest gross job loss rates. After controlling for wages (as a proxy for comparative advantage), the relationship between gross job loss and import penetration became statistically insignificant. As the authors point out, theory suggests that the effect of trade liberalization on gross job flows is ambiguous. Liberalization could increase gross job flows by exposing the U.S. economy to more shocks from abroad or decrease gross job flows by diversifying the economy so that the effects of domestic shocks are reduced. Steven Davis, John Haltiwanger, and Scott Schuh, *Job Creation and Destruction* (Cambridge, MA: MIT Press, 1996).

<sup>17</sup> Correlation is measured on a scale of 1 to -1, where correlation=1 if two variables are perfectly correlated (always continued...)

between 1946 and 2007, changes in employment are highly correlated with changes in imports. Thus, the historical experience is the opposite of the typically claimed relationship: when imports increased, employment typically also increased. Although this is not evidence that higher imports cause higher employment—the two variables are correlated because both usually increase—it is evidence that higher imports do not cause lower employment. The table also demonstrates that the implementation of trade liberalization agreements has virtually no relationship historically to changes in net employment in the same or following year (in case there is a lagged effect), as economic theory would suggest. In sum, the results suggest that trade either has no negative effect on employment, or the effect is swamped by other factors.

**Table 1. Historical Correlation Between Trade and Employment**

Correlation between employment growth and ...	Correlation Coefficient
... change in imports (as a % of GDP)	0.40
... major trade agreement in same or previous year	0.12
... change in trade balance (as a % of GDP)	-0.01
... GDP growth	0.52

**Source:** CRS calculations based on BLS, BEA data

**Note:** Correlation based on annual data 1946-2007; major trade agreements include GATT rounds 1 to 8, Canadian Free Trade Agreement and North American Free Trade Agreement.

Survey data from mass layoffs does not identify trade as a major source of gross job loss either. For example, only 2,900 of the 301,400 workers laid off in the first quarter of 2008 reported import competition to be the cause of the layoff.

A recent study found that trade had a limited effect on net job loss in the recent recession and jobless recovery.<sup>18</sup> It found that the industries with the greatest job loss during that period included both those affected (business services, manufacturing) and unaffected (leisure and hospitality, transportation, construction, and communications) by trade and outsourcing. It then measured the number of American workers that would be needed to produce U.S. imports compared to the number of workers that are needed to produce U.S. exports, and found that the difference amounted to only 2.4% of total employment in 2003. This estimate should not be interpreted as how much employment would rise in the absence of trade since workers affected by trade may be re-employed producing non-tradable goods.

Some policymakers are particularly concerned that trade is responsible for the continuing decline in manufacturing employment in recent years. Even after employment began increasing in the rest of the economy in 2003, manufacturing employment has continued to fall, from 17.6 million in 1998 to 13.9 million in 2007. Yet trade cannot be the primary cause of this decline because

(...continued)

move together), correlation=0 if two variables are not correlated (do not move together), and correlation=-1 if the two variables are perfectly negatively correlated (always move in opposite directions).

<sup>18</sup> Erica Groshen, et al, "U.S. Jobs Gained and Lost Through Trade: A Net Measure," Federal Reserve Bank of New York, *Current Issues in Economics and Finance*, vol. 11, no. 8, August 2005.

manufacturing output has grown by 22% in real terms over those years. By identity, employment can fall as output rises only if productivity is rising faster than output. So the decline in manufacturing employment must be primarily attributable to rapid technological change and efficiency gains, not trade.<sup>19</sup>

## Trade Deficits

Some who concede that trade has no effect on net employment when higher imports are matched by higher exports argue that trade nevertheless reduces net employment when higher imports are matched instead by a larger trade deficit. They reason that higher imports cause gross job loss, but are not offset by gross job gains in the export sector if they lead to a trade deficit. While this is true, trade deficits do lead to gross job gains in other ways. When the United States runs a trade deficit, it exchanges foreign imports for U.S. assets. This puts downward pressure on U.S. interest rates, stimulating spending on physical investment (plant and equipment). Lower interest rates also stimulate spending on housing and interest-sensitive goods, such as automobiles and appliances. As a result, the trade deficit causes gross job gains in the sectors that produce plant, equipment, housing, and interest-sensitive goods, all else equal. These gross job gains may not occur instantaneously—so there could be transitional net job loss—but when they do occur, they will offset the gross job loss caused by higher imports so that the trade deficit causes no net job loss.

As can be seen in **Figure 3**, the historical experience confirms this conclusion: the large increase in the trade deficit in the 1980s and 1990s took place at a time of rising employment and falling unemployment. While the trade deficit rose during the 2001 recession and jobless recovery, it continued to rise from 2003 to 2007 as unemployment fell. This suggests that some other factor, such as strong aggregate demand growth, tends to simultaneously push the trade deficit up and unemployment down. In 2008 (to date), unemployment rose despite a decline in the trade deficit. **Table 1** demonstrates that there was almost no correlation between changes in the trade balance and changes in employment.<sup>20</sup>

## Offshore Outsourcing

The term offshore outsourcing or offshoring is frequently used in several different ways.<sup>21</sup> It can refer to U.S. multinational firms shifting production from the United States to an overseas subsidiary, U.S. firms importing intermediate goods from foreign companies, importing services, or U.S. firms making overseas investments. Economists view the first three phenomena similarly to trade (the latter phenomenon will be discussed separately in the next section). When U.S. firms outsource production to foreign firms, gross job loss occurs because goods and services that were

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<sup>19</sup> For more information, see CRS Report RL32350, *Deindustrialization of the U.S. Economy: The Roles of Trade, Productivity, and Recession*, by Craig K. Elwell.

<sup>20</sup> For more information, see CRS Report RL30534, *America's Growing Trade Deficit: Its Cause and What It Means for the Economy*, by Marc Labonte and Gail E. Makinen.

<sup>21</sup> For more information, see RL32292, *Offshoring (a.k.a. Offshore Outsourcing) and Job Insecurity Among U.S. Workers*, by Linda Levine; and CRS Report RL32484, *Foreign Outsourcing: Economic Implications and Policy Responses*, by Craig K. Elwell.

being produced by U.S. workers are now being produced by workers in other nations. When outsourcing occurs, those foreign firms must be paid using U.S. dollars. The foreign firms, in turn, can use those dollars in three ways. First, they can buy U.S. exports, resulting in gross job gains in the export sector. Second, they can buy U.S. assets (increase the trade deficit), resulting in gross job gains in the interest-sensitive sectors that produce plant, equipment, housing, and interest-sensitive goods, as explained in the previous section. Third, they can sell their U.S. dollars for another currency, causing the dollar to depreciate; as a result, the output of U.S. exporting firms and U.S. import-competing firms would increase as U.S. goods become more price competitive internationally. Thus, in all three scenarios, gross job loss is offset by gross job gains so that there is no net job loss, although there may be for a transitional period.

Quality data on outsourcing is scarce because the term has only recently been coined, there is not yet any consensus as to how it should be defined, and the concept cannot easily be measured accurately. It is popularly used to mean net job loss, but conceptually the term applies only to gross job loss. A net measure of outsourcing's effects would be hard to calculate because it would be difficult for BLS to measure gross job gains caused by foreign firms outsourcing to the United States, and impossible to trace the rise in employment caused by the spending on U.S. goods of foreign firms that U.S. firms have engaged in outsourcing. Changes in imports of services suggests that outsourcing, by that definition, is a minor phenomenon relative to total gross job loss. The one official data source on outsourcing comes from the BLS mass layoffs series, and this only includes one type of outsourcing, U.S. firms relocating work abroad. In the first quarter of 2008, only 1,200 employees out of 301,400 were subject to extended mass layoff because of relocation abroad.<sup>22</sup>

## **Overseas Investment**

The argument is sometimes made that when U.S. firms decide to undertake direct investment abroad, it reduces U.S. employment. According to the argument, if the U.S. firm had not, say, built the new factory abroad that employs foreign workers, it would have built a factory in the United States that employed U.S. workers. As a result, net employment is lower than it would have been.

Economic theory states that capital investment determines the wages of employees, not the level of employment. That is because capital investment increases the productivity of existing workers, and in a competitive market wages are determined by productivity. If the level of employment was based on the amount of capital available per worker, then the United States would not have been able to achieve full employment in the past since capital per worker has increased steadily over time. Yet throughout its history, the United States has achieved full employment most of the time.

Even if U.S. investment abroad did lead to net job loss, the data do not suggest that this explanation is possible since the United States is a net recipient of foreign capital, and has been for the past few decades. In other words, any jobs hypothetically lost by U.S. investment abroad

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<sup>22</sup> Because the survey question is new, it is difficult to judge its accuracy; for example, the response could be biased in favor of over-reporting if outsourcing is being used as a scapegoat for other reasons for layoffs.

have been more than offset by the jobs created by greater foreign investment in the United States. Although U.S. direct investment abroad exceeds foreign direct investment in the United States, overall foreign investment in the U.S. (direct, portfolio, and official) is greater than U.S. investment abroad.<sup>23</sup> Ultimately, foreign investment has the same effect on the economy regardless of the form it takes.

Net foreign investment in the United States is, by identity, equal to the U.S. current account deficit (trade deficit plus net transfers and net investment income). That is because capital cannot flow into the country on net (net borrowing cannot occur) unless the United States imports more than it exports. Any time U.S. investment abroad increases, all else equal, the trade deficit must fall. Thus, explanations of net job loss attributed to the trade deficit and explanations of net job loss attributed to U.S. investment abroad are mutually exclusive—*both stories cannot be correct*. This can be proven by considering the foreign exchange market. If U.S. direct investment in the euro area increased, dollars must be exchanged for euros. This causes the dollar to depreciate against the euro, causing U.S. exports to the euro area to rise and euro imports to the United States to fall. As a result, the trade deficit narrows.

## **Economic Restructuring**

Declines in aggregate employment are often blamed on restructuring in the economy. For example, the decline in employment from 2001 to 2003 is often attributed to the collapse of the “dot-com” industry. According to this argument, resources had been overinvested in the dot-com industry in the late 1990s. When this situation was rectified in the late 1990s, workers in that industry were no longer needed, causing overall employment to decline.

The reallocation of resources in the economy is probably the primary reason that gross job loss occurs. Changes in tastes, technology, and comparative advantage continually cause labor and capital to be shifted from one industry to another in a market economy. As this report has demonstrated, sizeable reallocations of labor across industries has been a constant in the United States for as long as data has been collected. But in most years, the economy has not had any problem offsetting gross job loss with a greater number of gross job gains. Thus, economic restructuring typically is not accompanied by net job loss overall, even though it often results in net job loss at the local level. It is possible that if restructuring were unusually large at any given time, perhaps like the dot-com collapse, the economy could be unable to absorb that many workers in new jobs fast enough to prevent net job loss. Unfortunately, there is no way to systematically identify which restructuring events are large enough and separate their effects on net job loss from other economic phenomena occurring simultaneously. For example, the net job loss associated with the 2001 recession could be caused by nothing more than an unrelated decline in aggregate spending, as is typical of other historical recessions. In the absence of this decline in aggregate spending, it is possible that the dot-com collapse would not have had any effect on aggregate employment.

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<sup>23</sup> Portfolio investment refers to the purchase of financial securities. Official investment refers to the purchase of assets by government treasuries or central banks.

Even if restructuring does not cause net job loss, there is debate as to whether recessions have the beneficial effect of hastening restructuring. Some argue that when times are tough, firms are forced to innovate to survive and during booms weak firms are propped up by prosperity.<sup>24</sup> If correct, this points to an economic benefit from recessions, in contrast to the mainstream economic view that recessions are economically wasteful because they cause productive labor and capital to lay idle. But it is difficult to evaluate this argument quantitatively.

## Economic Downturns

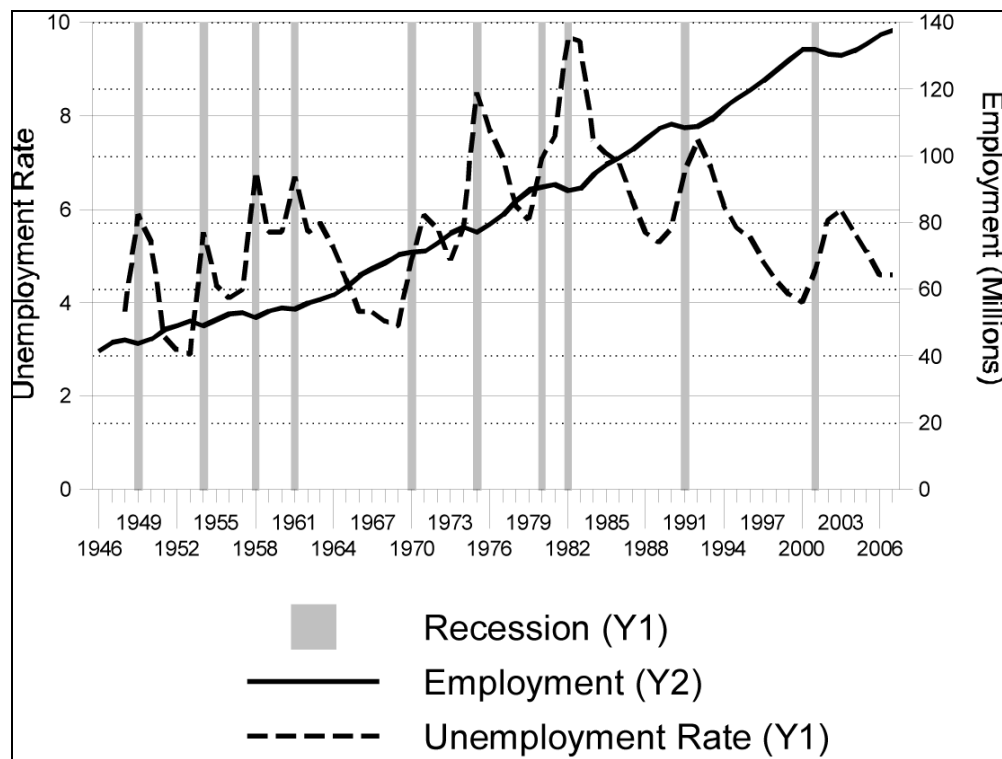
Unlike the other factors described above, economic downturns are the only factor that causes both gross and net job loss according to economic theory. This theory is borne out by historical experience, as illustrated in **Table 2**, which show the high correlation between contemporaneous GDP growth and employment growth. (In fact, falling employment is part of the official definition of a recession.) Economic downturns are characterized by insufficient aggregate spending to support existing labor and capital resources. As a result, capital goes idle and workers are laid off until spending revives.<sup>25</sup> The government can boost aggregate spending back to “full employment” through expansionary fiscal policy (a larger government budget deficit) or monetary policy (lower short term interest rates by the Federal Reserve). Net job loss caused by economic downturns is temporary because insufficient aggregate spending is only a temporary phenomenon—in the long run, markets adjust to bring spending back into line with potential production. Since 1947, net job loss lasting more than one quarter has only occurred during or immediately following a recession. There have only been two recoveries in which net job loss has continued for more than one quarter after the recession had ended, the recoveries beginning in 1991 and 2001.<sup>26</sup>

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<sup>24</sup> By contrast, Caballero and Hamour argue that recessions actually retard restructuring because historically they have been followed by periods of lower rates of gross job loss, rather than higher rates of gross job gains. Richard Caballero and Mohamed Hamour, *The Costs of Recessions Revisited: A Reverse-Liquidationist View*, National Bureau of Economic Research, Working Paper 7355, September 1999.

<sup>25</sup> For more information, see CRS Report RL31237, *The 2001 Economic Recession: How Long, How Deep, and How Different From the Past?*, by Marc Labonte and Gail E. Makinen.

<sup>26</sup> For more information, see CRS Report RL32047, *The "Jobless Recovery" From the 2001 Recession: A Comparison to Earlier Recoveries and Possible Explanations*, by Marc Labonte and Linda Levine. After slightly rising for a few months in 2002, employment began falling again in 2003. It is not clear if the employment decline in 2003 should be counted as part of the post-recession decline or a separate phenomenon.

**Figure 3. Effects of Recessions on the Labor Market, 1946-2007**

**Source:** National Bureau of Economic Research; Bureau of Labor Statistics.

## Labor Market Conditions

In the long run, the effects of business cycle changes on net job creation cancel out—net job loss in downturns is offset by net job gains in booms. Thus, in the long run net job creation is determined by the characteristics of the labor market. Over time, a growing population leads to rising employment, or net job creation. In 1950, the U.S. population equaled 151.3 million and nonfarm employment equaled 45.3 million; in 2000, the U.S. population equaled 281.4 million and employment equaled 131.8 million. (The fraction of the population employed in 2000 was so much higher than in 1950 primarily because of the entrance of women into the labor force.)

What proportion of the population is employed—both the labor force participation rate and what economists refer to as the “natural rate” of unemployment or NAIRU (non-accelerating inflation rate of unemployment)—is determined in the long run by demography (e.g., younger workers have higher unemployment rates), social norms (e.g., the large scale entrance of wives into the working force), and policy (e.g., welfare reform).<sup>27</sup> In the long run, the rate of net job creation will equal the rate needed to keep the economy at the natural rate of unemployment. Sometimes the rate of employment growth will change because the natural rate is changing. For example, from the 1970s until the early 1990s, the average unemployment rate was higher than in the

<sup>27</sup> For more information, see CRS Report RL32274, *A Changing Natural Rate of Unemployment: Policy Issues*, by Marc Labonte.

1950s or 1960s for reasons that cannot be explained by the business cycle alone. Changes in demography, social norms, and policy, as well as the coinciding productivity slowdown, all played a role in the increase, but there is little consensus among economists on the relative importance of each factor. Because changes in the natural rate are gradual, an increase in the natural rate is more likely to be associated with a slower rate of net job creation than net job loss, all else equal. At other times, the employment growth rate will change in order for the actual unemployment rate to return to the NAIRU. Since unemployment rates in the most recent expansion never fell to 1990s levels, part of the labor market sluggishness from 2001 to 2003 may have been caused by a return to the natural rate after unemployment was held below it in the late 1990s.

## Policy Implications

Most economists agree that net job loss is an undesirable phenomenon, and recommend that public policy be used to offset it. Policymakers can use expansionary monetary policy (lower short term interest rates by the Federal Reserve) or expansionary fiscal policy (an increase in the budget deficit) to stimulate aggregate spending and offset net job loss.<sup>28</sup> If used properly and prudently, these policy tools can theoretically minimize net job loss. Unfortunately because of policy lags in recognition, implementation, and effectiveness, fiscal and monetary policy will probably never be conducted effectively enough to eliminate recessionary periods of net job loss. Direct job creation programs have been used by the government in past recessions to stem net job loss, but from an economic perspective, these policies have a similar effect to any expansionary fiscal policy, and they also are prone to implementation lags.<sup>29</sup>

Policies that impede gross job loss (e.g., regulatory restrictions on dismissal or layoffs) may seem to be a desirable way to limit net job loss at first blush. However, such policies could have the unintended effect of making firms reluctant to take on new workers, because a firm would not be able to subsequently reduce its workforce easily if the need for the new workers proved to be only temporary. As a result, gross job gains could decline; if gross job gains declined by more than gross job loss declined, net job creation would decline. This suggests that attempts to limit gross job loss could be counterproductive. Because gross job flows are, on the whole, caused by the reallocation of resources to their most efficient use, policies to impede gross job loss would also likely have adverse consequences for growth and efficiency. Helping job losers make the transition into a new employment situation is a less costly alternative, and one that is compatible with an efficient, dynamic labor market.

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<sup>28</sup> For more information, see CRS Report RL30354, *Monetary Policy and the Federal Reserve: Current Policy and Conditions*, by Marc Labonte; and CRS Report RL31235, *The Economics of the Federal Budget Deficit*, by Brian W. Cashell.

<sup>29</sup> For a history of job creation programs, see CRS Report RL31138, *Countercyclical Job Creation Programs of the Post-World War II Era*, by Linda Levine.



International comparison confirms this view.<sup>30</sup> The Organization of Economic Cooperation and Development (OECD) ranked countries on a scale of zero to six based on regulatory restrictions on dismissal from regular employment, temporary employment, and mass layoffs. As seen in **Table 2**, countries with little protection such as Switzerland, Japan, Australia, New Zealand, and the United States had low unemployment rates, between 3.6% and 5.3% in 2007.<sup>31</sup> Countries with greater protection had a mixed experience: some small countries like Austria, the Netherlands, and Norway kept unemployment low, but the four large countries with the most protection (Germany, France, Italy, and Spain) had relatively high unemployment rates.<sup>32</sup> The unemployment rate in the United States was lower at the trough of the recession than the lowest level many of these countries attained at the peak of their business cycles.

**Table 2. International Comparison of Employment Protection Policies in 2003**

	<b>Regular Employment</b>	<b>Temporary Employment</b>	<b>Mass Layoffs</b>	<b>Overall</b>	<b>Unemployment Rate 2007</b>
<b>Low Unemployment Countries</b>					
Norway	2.3	2.9	2.9	2.6	2.6%
Netherlands	3.1	1.2	3.0	2.3	3.2%
New Zealand	1.7	1.3	0.4	1.3	3.6%
Switzerland	1.2	1.1	3.9	1.6	3.6%
Denmark	1.5	1.4	3.9	1.8	3.8%
Japan	2.4	1.3	1.5	1.8	3.9%
Australia	1.5	0.9	2.9	1.5	4.4%
Austria	2.4	1.5	3.3	2.2	4.4%
United States	0.2	0.3	2.9	0.7	4.6%
United Kingdom	1.1	0.4	2.9	1.1	5.3%
<b>Moderate Unemployment Countries</b>					
Canada	1.3	0.3	2.9	1.1	6.0%
Italy	1.8	2.1	4.9	2.4	6.1%
Sweden	2.9	1.6	4.5	2.6	6.1%

<sup>30</sup> See also Bart Hobijn and Aysegul Sahin, "Job Finding and Separation Rates in the OECD," Federal Reserve Bank of New York, Staff Report No. 298, August 2007. The study found that Anglo-Saxon countries have similar job-separation rates to other OECD countries, but have much higher job-finding rates. The United States had the highest job-finding rate in the sample.

<sup>31</sup> Unemployment rates in any given year may be influenced by the business cycle. All countries in the sample had growing economies from 2004 to 2007, however.

<sup>32</sup> The strongest correlation seems to be between unemployment and restrictions on temporary employment policies (with the exception of Norway, whose unemployment rate is currently being kept low by the energy boom). Many observers have credited the Netherlands' success with low unemployment to its few restrictions on temporary employment.

	Regular Employment	Temporary Employment	Mass Layoffs	Overall	Unemployment Rate 2007
<b>High Unemployment Countries</b>					
Belgium	1.7	2.6	4.1	2.5	7.5%
Portugal	4.3	2.8	3.6	3.5	8.0%
France	2.5	3.6	2.1	2.9	8.3%
Spain	2.6	3.5	3.1	3.1	8.3%
Germany	2.7	1.8	3.8	2.5	8.4%

**Source:** OECD, *Employment Outlook*, 2004, Table 2.A2.4; OECD, *Economic Outlook*, 2008, Annex Table 14.

**Note:** Measured on a scale of 0 to 6, with 0 equal to the least employment protection.

If policies to forestall gross job loss are deemed to have too high an efficiency cost, what role can policy play? Two perspectives can be used to answer that question. One perspective would view the labor reallocation issue as a purely social problem. That is, allowing gross job loss to occur with no impediment from the government may be an economically desirable outcome as long as it is cancelled out by job creation, but the situation creates social problems that government may wish to tackle on non-economic grounds. These social problems include poverty, psychological problems, crime, alcoholism and substance abuse, the undermining of families and communities, and so on that reportedly increase when gross job loss occurs. Economic analysis provides little guidance on the best role for the government to play in tackling these non-economic problems.

Alternatively, an economic perspective would ask if any market failure is associated with gross job loss, and what role the government can play in potentially rectifying that market failure. Although it can be argued that gross job loss poses no market failure in and of itself, a persuasive argument can be made that there are market failures that prevent individuals from efficiently insuring themselves in the private market against the risks posed by gross job loss.<sup>33</sup> To a considerable extent, the possibility of gross job loss is a risky event beyond a worker's control, such as adverse changes in the business cycle, tastes, technology, or trade patterns. One would expect a worker to be willing to use some of his income to privately purchase insurance against those risks, just as individuals insure against the risk of death, fire, health problems, and so on. Yet the limited use of private unemployment insurance to supplement government-provided insurance suggests that market failures may significantly hamper the functioning of the private market.

All insurance markets are hampered by two important market failures—adverse selection and moral hazard. A persuasive argument can be made that unemployment insurance may be more adversely affected by both types of market failure than most other types of insurance. Adverse selection is caused by asymmetric information: buyers of insurance know more about their riskiness than sellers. As a result, only buyers with higher risks will tend to purchase insurance because they are more certain that the benefit of the insurance will exceed the cost. This pushes up the price of insurance and hampers insurers' efforts to pool risk. Adverse selection hampers

<sup>33</sup> For a more in-depth discussion of the following argument, see, for example, Robin Boadway and David Wildasin, *Public Sector Economics* (Boston: Little, Brown, and Co., 1984), pp.477-487.

efficiency in the market for unemployment insurance because some causes of unemployment are beyond the worker's control, and some are not. Since insurance firms cannot identify which workers have a greater chance of losing their jobs because of the factors within their control, they cannot efficiently pool the risks that workers do not control. Moral hazard occurs when an individual's behavior becomes more risky once he is insured. Moral hazard also drives the cost of insurance above its efficient level. Moral hazard can occur in the unemployment insurance market in two ways: it can cause insured workers to engage in behavior that is more likely to lead to job loss, and once job loss has occurred it can make an insured worker less willing to take a new job (because the worker can subsist on the income provided by the insurance).

Government provision of unemployment insurance solves the adverse selection problem by making participation universal. As long as all workers are participating, insurance can be priced at its efficient level, even though benefit will not match cost for any given worker. Government mitigates, but does not eliminate, the moral hazard problem by making the insurance temporary (normally 26 weeks in most states) and imposing eligibility restrictions (e.g., not providing insurance when the worker has quit or been fired). The government has also tended to extend the duration of insurance during economic downturns, since events beyond the worker's control are a greater source of job loss then. The private sector could use the same methods as the government to mitigate moral hazard, but it could not prevent adverse selection.

If one accepts that government provision of unemployment insurance is more efficient than private provision, then the policy issue is whether or not insurance is adequate or excessive at current levels. Are workers adequately protected against the risk of gross job loss at existing benefit levels? Should benefit levels or duration be increased or coverage be expanded since gross job loss seems to be following an upward trend? Would more generous insurance reduce the social problems associated with gross job loss? The tradeoff here is between both benefit and cost to the individual (more generous insurance would require higher premiums) and cost to the economy because of the moral hazard problem: as the insurance becomes more generous, disincentives to maintain employment or seek new employment among the unemployed increase.

Government's role in insuring workers against the risks associated with gross job loss can also be viewed through a broader prism than the unemployment insurance program.<sup>34</sup> Disability insurance insures against the risk of job loss due to physical incapacity. Trade Adjustment Assistance (TAA), which offers extended unemployment benefits and job training, reduces the risk that workers adversely affected by trade will be unable to find re-employment. (Some policymakers have suggested that TAA be extended to workers in the service industry, given the growing concern with offshore outsourcing.) Government programs such as COBRA (named after Title X of the Consolidated Omnibus Budget Reconciliation Act of 1985) reduce the loss of health care associated with job loss. Some would argue that income redistribution, in general, is a form of income insurance, whether it takes the form of progressive taxation, the Earned Income Tax Credit, the food stamps program, the Supplemental Security Income program, and so on.

Kletzer and Litan have argued that the government should implement a "wage insurance" program so that workers who lose their jobs and are forced to take lower paid employment are

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<sup>34</sup> The theoretical underpinnings of this view are laid out in Edgar Browning and Jacqueline Browning, *Public Finance and the Price System* (New York: Macmillan Publishing, 1979), p. 188.

directly compensated by the government.<sup>35</sup> Along these lines, the Alternative Trade Adjustment Assistance Program for Older Workers was introduced in 2002. An eligible worker (over 50 years old, earning less than \$50,000, and meeting other criteria) can receive half the difference between the wages received from reemployment and the wages received at the displaced job for up to two years and payments up to \$10,000. This program applies only to workers affected by trade, although the economic rationale for such a program could apply to all workers. Bills in the 110<sup>th</sup> Congress, such as S. 1330 (Senator Schumer) and H.R. 2202 (Representative McDermott), would create broader wage insurance programs.

At the community level, fiscal transfers (differences between outlays received and taxes paid) that change with economic conditions and government programs such as the Empowerment Zone/Enterprise Communities Program provide what could be characterized as “insurance” for the community as a whole against the economic effects of significant job loss.

## Conclusion

Drawing a distinction between net job loss and gross job loss can help to inform the policy debate. Net job loss is a serious economic problem that fiscal and monetary policy can be used to mitigate. Although it has social costs, gross job loss is part of the normal functioning of a market economy, and has the beneficial role of reallocating resources to their most efficient use when tastes, technology, or comparative advantage changes. Even in expansions, gross job loss is sizeable, between 6.5 million and 8.5 million per quarter from 1992 to 2000, but it is more than offset by gross job gains.

Trade, trade deficits, offshore outsourcing, overseas investment, and economic restructuring all cause gross job loss.<sup>36</sup> But in normal economic conditions, none typically causes net job loss, according to theory and evidence. To see why, consider that they all have the same effect on employment as technological advances. For example, the advent of the automobile caused gross job loss in the horse buggy industry, but was more than offset by gross job gains in the rest of the economy.

As the buggy example suggests, policies that impede gross job loss can have high efficiency costs. The difference in the unemployment experience of countries with high barriers to job loss, such as the high unemployment countries of Western Europe, and countries with low barriers, such as the United States, offers some evidence that barriers to gross job loss can lead to lower gross job gains, making such barriers ultimately self-defeating. However, public policies to protect workers against the risks posed by gross job loss can be justified on both social and economic grounds. If crafted properly, they have been shown not to reduce gross job gains, and they can arguably raise efficiency by addressing market failures. For example, public provision of unemployment insurance helps overcome moral hazard and adverse selection problems in that

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<sup>35</sup> Lori Kletzer and Robert Litan, “A Prescription to Relieve Worker Anxiety,” *Institute for International Economics*, Policy Brief 01-2, February 2001.

<sup>36</sup> Bureau of Labor Statistics data indicate that trade and outsourcing cause relatively little gross job loss, at least in the form of extended mass layoffs.

market. The challenge for policymakers going forward is to find the right balance between mitigating risk and maintaining market dynamism in an increasingly fluid labor market.

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