

# Globalization and the American Income Gap: Assessing the Impact of Liberal Economics and Immigration on Inequality

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## Abstract

*While enjoying the most rapid economic growth of all large industrialized nations, inequalities in the distribution of income have grown faster in the United States than in most developed nations since the late 1960s. Previous empirical analysis studying the effects of increasing globalization on income inequality defined “economic globalization” as international trade and capital flows. By excluding international labor flows from the definition of economic globalization, previous studies ignored an essential factor of production and assessed the effects of globalization on income disparities inaccurately. This study assesses the impact of increasing international integration on the American income gap through an empirical examination of trade, capital and labor mobility. The research relies on ordinary least squares regression to test the relationship between the three major modes of neoliberal economic integration—trade, foreign direct investment, portfolio investment—and international labor mobility—authorized and unauthorized immigration—on an income inequality ratio for the years 1980 to 2005. By expanding the definition of economic globalization to include international labor mobility, this work contributes to the literature on income inequality by extending the debate into the area of demographic change and the measurement of the unauthorized population in the United States.*

## Introduction

Income inequality in the United States deserves the attention of scholars and policy makers because it has grown during the recent period of strong economic growth. Despite enjoying the most rapid economic growth of all other large industrialized countries, inequalities in the distribution of income have grown faster in the United States than in most developed countries since the late 1960s (Burtless, 2003). While productivity gains have been at all time highs recently (Burtless, 2003), the level of inequality in the U.S. has increased, which suggests American workers may not be reaping the benefits of this economic expansion. As the economy has grown, increases in corporate profits and CEO earnings have increased exponentially as real wages for the majority of workers remain stagnant or fall. The income gap, therefore, suggests not only a measure of inequality but, perhaps more importantly, inequity in a society that has long celebrated itself as the most democratic, classless, and just in the world. During this period of increasing productivity and higher earnings among CEOs, the U.S. economy also became increasingly integrated into the world economy. Part of the purpose of this paper is to better assess the effects this increasing integration had on income inequality.

Graph I illustrates the development of income inequality in the United States by charting the ratio between the top 20 % and bottom 20 % of all income earners for the years 1947 to 2005. Although disparities in the distribution of income grew sharply during all eight years of Reaganomics, the most dramatic increase in inequality was during the Clinton administration, which advocated increasing global economic integration. In his 1999 State of the Union address, President Clinton (1999) asked the nation "to tear down barriers, open markets and expand trade." Under the current regime, global integration means trade and capital are relatively free to move across national borders but the mobility of labor is restricted by the state. Despite efforts to enhance border security, however, international migrants continue to pour into the U.S.; the economic impacts of trade, capital, and labor flows on income distribution remain unclear.

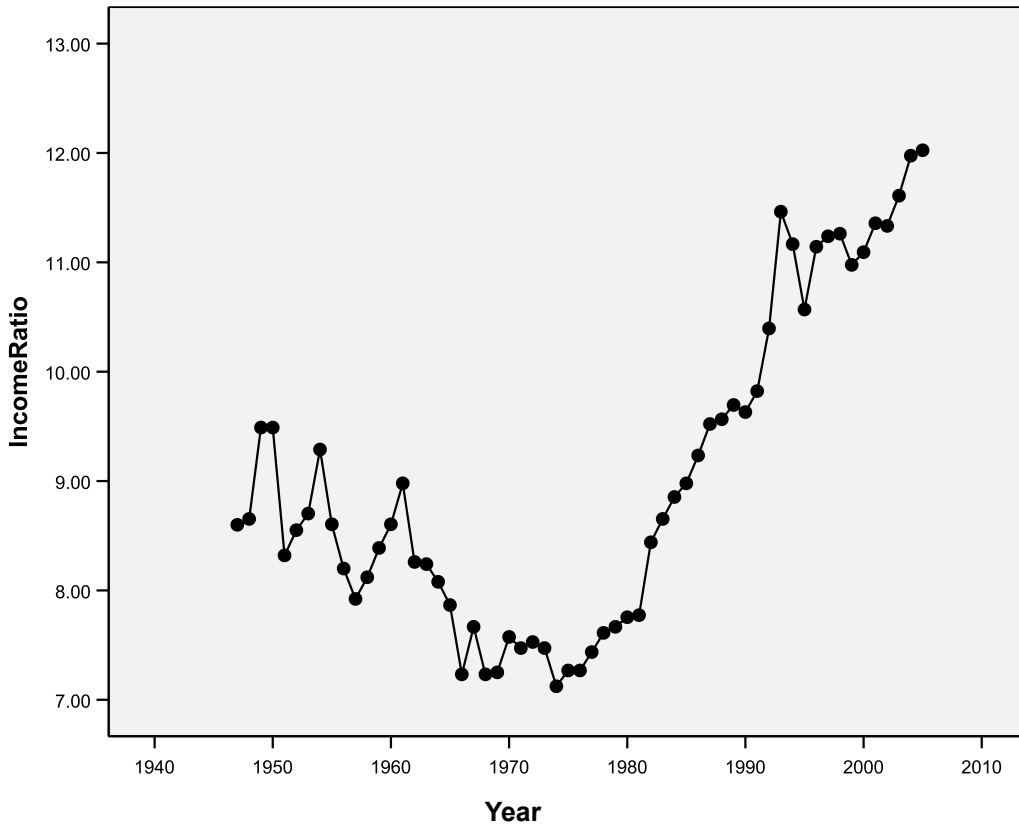


Figure I. Ratio of Share of Income Earned by Top 20 Percent of Income Earners to Bottom 20 Percent of Income Earners, United States, 1947-2005  
Source: U.S. Census Bureau

How does the current era's economic globalization affect income distribution? What affect does immigration, both authorized and unauthorized, have on income inequality? Are critics correct when they charge that globalization is the major source of economic inequality? This study answers these questions by assessing the effect of economic globalization on income distribution in the United States for the years 1980 to 2005. Most income inequality scholars have defined economic globalization to mean the ease with which trade, foreign direct investment (FDI), and portfolio investments flow across international borders (Held et al. 1999; Reuveny and Li 2003). Consequently, previous empirical studies have examined the effect that "economic openness" or "economic globalization" has on income inequality by focusing only on the international mobility of goods and capital (Reuveny and Li 2003; Rudra 2004; Mahler 2004). However, by defining economic globalization narrowly and excluding international labor flows—immigration—from their analyses, these studies have neglected the impact the size and composition of the labor supply, an essential factor in economic production processes, has on income distribution. This study offers an empirical examination of the impact economic globalization, comprehensively defined to include trade, FDI, portfolio investment, documented immigration, and undocumented immigration, has on an inequality ratio between the top 20% and bottom 20% of all income earners in the US.

The remainder of the article proceeds as follows: the first section briefly discusses the importance of income inequality in the U.S.; the next section reviews theoretical and empirical scholarship on the subject; the third section describes the model's variables and methodology; and the last two sections present the model's results and offer concluding remarks.

### The Problems of Inequality

Visiting America in the early 19<sup>th</sup> century, Alexis de Tocqueville (2000) remarked that the most striking characteristic of the citizens of the new democratic regime was equality of conditions. Equality of conditions, he argued, was the generative fact from which all other phenomena flowed. While the state of equality Tocqueville

observed has given way to a state of rising inequality, Americans continue to cherish the idea of equality. Interestingly, equal conditions or outcomes have been replaced by the idea of equality of opportunity. Yet, equality of opportunity is difficult to realize in a market oriented democracy where income disparities preclude equal opportunity. The cleavages produced by “our economic system can comprise, hinder, and at times undermine the political equalities promised by citizenship” (Yashar 2005: 50). Whereas capitalism thrives on, and produces, inequality, democracy is strengthened most when individuals are equal in resources and power (Marshall 1963). In the absence of state redistributive policies, extreme economic inequality generally has multiple effects: it arrests the political and economic freedoms of country's majority while enhancing those of the elite.

In contrast to parts of Europe, the Scandinavian countries for example, where government social spending is institutionally well-entrenched, the prevailing societal and political norm in the United States is self-help; resorting to public assistance should be a last resort. Ideally, Americans rely on the value of their human capital in the market to obtain a wage and produce opportunity for themselves. According to this view, disparities in income and opportunity generally reflect individual initiative and effort. Yet, today's American income gap reveals the richest 20% of income earners capture about half the national income while the bottom 80% divides the rest (see Table I). From the perspective of much of the American population, claims of “equality of opportunity” and “robust economic growth” may seem apocryphal and propagandistic. Domestically, then, the income gap highlights the gap between what Americans would like to believe about themselves and what the economic system reveals about the country's priorities.

<b>QUINTILE</b>	<b>YEAR</b>												
	1947	1962	1969	1973	1977	1981	1986	1989	1993	1997	2000	2003	2005
Lowest 20%	5.0	5.0	5.6	5.5	5.5	5.3	4.7	4.6	4.1	4.2	4.3	4.1	4.0
2nd Lowest 20%	11.9	12.1	12.4	11.9	11.7	11.4	10.9	10.6	9.9	9.9	9.8	9.6	9.6
Middle 20%	17.0	17.6	17.7	17.5	17.6	17.5	16.9	16.5	15.7	15.7	15.5	15.5	15.3
2nd Highest 20%	23.1	24.0	23.7	24.0	24.3	24.6	24.1	23.7	23.3	23.0	22.8	22.2	22.9
Highest 20%	43.0	41.3	40.6	41.1	40.9	41.2	43.4	44.6	47.0	47.2	47.4	47.6	48.1
Top 5% (Extracted from top 20%)	17.5	15.7	15.6	15.5	14.9	14.4	16.5	17.9	20.3	20.7	20.8	20.5	21.1

Source: U.S. Census Bureau, Historical Income Tables—Families (all Races)

Table I. Distribution of National Income by each Quintile, for years 1947-2005

What the American income gap portends for American politics and international relations is important. Economic inequality may lead to economic and political instability as the population becomes increasingly fragmented due to internal competition over scarce resources. In *Politics*, Aristotle (1984) argues a critical level of economic equality is necessary for a democracy to protect itself from internal destruction, and that stability could not be achieved when the multitude are overly poor. Instability, in turn, adversely affects the country's ability to influence global developments and protect its sovereignty. If we accept the rhetoric of the current chief executive, whatever instability is produced by income inequality may only weaken the nation in a time of increasing external security threats from both nation-states and non-state actors.

Immanuel Wallerstein (1999) has argued that regimes of economic inequality ultimately fracture, especially when that inequality is based on group identity. Although income inequality consistently has worsened since the late 1960s, the American situation has not been complicated by racial and ethnic cleavages as in developing countries. However, the absence of politicized class identities should not be assumed. Although income inequalities may be ameliorated through state redistribution, the government's competence and willingness to secure regime stability through equitable income distribution also must not be assumed.

## The Related Literature

To assess how economic globalization may affect income distribution this study reviews the literature on trade, foreign direct investment, portfolio flows, and immigration.

### International trade

While the relationship between global economic integration and income inequality has been the subject of much controversy recently, the theoretical debates about economic liberalization and income inequality abound in the economics literature (Meyer 1999), and to a lesser degree in the political science literature. Many scholars have cited the Heckscher-Ohlin equilibrium model of trade (1933), which considers the employment of skilled and unskilled workers in two countries and the trade of skill-intensive and labor-intensive goods between them (Wood 1994; Caves 1996; Meyer 1999; Kapstein 2000; Mahler 2004). The model has been used to predict patterns of trade in finished goods and the resulting impact of this trade on wages (Wood, 1994). The comparative advantage the U.S. has in skilled labor and capital relative to developing countries, and the comparative advantage developing countries have in unskilled labor, means the U.S. would rely on skilled-labor and capital-intensive production for its exports and import labor-intensive products. Cheap imports of unskilled and labor-intensive products would then harm the wages of unskilled, low-income workers in the US, and exacerbate income inequalities by depressing wages for the bottom quintiles of income earners. According to the model, increased trade among nations theoretically could explain much of the increase in inequality seen in the U.S. (Wood 1994; Blau and Kahn 1996).

According to Williamson (1998: 60), historical analysis supports the Heckscher-Ohlin theorem since the increased trade among industrialized nations from 1870 until World War I "led to rising wage/rental ratios in Europe, and falling wage/rental ratios in the New World." Consequently, inequality decreased in Europe and increased in the U.S. Relatedly, Reuveny and Li (2003) demonstrated increased trade during this era's economic liberalization hurt the income structure in developed countries and benefited it in developing nations. Despite these findings and the conventional wisdom on trade, which posits a clear and positive relationship between trade and income inequality (Reich 1992; Wood 1994; Hurrell and Woods 1995; Tonelson 2000), many scholars have produced empirical results that refute these claims and evidence.

Some studies assert trade has had relatively little effect on the wages of less-skilled workers since the 1980s (Borjas, Freeman and Katz 1992; Sachs and Shatz 1994). Others recently have produced results which seem to refute the Heckscher-Ohlin model's prediction of inequality in developed nations by empirically demonstrating trade does not adversely affect income inequality in developed nations (Mahler 2004; Rudra 2004). While demonstrating trade had no effect on wages in highly developed countries, Rudra also showed trade actually worsened inequality in developing countries. Clearly, the relationship between trade and income is far from settled.

Similar to the Heckscher-Ohlin model, the Stolper-Samuelson theorem (1941) predicted international trade would benefit the owners of abundant factors and reduce the incomes of the owners of scarce factors. Because developed nations are relatively well endowed with skilled labor and capital, its imports would hurt the incomes of unskilled domestic workers and, therefore, increase inequality in developed countries while decreasing inequality in developing countries (Wood 1994). Conversely, the theorem predicts U.S. exports would benefit the owners of capital and skilled workers. Relatedly, trade with less developed nations makes it easier for firms in developed countries to substitute low-skilled labor with cheap imported products, thereby reducing the ability of domestic labor to bargain for higher wages (Rodrik 1997). Although nothing prevents the "winners" of globalization from compensating the "losers" to reduce inequality, it is highly unlikely firms will voluntarily do so (Rodrik 1997; Salvatore 1998). However, some argue trade increases labor productivity, which then leads to increased wages and reduced inequality (Held et al. 1999). This would obviate the need for "winners" to compensate "losers" since, eventually, losers become winners through productivity gains.

Some freely admit international trade has adverse effects on income inequality, but argue such inequality incentivizes education and skill attainment, which increases the economic prospects of those hurt by globalization (Blanchard 2000). Others dispute the predictive power of the Stolper-Samuelson theorem by claiming the assumptions that underlie the model are so "extraordinarily demanding [that it] cannot be taken seriously" (Bhagwati and Dehejia 1994: 39). Moreover, some argue trade with less developed nations constitutes so little a share of a developed nation's economy that the impact of that trade on income inequality in developed nations is negligible (Galbraith 1998; Krugman 1995).

## Foreign direct investment

Although considered as important as trade, the literature examining the impact of foreign direct investment (FDI) and portfolio flows on inequality is not as extensive as the trade literature (Mahler 2004). Generally lacking theoretical models of its own, the impact foreign direct investment has on income structures may be predicted through the same Heckscher-Ohlin model that many have used for international trade (Mundell 1957; Caves 1996). Simply, outbound capital investment hurts domestic workers and increases income disparities as these workers are deprived of work they otherwise would have. Inbound investment benefits the incomes of domestic workers for the opposite reason.

FDI arguably exacerbates the income gap in the host country as well. Some argue multinational corporations (MNCs) pressure host governments to crack down on labor unions that attempt to negotiate for higher wages (Reuveny and Li 2003). The possibility of MNCs leaving the host country also weakens the negotiating power of labor unions and depresses wages there (Nafziger 1997; Salvatore 1998). Moreover, MNCs are said to offer below market wages for labor-intensive work and push local competing employers to follow suit (Barnet and Cavanagh 1994; Held et al. 1999). By contrast, several studies argue MNCs provide host countries with capital and technology and push local industries to implement more efficient business practices (Reuveny and Li 2003). It also is argued the influence of MNCs on domestic producers improves productivity on all sides, and that this increased productivity stimulates economic growth in the host country (Organization for Economic Cooperation and Development 1994; Bolmstrom and Kokko 1996; Barta and Tan 1997).

Like trade, the empirical evidence of the impact of FDI on income inequality is conflicting. Reuveny and Li (2003) have found the impact of FDI on income inequality to be positive and statistically significant for both developed and developing countries, although producing higher levels of inequality in the former than in the latter. Mahler (2004) and Moran (1999) have found FDI is not statistically related in any way to income inequality. Rudra (2004: 691-692) found empirical evidence indicating "FDI was statistically significant [and increases inequality in developed countries], but since it is highly correlated with trade...it was dropped from the model to avoid collinearity problems." Echoing Caves (1996: 115), the "consequences of foreign investment [on inequality in developed countries] in the long run remain a strictly unsettled issue."

## Portfolio investment

The effects of portfolio flows on inequality, again, are disputable. Theoretically, and without offering empirical evidence, Obstfeld (1998: 19) states it is "implausible" portfolio flows have played a prominent role in widening the American income gap since "the United States has been running substantial current account deficits since the mid-1970s," thus importing instead of exporting capital. While very little recent empirical analyses find the effect of outbound portfolio investment on income distribution to be statistically significant for the U.S. (Reuveny and Li 2003; Rudra 2004; Mahler 2004), the variable is included here to account for the impact portfolio investments may have on income structures through a more subtle method. By exporting capital, a country may experience a reduction in government social spending as a consequence of a reduction of the tax base (Meyer 1999). Moreover, as Mahler (2004: 1048) reports, there is "growing evidence that financial openness works to constrain governments' use of macroeconomic tools to stimulate the economy, affecting earnings distribution in the process." Meyer (1999: 112) agrees that a loss in tax revenue as a consequence of portfolio flows may adversely affect wages "through a more subtle mechanism, namely a constraint on fiscal policy and thus on social insurance which would otherwise serve to ameliorate the distribution in earnings caused by globalization." Rodrik (1997: 53) argues increased portfolio flows "result in increased demands on the state to provide social insurance [to offset the pernicious effects of globalization] while reducing the ability of the state to perform that role effectively." Unfortunately, labor is less able to escape taxation in the same way that firms do, and workers' incomes suffer as the middle class and poor pay an increasingly greater percentage of total social spending (Rodrik 1997).

Again, empirical results for international portfolio flows and its relationship to income disparity are as divergent as those for international trade and FDI. Reuveny and Li (2003) find outward portfolio flows increase income inequality in developed nations, but not in a significant way. These results should be considered with the understanding that "the rise in portfolio investment...is a relatively recent phenomenon...and may significantly affect income inequality in the future" (Reuveny and Li 2003: 588). In fact, Mahler (2004: 1040) produces results that indicate portfolio flows are significantly and negatively affecting income distribution in countries with few controls on capital mobility, which suggests "traditional mechanisms of international economic interaction, trade and investment, are less important than exposure to international finance." However, Rudra (2004) found portfolio flows had no effect on income earnings in either developed or developing countries. Clearly, the debate on the effects portfolio flows have on income inequality is far from settled.

## Immigration

Immigration, particularly undocumented, is generally ignored when scholars consider the impact that economic globalization has on income distribution. Several obstacles, such as the lack of consistently reliable and valid data on undocumented immigration, continue to frustrate social scientists. Consequently, most studies on the relationship between international migration and its economic impact on the host country approach the question by distinguishing between skilled and unskilled immigration, and not necessarily through the documented/undocumented immigration lens. Several studies on the skilled/unskilled front help illuminate the relationship between increasing international migration and income distribution. Meyer (1998: 113) revealed that from the 1870 to 1913 time period, "immigration from labor-rich Europe to the land-rich New World reinforced the trends in income distribution which has come about due to trade in goods." Mass migration from Europe to the Americas increased the supply of America's unskilled labor and depressed wages (Williamson 1998). Although Census data routinely undercount the number of immigrants by approximately 10% (Meyer 1999), Meyer (1999: 113) presents evidence demonstrating "the presence of immigrant workers in the United States in 1998 increased the labor supply of high school drop outs by 25 percent while the labor supply of high school graduates increased by only 6 percent." Indeed, most immigrants from developing countries arrive in developed countries with only their human capital, which is relatively under-educated and unskilled (Dolmas and Huffman 2004). As unskilled, uneducated immigration increases, the wages of unskilled workers fall due to the increasing supply of unskilled labor.

Whether the decrease in wages for domestic workers is significant can be debated. Some argue the empirically demonstrable effect of contemporary international labor migration on wage structures has been insignificant and mixed (Borjas 1990, 1993; Ichino 1993; Reuveny and Li 2003). Yet Borjas (1994, 1995, 1999) later concludes the benefits of unskilled immigration on a developed country are minimal, and the costs on domestic workers can be large. Topel (1994) agrees, and argues immigration reduces wages by 10%, and at lower quintiles of income earners this percentage can be higher. Although the literature and empirical data on the impact of immigration on income is small comparatively speaking, Dolmas' and Huffman's (2004) experiments with general equilibrium models find that when income inequality is high, the rich will support unskilled immigration and the poor will resist it. Conversely, when inequality is low, the rich and lower income earners are indifferent to unskilled immigration, but the rich will resist highly skilled and capital rich immigrants (Dolmas and Huffman 2004). These experimental models, coupled with the wide income gap and high capital exports experienced today in the U.S., suggest immigration and economic globalization produce economic hardship either in perception or in fact, or both. Clearly, more empirical analysis using the current immigration data is needed.

## Variables

Dependent variable: income distribution

*Income Inequality Ratio.* Unlike cross-national studies that use data generated by disparate governmental and non-governmental organizations, this study, by focusing solely on the US, was able to use one source for its income distribution data. U.S. Census Bureau's income distribution data for families by quintiles was used for the years 1980 to 2005. Income inequality is operationalized by creating an inequality ratio between the top 20% and bottom 20% of income earners for each year. The model's name for income inequality is IncomeRatio.

Independent variables: economic globalization

This set of five variables represents economic globalization, comprehensively defined as the flow of goods and services, capital, and labor across international borders. Again, the addition of international labor mobility into the definition of economic globalization is the novel component of this empirical research. The five independent variables and their variable names are: international trade (TRADE), foreign direct investment (FDI), international portfolio investment (PORT), authorized immigration (IMG), and undocumented immigration (UNDOC). Data for the years 1980 to 2005 are used. Given the effect of international trade, foreign direct investment and portfolio flows on an economy depends on the size of country's economy, TRADE, FDI, and PORT are taken as a percentage of U.S. GDP. Similarly, a country's ability to absorb an influx of foreign labor depends on the size of the total population. Therefore, IMG and UNDOC are taken as a share of total U.S. population. If detractors of globalization are correct, this set of variables should have a negative impact on income inequality in the U.S.

*International Trade.* TRADE is the sum of U.S. exports and imports as a share of its GDP for each year from 1980 to 2005. For the years 1980 to 2004, Penn World Tables data, which measures international trade as a percentage of GDP and relies on World Bank and United Nations reports, is used. For 2005, the model uses U.S. trade data as a share of GDP from the International Monetary Fund's *Financial Statistics 2006 Yearbook*.

*Foreign Direct Investment.* This variable reflects the amount of capital exiting the U.S. in search of profits in the long-term. Data for FDI is taken from the United Nations Conference on Trade and Development (UNTAD), which measures FDI as a percentage of GDP for each year.

*International Portfolio Investment.* PORT is the sum of portfolio investments abroad as share of GDP for each year. PORT is an important measure of an economy's openness to short-term capital outflows. Like FDI, data for PORT are from UNCTAD.

*Authorized Immigration.* IMG is the total U.S. authorized population as a percentage of the U.S. population for each year. IMG captures the portion of international labor flows recorded by the government. Data for IMG are from the U.S. Bureau of Citizenship, the Immigration Services, and the U.S. Department of Homeland Security.

*Unauthorized Immigration.* UNDOC measures the undocumented population as a share of the total US population for each year. Although conclusively valid data for this hidden population have not been gathered, and no government agency has begun to systematically count the undocumented population (K. Woodrow-Lafield, personal communication, July 17, 2007), a "residual method" has been developed to estimate the undocumented population. The method subtracts the legal immigrant population, which consists primarily of legal permanent residents and naturalized citizens, from the total foreign population and designates the residual as a source for estimating the undocumented population (Massey and Bartley 2005; Passel 2006). Data for the residual method are obtained primarily from the census and the Current Population Survey's *Annual Social and Economic Supplement*, which is produced every March. To operationalize unauthorized immigration, this study relies on the Pew Hispanic Center, which uses the residual method.

Table II summarizes the model's dependent and independent variables and their sources.

Variable	Description	Source
IncomeRatio (dependent)	Inequality ratio between the top 20% and bottom 20% of all income earners for U.S. families for each year from 1980 to 2005.	U.S. Census Bureau
TRADE	The sum of U.S. exports and imports of goods and services as a share of GDP for each year from 1980 to 2005.	Penn World Tables & International Financial Statistics 2006 Yearbook
FDI	U.S. long-term capital investment in foreign countries as a share of GDP for each year from 1980 to 2005.	United Nations Conference on Trade and Development
PORT	U.S. short-term portfolio investment in foreign markets as a share of GDP for each year from 1980 to 2005.	United Nations Conference on Trade and Development
IMG	Authorized immigration into the U.S. as share of total population for each year from 1980 to 2005.	US Bureau of Citizenship and Immigration Services & US Department of Homeland Security
UNDOC	Unauthorized population in the U.S. as share of the total population for each year from 1980 to 2005.	Pew Hispanic Center

Table II. Variable Description and Sources

## Hypotheses

Based on the bodies of work in the areas of trade, capital mobility and immigration, this study hypothesizes increases in international trade, capital and labor flows exacerbates income inequality in the United States. Specifically, the model disaggregates the general hypothesis into five:

1) TRADE increases IncomeRatio.

By relying on its comparative advantage, the US exports capital-intensive products and imports labor-intensive products. Cheap imports of labor-intensive products harm the wages of unskilled, low-income workers in the US, and exacerbate income inequalities by depressing wages for the bottom quintiles of income earners (from Heckscher-Ohlin)

2) FDI increases IncomeRatio.

FDI increases income inequality because it deprives American workers of capital that would otherwise be invested domestically, which presumably would generate employment and income (Meyer 1999; Mahler 2004).

3) PORT has no effect on IncomeRatio.

Heeding the work of past empirical analyses (Reuveny and Li 2003; Rudra 2004; Mahler, 2004). PORT is not expected to increase income inequality.

4) IMG has no effect on IncomeRatio.

Relative to the entire U.S. population, the size of the authorized immigration population is small. Unauthorized immigration, therefore, is not predicted to be statistically significant in explaining income distribution.

5) UNDOC increases IncomeRatio.

As the undocumented population increases, the increasing supply of unskilled labor in the US drives wages down in lower-skilled professions. As these kinds of wages fall, income inequality grows.

Due to the conflicting results in the trade and capital debate, as well as the limited work on immigration, this study has the latitude to predict increasing economic integration widens the income gap in a general way, but hypothesizes only TRADE, FDI, and UNDOC will be statistically significant.

## Research Design

As mentioned previously, this study provides an empirical examination to determine the statistical relationship between five independent variables—TRADE, FDI, PORT, IMG, UNDOC—that measure economic globalization and our measure of income inequality in the U.S., IncomeRatio. The data form a time-series set covering the years 1980 to 2005, and were run through SPSS's ordinary least squares regression statistical program. SPSS allows us to determine the general effect of the model's variable set for economic globalization on income inequality. SPSS also enables us to measure the individual impact of each independent variable on the dependent variable when controlling for all other independent variables.

The equation is as follows:

$$Y = a + b_1 x_1 + b_2 x_2 + b_3 x_3 + b_4 x_4 + b_5 x_5$$

where:

Y = IncomeRatio, U.S. income inequality as a percentage of GDP

a = constant

b1 = TRADE, U.S. international trade as a percentage of GDP

b2 = FDI, U.S. foreign direct investment as a percentage of GDP

b3 = PORT, U.S. portfolio investment as a percentage of GDP

b4 = IMG, Authorized immigration as a share of total U.S. population

b5 = UNDOC, Unauthorized immigration as share of total U.S. population

## Results

Table III through VI summarize the SPSS results. The adjusted R-squared value of .855 indicates the model's R-square value (.885) was penalized 0.03 points for having five independent variables. Therefore, the number of independent variables in our model is not excessive. The adjusted R-square value demonstrates the model's five economic globalization variables explain at least 85.5 % of the variation in the income inequality



variable. The model's F statistic of 29.317 and Sig of .000 support the findings for the R-squared and adjusted R-square values by reinforcing the ability of the model's independent variables to explain the dependent variable's behavior. Looking to t-ratio values for each of the model's independent variables, Hypothesis 1 is confirmed at t-ratio of 3.655. Hypothesis 2, however, is rejected as the t-ratio value for FDI is -2.7. International trade increases income inequality, while FDI decreases it. As predicted, Hypotheses 3 and 4 are accepted at t-ratios of -0.703 and -0.577, respectively. Increased portfolio flows and authorized immigration do not affect income inequality in a statistically significant way. Interestingly, Hypothesis 5, which predicts unauthorized immigration increases income inequality, is rejected, but its t-ratio value of -1.905 is only 0.095 points from statistical significance.

The negative signs on the B and t-ratio values for FDI are interesting because they indicate FDI decreases income inequality in a statistically significant way. This finding is at odds with the literature and, as mentioned, hypothesis #2. Also, UNDOC has come very close to being statically significant at t-ratio -1.905 and Sig .072. As with FDI, the negative sign on UNDOC is at odds with the literature and hypothesis #5. "Wrong signs" suggest the possibility that some Error Term Assumptions have not been met. Indeed, the model suffers from multicollinearity.

Table III

R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
0.941	0.885	<b>0.855</b>	0.47936	<b>1.055</b>

Predictors: (Constant), TRADE, FDI, PORT, IMG, UNDOC  
 Dependent Variable: IncomeRatio

Table IV

	Sum of Squares	Df	Mean Square	F	Sig.
Regression	33.682	5	6.736	<b>29.317</b>	<b>.000(a)</b>
Residual	4.366	19	0.230		
Total	38.048	24			

Table V

Independent Variable	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	3.813	1.444		2.641	0.016
<b>TRADE</b>	0.413	0.113	1.663	<b>3.655</b>	0.002
<b>FDI</b>	-0.00006020	0.000	-0.379	<b>-2.700</b>	0.014
PORT	-0.000010382	0.000	-0.253	-0.703	0.491
IMG	-0.000241956	0.000	-0.060	-0.577	0.571
UNDOC	-0.000000281	0.000	-0.732	-1.905	0.072

Table VI

Collinearity Statistics	
Tolerance	VIF
0.029	<b>34.299</b>
0.307	3.257
0.047	<b>21.481</b>
0.550	1.817
0.041	<b>24.448</b>

Table VI presents the Variance Inflation Factor (VIF) values for the independent variables, and Trade, PORT, and UNDOC are all above the minimum of 5. Because these three variables are correlated, we are unable to definitively assess the individual impact of each variable on income inequality. Running a Correlations analysis confirms the Collinearity Statistics as Trade, PORT, and UNDOC are significantly correlated to each other (see Appendix).

The model also suffers from autocorrelation. The Durbin-Watson value for the regression is outside the safe range of 1.5 to 2.5 at 1.055. Because this error inflates t-ratio values and leads to Type I error, we employ Stata 9 Newey-West standard errors to correct for autocorrelation. If we correct for autocorrelation, the original SPSS t-values for TRADE and FDI increase in significance. Table IV presents the Stata results for TRADE and FDI, which are 4.99 and -3.68, respectively. Interestingly, the model's UNDOC variable becomes statistically significant at -2.72 when corrected for autocorrelation. Again, the signs on our FDI and UNDOC are at odds with the literature and hypotheses #2 and #5.

Table VII

IncomeRatio (dependent variable)	STATA 9 t-ratio	SPSS t-ratio
<b>TRADE</b>	<b>4.99</b>	3.655
<b>FDI</b>	<b>-3.68</b>	-2.700
<b>UNDOC</b>	<b>-2.72</b>	-1.905

Where multicollinearity is present, one would expect to see an exceptionally high R-square and no, or few, statistically significant variables. Therefore, the presence of both multicollinearity and statistically significant variables suggest the predictive power of TRADE, FDI, and UNDOC in explaining the behavior of IncomeRatio are so strong that these variables are able to overcome the circumscribing influence of multicollinearity. However, multicollinearity does prevent us from assessing the direction and magnitude of the relationship between TRADE, FDI, and UNDOC and IncomeRatio with certainty.

## Conclusion

Does economic globalization increase income inequality in the United States? In an attempt to answer the question with greater accuracy than previous studies, this empirical examination offers a more comprehensive definition of "economic globalization." By operationalizing two distinct variables for international labor mobility, as well as the customary three variables for trade and capital flows, this unique model is better equipped to discover a relationship between globalization and inequality because its conceptualization of economic

globalization includes an essential but previously neglected factor of production. I find economic globalization does not increase income inequality in the U.S. in a systematic way. Out of five independent variables, three—TRADE, FDI, and UNDOC—affect income inequality in statically significant ways, but the results are mixed. International trade increases income inequality, while foreign direct investment and unauthorized immigration decrease inequality.

Ideally, the model's methodology allows us to disaggregate the general relationship between economic globalization and income inequality to assess the individual impact of each independent variable on the dependent variable, but the presence of multicollinearity prevents us from doing this definitively. This methodological limitation notwithstanding, the ability of the model's three statistically significant variables to overcome the potentially crippling effect multicollinearity has on them indicates these variables are truly significant in explaining income inequality. The question is whether these three variables impact the dependent variable in the directions revealed by the regression results. The opposite impacts international trade and FDI have on income inequality can be reconciled with previous empirical analyses, but determining the impact of undocumented immigration is problematic because the unexpected results can not be understood by reflecting on previous empirical analyses since little work has been done in this area. Therefore, a truly valid empirical assessment of the impact undocumented immigration has on income inequality in the United States escapes this study due to both measurement and methodological constraints.

To resolve the problem, I suggest two courses of action. First, an advanced research design is needed to overcome this model's methodological limitation. Although multicollinearity between international trade and FDI is a serious constraint that has affected other studies the limitation can be remedied through a variety of different approaches. Rudra (2004), for example, chose to drop FDI from her model because it was correlated to trade. A similar approach can be applied to international migration. Empirically examining the relationship between economic globalization, comprehensively defined beyond traditional neoliberal variables, required a full presentation of the regression results. Because the principal objective of this study is to expand the debate on economic globalization and income inequality into a nascent area of demographic change, superior methodological approaches are left to future research.

In addition to an improved methodology, this study highlights the need for government agencies and demographers to develop procedures that consistently and validly estimate the unauthorized population in the U.S. The indirect estimates used today will not suffice in an environment of increasing economic inequality and increasing external security threats, whether these threats are real or perceived. While the perceived significance of unauthorized immigration has waxed and waned throughout history, the issue's salience in a post 9/11 world requires informed debate based on valid and reliable data. Moreover, even if and when security fears recede, economic concerns threaten to re-politicize international labor flows. Therefore, it is in the short-term and long-term interests of social scientists and policy makers to have access to valid estimates of the unauthorized population in the U.S. Until valid and reliable measures of the unauthorized population are produced, we should attempt to improve the residual method.

While there have been numerous empirical studies examining the impact of global neoliberal economics on income inequality in America, surprisingly few have examined the combined impact of liberal economic processes and immigration on income. By examining the impacts the three major modes of neoliberal economic integration *and* international labor mobility have on income inequality in the U.S., this study improves our understanding of the relationship between economic globalization and income structures while responding to the claim that America benefits from globalization. In terms of the three major modes of neoliberal integration, the study produces conflicting results. The novel contribution, however, lies in the definition of economic globalization and the operationalization of undocumented immigration. Interestingly, the regression results find this population decreases income inequality. Despite its methodological limitation, this unique model largely achieves its objective by including international labor flows as a factor of production in the study of American income inequality.

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**Appendix**  
Correlations

		IncomeRatio	Trade	Portfolio	Legal Imgt #	Undoc Res #	FDI
IncomeRatio	Pearson Correlation	1	.830(**)	-.890(**)	.642(**)	.876(**)	.659(**)
	Sig. (2-tailed)		0.000	0.000	0.000	0.000	0.000
	N	59	55	26	56	26	36
Trade	Pearson Correlation	.830(**)	1	-.962(**)	.732(**)	.964(**)	.785(**)
	Sig. (2-tailed)	0.000		0.000	0.000	0.000	0.000
	N	55	55	25	55	25	35
Portfolio	Pearson Correlation	-.890(**)	-.962(**)	1	-.407(*)	-.958(**)	-.590(**)
	Sig. (2-tailed)	0.000	0.000		0.039	0.000	0.002
	N	26	25	26	26	26	26
Legal Imgt #	Pearson Correlation	.642(**)	.732(**)	-.407(*)	1	0.262	0.279
	Sig. (2-tailed)	0.000	0.000	0.039		0.196	0.099
	N	56	55	26	56	26	36
Undoc Res #	Pearson Correlation	.876(**)	.964(**)	-.958(**)	0.262	1	.566(**)
	Sig. (2-tailed)	0.000	0.000	0.000	0.196		0.003
	N	26	25	26	26	26	26
FDI	Pearson Correlation	.659(**)	.785(**)	-.590(**)	0.279	.566(**)	1
	Sig. (2-tailed)	0.000	0.000	0.002	0.099	0.003	
	N	36	35	26	36	26	36

\*\* Correlation is significant at the 0.01 level (2-tailed).

\* Correlation is significant at the 0.05 level (2-tailed).